Final Environmental Impact Report

Proposed Wal-Mart Regional Distribution Center



State Clearinghouse Number 2006071029

VOLUME I

Prepared for:

City of Merced Planning and Permitting
678 West 18th Street
Merced, CA 95340

Prepared by:

EDAW
2022 J Street
Sacramento, CA 95811

July 2009

EDAW | AECOM

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Prepared for:

City of Merced Planning and Permitting
678 West 18th Street
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1 INTRODUCTION

1.1 BACKGROUND OF DRAFT AND FINAL ENVIRONMENTAL IMPACT REPORT

On February 25, 2009, the City of Merced distributed to public agencies and the general public a draft environmental impact report (DEIR) for the proposed Merced Wal-Mart Distribution Center Project (proposed project). The proposed project includes development of a Wal-Mart Stores East LP regional distribution center (approximately 1.1 million square feet) and associated facilities on 230 acres in the southeast area of the City of Merced and would primarily store and distribute nongrocery goods to Wal-Mart retail stores located throughout the region. No retail commercial is proposed as part of the project. The proposed regional distribution center would operate 24-hours per day and would employ approximately 1,200 employees (1,050 employees to work at the facility and an additional 150 employees as drivers). Construction is anticipated to last approximately 12 months.

The entitlements required for this proposed project consist of the following:

- Site Plan Approval (required of all principally permitted uses in industrial zones);
- City of Merced General Plan amendment (This is required because the undeveloped Kibby Road right-of-way is proposed to be abandoned between Childs Avenue and Gerard Avenue. Because Kibby Road is designated in the Circulation Element of the General Plan, a General Plan Amendment is required before action can be taken to abandon the unused right-of-way); and
- right-of-way abandonment (Kibby Road).

Subsequent to these actions, the City will be responsible for the issuance of building permits.

The City's objectives for the project include the following:

- to develop the industrially zoned area in the City with permitted industrial uses;
- to locate industrial projects in areas with good access to major highway transportation links, and provide opportunities for buffers between industrial and nonindustrial uses;
- to encourage development of industrial projects that will create jobs, including full-time, nonseasonal employment opportunities for local residents;
- to encourage development of projects that will contribute toward improving roadways adjacent to the proposed development site; and
- to ensure that industrial areas are developed in an attractive manner.

The project applicant has developed objectives consisting of the following:

- to develop a project consistent with the City of Merced General Plan (City General Plan) and zoning ordinance,
- to develop a distribution/warehouse facility near other industrial uses,

- to construct and operate a distribution/warehouse facility in Merced County to take advantage of the strategic location between large urban centers and smaller urban and rural markets throughout the Central Valley in California,
- to construct a distribution/warehouse facility on a site sufficiently large (a minimum of 230 acres) to allow necessary building space and parking for trucks and employees,
- to construct a distribution/warehouse facility with sufficient space (approximately 1.1 million square feet) to allow operational efficiency and adequate distribution of goods to stores in a broad geographic area in California,
- to locate a distribution/warehouse facility with access to a regional roadway network including interstate, state, and regional roads,
- to locate a distribution/warehouse facility in an area well served by major local thoroughfares to minimize truck traffic traveling through residential neighborhoods,
- to provide sufficient parking for trucks and employees to minimize impacts to the surrounding area, and
- to take advantage of an existing labor pool living in the Merced area.

The DEIR evaluated the environmental impacts associated with constructing and operating the proposed distribution center, and included mitigation measures and project alternatives to reduce the significance of impacts. Section 15205(d) of the California Environmental Quality Act Guidelines (State CEQA Guidelines) requires a 45-day period for public review of the DEIR; however, the City determined that a 60-day review period was appropriate for the proposed project, which is authorized under CEQA. The 60-day review period for the DEIR began on February 25, 2009 and ended on April 27, 2009. State and local agencies, and the general public, commented on issues evaluated in the DEIR during the review period.

Comments received on the DEIR raise various issues including (to name only a few) impacts related to traffic on local roadways, conversion of farmland, urban decay, air quality and public health, length of the comment period, availability of the document in non-English translations, and noise. Responses to each of the comments received are provided in this final environmental impact report (FEIR). Although some of the comments have resulted in changes to the text of the DEIR (see Chapter 4, "Corrections and Revisions to the Draft EIR"), none of the changes constitute "significant new information," under CEQA Guidelines Section 15088.5, requiring recirculation of the DEIR.

The FEIR includes the following documents in their entirety:

- *Draft Environmental Impact Report for Merced Wal-Mart Distribution Center* (including Appendices A–F), dated February 2009;
- *Final Environmental Impact Report for Merced Wal-Mart Distribution Center, Volume I*, dated July 2009; and
- *Final Environmental Impact Report for Merced Wal-Mart Distribution Center, Volume II*, dated July 2009.

These documents are available for review at www.cityofmerced.org or at the City of Merced at the following addresses:

Merced City Clerk
678 West 18th Street
Merced, CA 95340

City of Merced Planning Department
678 West 18th Street
Merced, CA 95340

1.2 ORGANIZATION OF THIS DOCUMENT

This document contains six chapters, as described below.

Chapter 1, "Introduction," discusses the background of the environmental review of the proposed project and a description of the contents of this document.

Chapter 2, "List of Commenters," lists of all written comments received on the DEIR.

Chapter 3, "Comments and Responses to Comments on the Draft EIR," presents both the verbatim comments and appropriate responses to significant environmental points, in accordance with Sections 15088(a) and (c) and 15132 of the State CEQA Guidelines. Some of the issues raised in comments on the DEIR address the merits of the project or raise topics that are not environmental. Because CEQA specifies that the responses must address comments raised on the environmental impacts of the project, the comments on non-environmental issues are noted but do not require detailed responses. All comment letters are labeled to correspond with the table in Chapter 2 that lists the comments (Table 2-1). Each individual comment is assigned a number (e.g., 1-1) that corresponds with the response following the comment.

Chapter 4, "Revisions to the Draft EIR," presents corrections, clarifications, and other revisions to the DEIR text, based on issues raised by the comments on the DEIR or on other information made available to the lead agency. Changes in the text are indicated by strikeouts (~~strikeout~~) where text is removed and by underlining (<u>underline</u>) where text is added.

Chapter 5, "References," identifies the reference documents used in the preparation of responses to comments.

Chapter 6, "Report Preparation," identifies the preparers of this document.

1.3 PROJECT DECISION-MAKING PROCESS

This document is being made available to the public agencies and members of the public that commented on the DEIR and published on the City's website upon completion. As required by Section 15088(b) of the State CEQA Guidelines, the City is providing public agencies that commented on the DEIR at least 10 days to review proposed responses prior to considering the FEIR for certification.

At a scheduled public hearing following this 10-day review period, the City of Merced Planning Commission will consider the adequacy of the FEIR, the project entitlements, and the merits of the project. The Planning Commission will forward its recommendations to the City Council, which will render decisions regarding FEIR certification and project approval. If the City Council certifies the FEIR, it will make findings that (1) the FEIR has been completed in compliance with CEQA, (2) the Council has reviewed and considered the information in the FEIR, and (3) the FEIR reflects the Council's independent judgment and analysis. After certification, the Council may consider whether to approve the proposed project, approve it with conditions, or deny the project, in accordance with Section 15092 of the State CEQA Guidelines.

If the City Council approves the project, it will be required to make findings regarding the disposition of each significant environmental impact, including whether feasible mitigation measures or alternatives are available to substantially reduce or avoid these effects (CEQA Guidelines Section 15091). Because the project would also result in unavoidable significant impacts, the Council would also be required to adopt a statement of overriding considerations, specifying its rationale for approving the project in light of the unavoidable impacts (CEQA Guidelines Section 15093).

The City Council would, upon taking an approval action, then file a notice of determination with the County Clerk and the California Governor's Office of Planning and Research, as directed by Section 15094 of the State CEQA Guidelines.

2 LIST OF COMMENTERS

Table 2-1 indicates the designation for each comment letter received, the author of the comment letter, the date of the comment letter, and the page number where the comment letter can be found.

Table 2-1
Written Comments Received on the DEIR

Letter Designation	Commenter	Date	Page
State Agencies			
1	Timothy S. Boardman PG, CHG District Deputy Department of Conservation, Divisionof Oil, Gas and Geothermal Resources	April 20, 2009	3.1-1
2	Tom Dumas, Chief Office of Metropolitan Planning Department of Transportation	March 26, 2009	3.2-1
3	W. Dale Harvey Senior WRC Engineer California Regional Water Quality Control Board	March 12, 2009	3.3-1
Local Agencies and Organizations			
4	Bruce W. Logue, Chairman The Greater Merced Chamber of Commerce	March 11, 2009	3.4-1
5	Thomas N. Lippe Lippe Gaffney Wagner LLP	April 27, 2009	3.5-1
6	Jerald C. James, Planning Director Resource Management Agency Planning Department	March 13, 2009	3.6-1
7	The Merced County Chamber of Commerce	March 14, 2009	3.7-1
8	Scott Galbraith, CEcD President/CEO Merced County Economic Development Corporation	April 10, 2009	3.8-1
9	Diana Westmoreland Pedrozo Executive Director Merced County Farm Bureau	April 24, 2009	3.9-1
10	Merced County Hispanic Chamber of Commerce	March 14, 2009	3.10-1
11	Robert E. Smith Director of Special Programs Merced County Department of Public Works	April 24, 2009	3.11-1
12	Roderick Webster, Chair Merced Group of the Sierra Club/Tehipite Chapter	April 27, 2009	3.12-1
13	Rory Randol, Facilities Specialist Merced Irrigation District	April 14, 2009	3.13-1
14	Chong Sue Xiong, Vice President Merced Lao Family Community, Inc.	March 6, 2009	3.14-1
15	Mike Baldwin Steering Committee Merced/Mariposa Asthma Coalition	April 1, 2009	3.15-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
16	Kyle Stockard, Co-Chair Marilynne Pereira, Co-Chair The Merced Stop Wal-Mart Action Team	April 27, 2009	3.16-1
17	Merced/Mariposa Asthma Coalition	April 21, 2009	3.17-1
18	Anna M. Sanchez Garcia, Community Liaison Merced/Mariposa Asthma Coalition	March 3, 2009	3.18-1
19	Katy Sanchez, Program Analyst Native American Heritage Commission	March 2, 2009	3.19-1
20	Maureen McCorry, Director San Joaquin Et Al	April 27, 2009	3.20-1
21	David Warner, Director of Permit Services Arnaud Marjollet, Permit Services Manager San Joaquin Valley Air Pollution Control District	April 27, 2009	3.21-1
22	Judy V. Davidoff Sheppard, Mullin, Richter & Hampton LLP	April 27, 2009	3.22-1
Individuals			
23	Rochelle Koch Valley Land Alliance	April 27, 2009	3.23-1
24	Dannique N. Aalbu	April 23, 2009	3.24-1
25	Darlene Acree, Jr. Escrow Officer/Certified Escrow Technician TransCounty Title Co.	March 31, 2009	3.25-1
26	Candice Adam Medefind	March 19, 2009	3.26-1
27A	Margaret Allen	April 23, 2009	3.27A-1
27B	Brent Allen	April 23, 2009	3.27B-1
28	Margaret Allen Brent Allen Lisa Allen	April 26, 2009	3.28-1
29	Annette Allsup	Undated	3.29-1
30A 30B 30C 30D 30E	Audrey L. Alorro Audrey L. Alorro Audrey L. Alorro Audrey L. Alorro Audrey L. Alorro	April 26, 2009 April 26, 2009 April 19, 2009 April 12, 2009 April 7, 2009	3.30-1 3.30-2 3.30-3 3.30-4 3.30-5
31A 31B	Angel G. Alvarez Angel G. Alvarez	April 4, 2009 April 14, 2009	3.31-1 3.31-2
32	Joe E. Alvarez	April 3, 2009	3.32-1
33	Yanet Alvarez	April 10, 2009	3.33-1
34	Jacqueline Alvez-Munoz	Undated	3.34-1
35	Mark Andrade	March 22, 2009	3.35-1
36	Michael Dwayne Armstrong	April 26, 2009	3.36-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
37A 37B 37C 37D	Javier Arredondo Javier Arredondo Javier Arredondo Javier Arredondo	Undated April 10, 2009 March 23, 2009 April 14, 2009	3.37-2 3.37-4 3.37-6 3.37-8
38	Randy Ashlock	March 25, 2009	3.38-1
39	Lori Atkins	February 27, 2009	3.39-1
40	Dylan Bagwell	April 16, 2009	3.40-1
41	Mike Baldwin	April 1, 2009	3.41-1
42	Benny Banda	Mach 15, 2009	3.42-1
43	Priscilla Banda	April 13, 2009	3.43-1
44	Alma Barocio	April 17, 2009	3.44-1
45	Dale Beard	April 19, 2009	3.45-1
46	Gayle Besecker	March 23, 2009	3.46-1
47	Kyle Besecker	Undated	3.47-1
48	Megan Besecker	March 23, 2009	3.48-1
49	Pat Besecker	March 23, 2009	3.49-1
50	Aurora P. Bettencourt	April 14, 2009	3.50-1
51	W. Ray Blevins	March 5, 2009	3.51-1
52	Sige Borden	Undated	3.52-1
53	Susan Boykin	April 23, 2009	3.53-1
54	Judith Breckenridge	February 27, 2009	3.54-1
55	Elvis Brock	April 12, 2009	3.55-1
56	Judy and J. D. Brown	April 17, 2009	3.56-1
57	budgirl@surfbest.net	March 22, 2009	3.57-1
58	David F. Burke	April 23, 2009	3.58-1
59	Manuel Byrd	March 25, 2009	3.59-1
60	Charlene Calhoun	February 27, 2009	3.60-1
61	Edoardo Carmona	March 23, 2009	3.61-1
62	Ericka Carr	April 27, 2009	3.62-1
63	Kenneth Carter	April 6, 2009	3.63-1
64	Kenneth and Peggy Carter	March 6, 2009	3.64-1
65	Mike Carter	March 5, 2009	3.65-1
66	Alan Claunch, Owner Outdoor Creations	April 27, 2009	3.66-1
67	Tom Clendenin	March 16, 2009	3.67-1
68	Darlene Clouse	March 12, 2009	3.68-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
69	Jim Clouse	April 7, 2009	3.69-1
70	Susan Coggin	April 2, 2009	3.70-1
71	Ann Crawford	March 10, 2009	3.71-1
72	Ernie Cobb	March 12, 2009	3.72-1
73	Emily DeCremes	March 19, 2009	3.73-1
74	Mary Eck	April 10, 2009	3.74-1
75A 75B 75C 75D 75E 75F 75G	John Englert John Englert John Englert John Englert John Englert John Englert John Englert	April 26, 2009 April 26, 2009 March 26, 2009 March 13, 2009 April 26, 2009 April 26, 2009 April 26, 2009	3.75-1 3.75-2 3.75-3 3.75-4 3.75-5 3.75-6 3.75-7
76	Jaime Enrique	April 23, 2009	3.76-1
77	Keith Ensminger Kramer Translation	March 2, 2009	3.77-1
78	Robert Escobedo	April 2, 2009	3.78-1
79A 79B 79C 79D 79E 79F	Kristin E. Eslick Kristin E. Eslick Kristin E. Eslick Kristin E. Eslick Kristin E. Eslick Kristin E. Eslick	April 23, 2009 April 20, 2009 March 26, 2009 April 29, 2009 March 13, 2009 March 21, 2009	3.79-1 3.79-3 3.79-4 3.79-5 3.79-6 3.79-7
80	Alejandro Espinoza	April 5, 2009	3.80-1
81	Linda Farias	March 28, 2009	3.81-1
82	Leslie Fiedler	April 19, 2009	3.82-1
83	Robin Fisher	April 16, 2009	3.83-1
84	Timothy Fisher	April 16, 2009	3.84-1
85A 85B	Douglas G. Fleming Douglas G. Fleming	April 23, 2009 Undated	3.85-1 3.85-2
86	Eleazar A. Flores	April 1, 2009	3.86-1
87A 87B	Jason Flores Jason Flores	Undated Undated	3.87-1 3.87-2
88	Michael Flores	April 17, 2009	3.88-1
89	Grant & Helen Ford	March 19, 2009	3.89-1
90	Helen Ford	March 3, 2009	3.90-1
91	Christopher Fox	March 28, 2009	3.91-1
92	Jeff Freitas	Undated	3.92-1
93	Chris Gallery, MD	April 2, 2009	3.93-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
94	Chris Gallery, MD & Lucy Snyder, RN	April 25, 2009	3.94-1
95	Fernando Garcia	Undated	3.95-1
96A 96B	Tom Grave Tom Grave	March 4, 2009 April 27, 2009	3.96-1 3.96-2
97	Michelle Gray	Undated	3.97-1
98	Shirley Gregory	April 17, 2009	3.98-1
99	Valeria Gresham	March 28, 2009	3.99-1
100	Chansamay Guzman	April 20, 2009	3.100-1
101	Richard L. Harriman Law Offices of Richard L. Harriman	April 27, 2009	3.101-1
102A 102B 102C	Allison Harris Allison Harris Allison Harris	April 2, 2009 April 15, 2009 April 12, 2009	3.102-1 3.102-2 3.102-3
103	Cheryl Haupt	April 3, 2009	3.103-1
104	Joan Porter Frank Hawksworth	April 13, 2009	3.104-1
105	Jon Hawthorne	April 24, 2009	3.105-1
106	Annette Heikkila	March 25, 2009	3.106-1
107	Joe Henriques	March 31, 2009	3.107-1
108	Jamie Hernandez	Undated	3.108-1
109	Emilie Herr	April 20, 2009	3.109-1
110A 110B	David Hetland David Hetland	March 9, 2009 April 23, 2009	3.110-1 3.110-2
111	Barbara Hill	March 4, 2009	3.111-1
112	Christina Hill	March 29, 2009	3.112-1
113A 113B	Je Howell Je Howell	April 9, 2009 March 25, 2009	3.113-1 3.113-2
114	Dan Hultgren	April 2, 2009	3.114-1
115	Dawna J. Hunter	March 22, 2009	3.115-1
116	Judy Jones	April 14, 2009	3.116-1
117	Charlie Judd	March 9, 2009	3.117-1
118	Lisa Kayser-Grant	April 26, 2009	3.118-1
119	Greg Kelly	Undated	3.119-1
120	Grace Kenny	Undated	3.120-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
121A	Justin Kenny	Undated	3.121-1
121B	Justin Kenny	Undated	3.121-41
121C	Justin Kenny	Undated	3.121-46
121D	Justin Kenny	Undated	3.121-47
121E	Justin Kenny	Undated	3.121-48
121F	Justin Kenny	Undated	3.121-49
121G	Justin Kenny	April 16, 2009	3.121-50
121H	Justin Kenny	April 11, 2009	3.121-51
121I	Justin Kenny	April 12, 2009	3.121-52
122	Jason Kimbro	March 10, 2009	3.122-1
123	Rita and Thomas Kindle	March 29, 2009	3.123-1
124	Diana Knapp	March 17, 2009	3.124-1
125	Joel J. Knox	March 31, 2009	3.125-1
126A	Caroline Kreide	April 13, 2009	3.126-1
126B	Caroline Kreide	March 28, 2009	3.126-2
126C	Caroline Kreide	April 7, 2009	3.126-3
126D	Caroline Kreide	March 25, 2009	3.126-4
126E	Caroline Kreide	April 5, 2009	3.126-5
126F	Caroline Kreide	April 10, 2009	3.126-6
126G	Caroline Kreide	April 17, 2009	3.126-7
127A	Cristina Lambarén	Undated	3.127-1
127B	Cristina Lambarén	Undated	3.127-3
127C	Cristina Lambarén	Undated	3.127-5
128	Elizabeth Lambarén	April 2, 2009	3.128-1
129A	Jose Lambarén	Undated	3.129-1
129B	Jose Lambarén	Undated	3.129-3
130	Kenneth J. Leap	April 17, 2009	3.130-1
131	Yurba Lopez	Undated	3.131-1
132	Tina G. Lopez	March 17, 2009	3.132-1
133A	Ted Lorona	Undated	3.133-1
133B	Ted Lorona	Undated	3.133-2
133C	Ted Lorona	April 2, 2009	3.133.3
134	Olivia A. Macchia	April 17, 2009	3.134-1
135	Richard Macchia	April 17, 2009	3.135-1
136	Jessica Madruga, Certified Escrow Technician TransCounty Title Company	March 25, 2009	3.136-1
137	Charles and Sally Magneson	Undated	3.137-1
138	Anna Markiano	March 27, 2009	3.138-1
139	David W. Martin Kristi Martin	March 8, 2009	3.139-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
140A 140B 140C 140D	David W. Martin David W. Martin David W. Martin David W. Martin	Undated Undated Undated Undated	3.140-1 3.140-2 3.140-3 3.140-4
141A 141B	Althea Mason Althea Mason	Undated Undated	3.141-1 3.141-2
142	Dolores May	April 17, 2009	3.142-1
143	Marc Medefind	April 16, 2009	3.143-1
144A 144B	Suzette Meik Suzette Meik	April 25, 2009 April 3, 2009	3.144-1 3.144-2
145A 145B	Alina Méndez Alina Méndez	Undated Undated	3.145-2 3.145-4
146	William Mendonca Universal Service Recycling, Inc.	February 25, 2009	3.146-1
147	Francisco Mendoza	Undated	3.147-1
148	Javier Mendoza	Undated	3.148-1
149	John Meyer	March 16, 2009	3.149-1
150	Kara Middlebrooks	April 27, 2009	3.150-1
151A 151B 151C	Carlos G. Miramontes Carlos G. Miramontes Carlos G. Miramontes	April 19, 2009 April 23, 2009 April 2, 2009	3.151-1 3.151-3 3.151-5
152	Rebecca B. Miramontes	April 19, 2009	3.152-1
153	Clinton Moore	April 16, 2009	3.153-1
154	LaDonna S. Moore	Undated	3.154-1
155	Mr. Mundez Chuck Morgan	Undated Undated	3.155-1
156	Thomas J. Mann	April 14, 2009	3.156-1
157	Connie L. Mull	April 1, 2009	3.157-1
158	Mr. Mundez Chuck Morgan	Undated Undated	3.158-1
159	Maria Munquia	Undated	3.159-1
160	Ed Murphy	April 3, 2009	3.160-1
161	Maes H. Nash	March 13, 2009	3.161-1
162	Ernie Ochoa	March 25, 2009	3.162-1
163	Jean Okuye	April 20, 2009	3.163-1
164	Tom Olejniczak	April 17, 2009	3.164-1
165	Heather Oliver	Undated	3.165-1
166	Kenneth W. Olsen	April 17, 2009	3.166-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
167	Linda M. Olsen	April 17, 2009	3.167-1
168	Claire Osborne	March 26, 2009	3.168-1
169	Josh Osborne	April 5, 2009	3.169-1
170	Mark Osborne	April 27, 2009	3.170-1
171	Guanchen Pan	Undated	3.171-1
172A 172B	Oscar F. Pastrana Oscar F. Pastrana	Undated April 11, 2009	3.172-1 3.172-2
173A 173B 173C 173D	Marilynne Pereira Marilynne Pereira Marilynne Pereira Marilynne Pereira	April 27, 2009 Undated Undated Undated	3.173-1 3.173-3 3.173-4 3.173-5
174	Alfa G. Perez	Undated	3.174-1
175A 175B 175C 175D	Peggy Perkins Peggy Perkins Peggy Perkins Peggy Perkins	Undated April 26, 2009 April 27, 2009 March 24, 2009	3.175-1 3.175-2 3.175-3 3.175-4
176	Betty Phillips	Undated	3.176-1
177	Joan Porter	Undated	3.177-1
178	Maria Pulido	April 20, 2009	3.178-1
179	Laura Angelica Ramirez	Undated	3.179-1
180	Yonathan Ramirez	March 10, 2009	3.180-1
181	Maria E. (Alvarez) Ramos	March 30, 2009	3.181-1
182A 182B 182C	Carmensol Rehbein Carmensol Rehbein Carmensol Rehbein	April 26, 2009 April 23, 2009 April 23, 2009	3.182-1 3.182-2 3.182-3
183A 183B	Mauricio Rehbein Mauricio Rehbein	April 23, 2009 Undated	3.183-1 3.183-2
184	Graciela Ray	March 9, 2009	3.184-1
185	Maria Pineda	March 9, 2009	3.185-1
186	Tammy Rodriguez	April 18, 2009	3.186-1
187	Gabriel D. Rosales	April 16, 2009	3.187-1
188	Lisa M. Rosales	April 16, 2009	3.188-1
189	Vincent G. Rosales	March 28, 2009	3.189-1
190	Saan Saechao	April 24, 2009	3.190-1
191	Anna M. Sanchez	April 16, 2009	3.191-1
192	Julia Sanchez-Contreras	February 26, 2009	3.192-1
193	Clayton Sandy	February 28, 2009	3.193-1
194	Jeanne Sanford	February 28, 2009	3.194-1

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
195	William C. Sanford	April 25, 2009	3.195-1
196	Dhruv Shah	April 18, 2009	3.196-1
197	Ian Shaw	April 24, 2009	3.197-1
198	Terese Shaw	April 20, 2009	3.198-1
199	Carol Simmers-Tilma	April 19, 2009	3.199-1
200	Renee Smith	April 12, 2009	3.200-1
201A 201B 201C	Lucy Snyder Lucy Snyder Lucy Snyder	Undated March 22, 2009 April 7, 2009	3.201-1 3.201-2 3.201-3
202	Celeste Soares	April 14, 2009	3.202-1
203	Syd Spitler	April 18, 2009	3.203-1
204	Pamela M. Spiva, Realtor Coldwell Banker Gonella Realty	March 9, 2009	3.204-1
205	John & Vickie Stephan	February 14, 2009	3.205-1
206	Ken Stephenson	April 17, 2009	3.206-1
207	Kyle Stockard	April 27, 2009	3.207-1
208	William Stockard	April 1, 2009	3.208-1
209	Teri Strickland, Realtor Coldwell Banker Gonella Realty	March 9, 2009	3.209-1
210A 210B	Peter T. Swaney Peter T. Swaney	March 21, 2009 April 17, 2009	3.210-1 3.210-2
211A 211B	Jory A. Taber Jory A. Taber	April 5. 2009 April 20, 2009	3.211-1 3.211-2
212	Nancy Tapia	April 17, 2009	3.212-1
213	Thomas Terpstra	April 27, 2009	3.213-1
214	Tom Tran	March 5, 2009	3.214-1
215A 215B	Anne Tressler Anne Tressler	April 23, 2009 April 2, 2009	3.215-1 3.215-2
216	Robert L. Tussey	March 6, 2009	3.216-1
217	Federico Valenzuele	April 15, 2009	3.217-1
218	Maria Villafám	Undated	3.218-2
219	Susan Wagoner	April 21, 2009	3.219-1
220A 220B 220C	Susan Wagoner Susan Wagoner Susan Wagoner	Undated Undated Undated	3.220-1 3.220-2 3.220-3

Table 2-1 Written Comments Received on the DEIR			
Letter Designation	Commenter	Date	Page
221A 221B 221C 221D 221E	Toni Walery Toni Walery Toni Walery Toni Walery Toni Walery	April 16, 2009 April 1, 2009 March 27, 2009 April 21, 2009 April 5, 2009	3.221-1 3.221-2 3.221-3 3.221-4 3.221-5
222	Ed Walters	March 25, 2009	3.222-1
223	William Wasser	April 23, 2009	3.223-1
224	Rod Webster	March 5, 2009	3.224-1
225A 225B 225C	Sheila A. Whitley Sheila A. Whitley Sheila A. Whitley	March 26, 2009 Undated Undated	3.225-1 3.225-2 3.225-3
226	Angela Williams	April 23, 2009	3.226-1
227	Amanda Wilson	April 2, 2009	3.227-1
228	Jan Wilson	April 17, 2009	3.228-1
229	Wilson (Commenter's first name illegible)	Undated	3.229-1
230	Sandra Wolf	April 15, 2009	3.230-1
231	Sandra Wolf	March 3, 2009	3.231-1
232	Byerly Woodward	April 27, 2009	3.232-1
233	Bao Xiong	April 11, 2009	3.233-1
234	Henry Xiong	April 23, 2009	3.234-1
235	Mayna Ya	Undated	3.235-1
236	Bev Young	March 16, 2009	3.236-1
237	Virginia Zamarripa	April 7, 2009	3.237-1
238	Steve	March 7, 2009	3.238-1
239	Benigno Contreras	Undated	3.239-2
240	John Honnette	Undated	3.240-1
241	Charles M. Ashley	May 2, 2009	3.241-1

3 COMMENTS AND RESPONSES TO COMMENTS ON THE DEIR

3.1 INTRODUCTION

This section of the Final EIR contains comment letters received during the 60-day public review period for the Draft EIR, which concluded on April 27, 2009. In conformance with State CEQA Guidelines §15088(a), written responses to comments on environmental issues received from reviewers of the Draft EIR were prepared.

3.2 COMMENTS AND RESPONSES ON THE DRAFT EIR

This section presents master responses, comment letters and supplementary materials provided by commenters, and individual comment responses. Section 3.2.1, "Master Responses," presents responses to environmental issues raised in multiple comments. They are organized by topic to provide a more comprehensive response than may be possible in responding to individual comments, and so that reviewers can readily locate all relevant information pertaining to an issue of concern. Section 3.2.2, "Responses to Individual Comments," presents copies of comment letters and supplementary materials received by the City from commenters, and individual responses to each comment, with cross-references to relevant master responses as necessary

3.2.1 MASTER RESPONSES

MASTER RESPONSE 1: GROWTH INDUCEMENT AND EXPANSION

Several comments raised issues related to growth inducement. Of these comments, the majority expressed concern that, although the proposed project is not a retail store or supercenter, the proposed distribution center could expand Wal-Mart's distribution network, increasing the ability to convey inventory to stores that are currently not easily accessible along current truck routes, thereby increasing viability of potential retail stores or supercenters in locations that currently would be considered infeasible. In other words, the placement of this proposed distribution center in Merced could remove the "shipping distance" obstacle currently preventing the development of other stores throughout central California.

The Draft EIR for the proposed Merced Wal-Mart Distribution Center indicates that any growth-inducing effect the proposed regional distribution center may have relative to new Wal-Mart retail stores in the area or beyond is difficult to accurately determine. The proposed project can be viewed as a means to simply improve service to existing retail outlets, given the fact that proximity to a distribution warehouse in and of itself and in the absence of consumer demand is not likely to warrant construction of a new retail facility (Merced Wal-Mart Distribution Center DEIR, page 6-35). The DEIR does not preclude the possibility that the proposed project may somehow affect the viability of retail store locations throughout the larger region; rather, the DEIR discloses this possibility while avoiding gross speculation of potential environmental impacts. The distribution center could serve new retail stores if they are built; however, knowing how many, where, and when any new retail stores would be built is not possible and would be speculative. In addition, if new stores are planned and/or proposed in the future, it would be up to that particular jurisdiction to address any environmental issues and comply with CEQA, as appropriate.

Regarding speculation, CEQA is very clear: "[i]f, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." (*State CEQA Guidelines* Section 15145) This is precisely how the Draft EIR treats this issue in Section 6.2.2 "Growth Inducing Impacts of the Proposed Project." However, to further demonstrate the reasons that this impact discussion was terminated, it is not only extremely speculative to evaluate whether, if at all, the proposed distribution center would increase viability of store locations, but to determine where, specifically, these

potential store sites may be located, even within which cities and communities they might occur, would be pure conjecture. Furthermore, CEQA is not concerned about whether the project might provide an impetus for the construction of new stores, but whether these stores would result in any physical changes to the environment. Given the inability to calculate the effect of the proposed Distribution Center on the viability of unknown specific potential store locations, it is impossible to surmise, without gross speculation, the environmental effects related to the eventual development of those sites with retail stores. Therefore, due to the highly speculative nature of this issue, no additional analysis is required under CEQA, and the DEIR's dismissal of this issue remains appropriate.

Other comments raised concerns about continuing expansion of Wal-Mart and subsequent applicability of the EIR's analysis. First, it should be noted that if Wal-Mart sought future physical expansion of the proposed distribution center, a Site Plan Review would be required by the City, which would require additional review under CEQA. Second, if Wal-Mart retail stores expand regionally resulting in an increase in operational intensity of the proposed distribution center above and beyond the operational intensity described in the EIR's project description, this would constitute a change in the project and additional CEQA review would be necessary. CEQA states that when an EIR has been certified […] no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, [that] changes are proposed in the project which will require major revisions of the previous EIR […] due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. (*State CEQA Guidelines* Section 15162[a][1]) Consequently, if the project operation increases such that a new environmental effect could occur, the City is required by CEQA to prepare additional environmental analysis.

MASTER RESPONSE 2: LANGUAGE BARRIER AND PUBLIC REVIEW PERIOD

Several commenters raised the issue that the CEQA documents for the proposed project were not made available in languages other than English, arguing that many of the residents impacted by the proposed project cannot read English and are therefore excluded from the CEQA public review process. For this reason, several commenters request documents translated into other languages and subsequently requested extension of the public comment period or recirculation of the DEIR. Other comments on the DEIR raise issues with the highly technical nature of the text and the inaccessibility of the technical language to some residents. A few of these commenters also suggested extending the comment period to allow more time to understand the document and provide well-reasoned responses.

Translation of CEQA Documents

CEQA does not require translation of CEQA documents into additional languages as requested by commenters. While CEQA is to be broadly construed to afford the fullest possible protection to the environment, this must be done within the reasonable scope of the statutory language. (*Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 259 – 262.) Public Resources Code section 21083.1 states that CEQA and the CEQA Guidelines shall not be interpreted in a manner which imposes procedural or substantive requirements beyond those explicitly stated. Further, Public Resource Code section 21003 declares that "[a]ll persons and public agencies involved in the environmental review process [are] responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." (Pub. Resources Code, section 21003, subd. (f).) CEQA's emphasis on environmental protection cannot be a basis for ignoring specific statutory language emphasizing the need to consider economic costs of CEQA compliance, and procedural or substantive requirements not "explicitly stated" either in CEQA or the CEQA Guidelines should not be imposed.

CEQA addresses public participation specifically in Section 15201 stating that "[e]ach public agency should include provisions in its CEQA procedures for wide public involvement, formal and informal, consistent with its existing activities and procedures, in order to receive and evaluate public reactions to environmental issues related

to the agency's activities." Translation of CEQA documents is not part of the City's CEQA procedures and is not consistent with the City's existing activities or procedures. The City has made the CEQA document available to a wide audience by following the public review procedures prescribed by CEQA including posting of the Draft EIR and all notices on the City's website. Neither the Lao Family Community nor the Hispanic Chamber of Commerce, two prominent community organizations, requested the document be translated (Please see Comment Letter 14 and Comment Letter 10, respectively).

Neither CEQA nor any other statutory or regulatory mandate requires that environmental documents be published in any language other than English, inherently recognizing that the CEQA process is already a very lengthy and expensive one. The City Council considered the issue at its March 16, 2009 City Council meeting and voted not to translate the DEIR into any other language; however, the City Council directed staff to work with the Lao Family Community, the Hispanic Chamber of Commerce, and any other community organizations which had offered to provide translation services at public hearings related to the project. The City has complied with the requirements of CEQA.

Document Length and Complexity

When preparing a Draft EIR, a Lead Agency must weigh CEQA's suggested "normally acceptable" limit of 150 pages for a Draft EIR (Section 15141) against CEQA's "Standards for Adequacy of an EIR" (Section 15151), which state that "[a]n EIR should be prepared with a sufficient degree of analysis to provide decisions makers with information which enables them to make a decision which intelligently takes account of environmental consequences." It is clearly in the interest of the decision makers that a Draft EIR exceed the recommended page limit when necessary to meet CEQA's stated adequacy standards. Due to the ever-expanding regulatory context, the thickening volumes of CEQA case law, the increasing complexity of modeling systems, and the rise of new environmental issues and challenges, the amount of information that constitutes a "sufficient degree of analysis" is continuously increasing. It is quite rare to see a Draft EIR under 150 pages, even for relatively straightforward projects.

Likewise, CEQA documents have become increasingly complex. Due to the complex modeling systems that have been developed to more accurately analyze project and cumulative impacts associated with issue areas such as air quality, noise, and traffic, EIRs must describe complex model assumptions and outputs and compare those outputs to thresholds of significance, which, themselves, are often quite technical in nature. Decision makers, including responsible and trustee agencies, require this technical information in order to base their decision on substantial evidence (rather than a mere claim that an impact is significant or not). For example, an analysis of traffic impacts cannot simply describe in general terms that a project will impact traffic at an intersection; in order to provide a sufficient degree of analysis, the analysis must present the Level of Service information and compare it to the adopted threshold of significance and show the decision maker how the threshold is either exceeded or not exceeded. That is not to say that the Draft EIR needs to include ALL of the data in the body of the report. CEQA discourages excessive data, and recommends including the specialized studies and technical reports as appendices to the Draft EIR, rather than in the body text (as demonstrated by the Draft EIR for the Merced Wal-Mart Distribution Center).

Regarding this complexity, comments were received indicating that the Draft EIR was overly technical and not written such that the average resident could understand it. In one case, an example sentence was taken from the Air Quality section of the Draft EIR showing how all of the technical language rendered the sentence difficult to understand by the average resident. CEQA requires that EIRs be written in "plain language" (Section 15140); however, the "plain language" requirement does not nullify the need to provide technical information to reviewing agencies that have the technical expertise to evaluate the issues as well as to the decision makers, as described above, and should not be interpreted as a requirement that an EIR should be non-technical. Rather, the phrase "plain language" should be interpreted as articulate and precise, avoiding "legalese" and high-brow vocabulary. CEQA addresses the level of technical detail to be included in an EIR:

> The information contained in an EIR shall include summarized technical data, maps, plot plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR. (*State CEQA Guidelines* Section 15147)

The Draft EIR for the proposed Merced Walmart Distribution Center, is written in "plain language" and complies with the CEQA-prescribed level of technical detail indicated in CEQA Guidelines Section 15147 (see above), to appropriately inform decision makers regarding project impacts, while placing technical data and reports in appendices.

Extension of Public Review Period

The *State CEQA Guidelines* (Section 15015[a]) state that "the public review period for a draft EIR shall not be less than 30 days nor should it be longer than 60 days except under unusual circumstances." The State CEQA Guidelines do not specify what constitutes an "unusual circumstance". The City of Merced considered the request for an extension of the comment period at the March 16,' 2009 City Council hearing and adopted a motion determining that 60 days, the maximum required by CEQA (except in unusual circumstances), is an appropriate public review period considering the scope of the project and the anticipated public interest. The City recognized that the 60-day comment period is 15 days greater than the typical 45-day review period required for Draft EIRs that go through the State Clearinghouse. The City Council also acknowledged public comments asserting that this project qualifies as an "unusual circumstance"; however, the Council did not consider the case of the project to be an unusual circumstance and based its motion, in part, on the fact that other lengthier and more complex CEQA documents have been released in Merced, including the Mercy Hospital Draft EIR (45-day review period) and the UC Merced Draft EIR, with no request for extension of the review period. Therefore, the 60-day public review period is appropriate for the proposed project and complies with the requirements of CEQA. No extension is necessary.

MASTER RESPONSE 3: PIECEMEALING

Several commenters raised the concern that the Draft EIR improperly segmented or "piecemealed" environmental review for the proposed WDC and other projects in the area. "Piecemealing" refers to the practice of chopping up a larger project into discrete pieces, and thereby ignoring or downplaying the impacts of the project as a whole. (*Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1358 ("*Berkeley Jets*"); *Del Mar Terrace Conservancy, Inc. v. City Council of the City of San Diego* (1992) 10 Cal.App.4th 712, 732; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 716; *Burbank-Glendale-Pasadena Airport Authority v. Hensler* (1991) 233 Cal.App.3d 577, 592.) These commenters assert two distinct "piecemealing" claims: 1) the improvements to Childs Avenue and Gerard Avenue associated with the Campus Parkway project were modified to accommodate the Wal-Mart Distribution Center project and environmental review for these improvements and subsequent modifications was improperly piecemealed, and 2) the Draft EIR for this project did not consider several other past, present, and planned projects. (See Comments 16-22 and 20-5.) The first argument focuses on the fact that the Draft EIR describes turn lanes at Childs Avenue and Gerard Avenue and that these turn lanes were not as specifically described in the Campus Parkway EIR/EIS. This argument lacks in both factual and legal merit. Factually, the turn lanes were analyzed in the prior EIR/EIS. (See Campus Parkway Final EIR, pp. 2-24 – 2-25; see also Campus Parkway Final EIR, pp. 2-22 – 2-27.) Legally, the tests set forth in case law clearly establish that the Wal-Mart Distribution Center (WDC) and the roadway improvements associated with the Campus Parkway project are separate projects for purposes of CEQA.

In *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal. 3d 376, 396 (*Laurel Heights I*), the California Supreme Court developed the following legal test for piecemealing: "an EIR must include an analysis of the environmental effects of future expansion or other action if: (1) it is a reasonably foreseeable *consequence* of the initial project; and (2) the future expansion or action will be significant in that it

will likely *change the scope or nature* of the initial project or its environmental effects." (Italics added.) In applying this test, the court held that a project EIR need only treat later land use activities as part of the "project" at issue where such activities are in some sense *caused* by the initial project approval.

In *Del Mar Terrace Conservancy, Inc. v. City Council of the City of San Diego* (1992) 10 Cal. App. 4th 712 (*Del Mar Terrace*), the Court of Appeal looked at whether it is permissible to focus an environmental document solely on one small piece of what is arguably a larger project. In that case, the Court upheld an EIR that treated as the "project" at issue one freeway segment within a long-term, multi-segment regional plan to expand the freeway system throughout San Diego County. Because the one segment would serve a viable purpose even if the later segments were never built, the court found no problem with the agency's focus on that limited project. In reaching its holding, the court embraced the concept of "*independent utility*" developed in federal case law interpreting NEPA.

Reading *Laurel Heights I* and *Del Mar Terrace* together, it becomes clear that an agency, when considering how to define a project for purposes of analysis in an EIR, must ask whether the potential later actions or activities at issue would be "reasonably foreseeable consequences" of the limited project. If they would not, an environmental document need not consider them, except to the extent that they happen to be "probable future projects" for purposes of cumulative impact analysis. Furthermore, where a limited project has "independent utility" even though it is arguably a part of a larger scheme, the agency can focus on that limited project, though it must address the larger scheme, in a broad-brushed fashion, in its analysis of cumulative impacts. In the case of the Campus Parkway EIR, the proposed Wal-Mart Distribution Center cannot be considered part of a "larger scheme", because the proposed project was not submitted to the City at the time the Campus Parkway EIR was prepared, and the Campus Parkway EIR analyzed the site as an Industrial use, consistent with the General Plan designation; therefore, the "independent utility" concept applies to this case only in the sense that both the proposed project and the Campus Parkway project are part of the general development planned for the southeast area of Merced.

Using this legal test, both the improvements to Childs Avenue and Gerard Avenue, and other projects in the area are independent projects from the proposed Wal-Mart Distribution Center project and neither the road improvements nor these other projects are a consequence of the proposed project. The improvements to Childs Avenue and Gerard Avenue were contemplated as part of the Campus Parkway project and were analyzed in the Campus Parkway EIR/EIS. The Wal-Mart Distribution Center project is independent and distinct from all other past, pending, and future projects in the area, and is not a consequence of other projects. Thus, the City has not engaged in "piecemealing" and the scope of the project analyzed in the Draft EIR is adequate under CEQA.

MASTER RESPONSE 4: CUMULATIVE IMPACTS ANALYSIS

Several commenters question why the EIR's cumulative impact analysis only looks at impacts in the southeastern portion of Merced. The scope, or geographic area, of the cumulative impact analysis differs for each type of environmental issue area, and is not limited to only the southeastern portion of the City. For some issues, such as air quality, the scope is broad and regional to account for the fact that certain pollutants occur over a very broad area. Cultural resources, on the other hand, are considered on a site-specific basis, and such impacts don't tend to combine when considered with other projects.

The project's cumulative impacts were evaluated consistent with the requirements of CEQA in Chapter 6, "Cumulative and Growth-Inducing Impacts" of the DEIR. The CEQA Guidelines state that the cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-only impacts, and should be guided by the standards of practicality and reasonableness (Guidelines Section 15130[b]). Although the cumulative impact analysis presented in the DEIR generally is *based* on an examination of existing urban development in southeast Merced and a summary of anticipated projects identified by City staff, the scope of the cumulative impact analysis is *not limited by* the list of projects in Table 6-1 of the DEIR, and is different for each of the various environmental topic areas. The cumulative impact analysis in the DEIR considers the specific

geographic area for each environmental issue area. For example, it is practical and reasonable for the cumulative impact analysis scope for agricultural land to consider farmland throughout Merced County (see page 6-4 of the DEIR). The scope of analysis for cumulative air quality impacts reasonably includes emissions from numerous sources in the region because air quality impacts are regional in nature (page 6-4 of the DEIR), and is not limited to the emissions from the projects listed in Table 6-1 presented on page 6-2.

MASTER RESPONSE 5: AGRICULTURAL RESOURCES

A number of comments were raised concerning the effects to important agricultural resources as analyzed in the DEIR. The comments generally focused on the lack of agricultural conversion mitigation and increased development pressure on adjacent agricultural land due to increased property tax assessment. Other issues pertaining to effects on important agricultural resources were raised by individual commenters. Responses to these comments can be found in Section 3.2.2 "Responses to Comments". Specific comments related to the analysis of impacts on agricultural resources in the DEIR are addressed below.

Impacts to Farmland and Mitigation

The DEIR includes a comprehensive evaluation of the potential impacts associated with the loss of important agricultural resources (i.e., important farmland). As described on page 4.1-4 of the DEIR, the project site contains approximately 229 acres of important farmland of which 70% is considered prime farmland. Impacts of the proposed project related to the conversion of important farmland were described in detail in Impact 4.1-1. As described therein, the project would result in the conversion, or loss, of 228.68 acres of important farmland. In addition, the DEIR quantified the direct conversion of farmland according to several criteria using the California Land Evaluation and Site Assessment (LESA) model. The project scored an 88.4 in the LESA model with subtotals of 43.4 and 45 for the land evaluation and site assessment portions, respectively. Based on the scoring established by the state, farmland on the project site is considered significant. The DEIR concluded the conversion of important farmlands on the project site would be considered a significant impact.

The project site is located within the City's planned urban growth boundary and is consistent with industrial land use designation established by the City. The City's designation of the project site for industrial land use indicates the City's vision for future land uses for the project site do not involve agricultural operations but involve urban development, specifically industrial uses. Although the project site currently consists of agricultural operations, the proposed project is consistent with the future urban land development vision of the City.

The reason an EIR is required by CEQA for this project is because of the request by the applicant to amend the General Plan and abandon the easement for Kibby Road. If such amendment were not needed, the applicant would have been entitled to build by right. Furthermore, CEQA does not provide for the specific type of mitigation measures that should be adopted to mitigate significant impacts to agricultural resources. The determination of how best to mitigate such impacts is left to the discretion of local agencies. The decision to zone this location as industrial was made by the City Council more than a decade ago in 1997, when it adopted the Merced Vision 2015 General Plan. The EIR for that General Plan evaluated the adverse environmental impacts that would result if agricultural land were converted to urban uses and concluded that converting agricultural soils to non-agricultural uses is a significant adverse impact under CEQA. At that time, the City determined not to have a policy providing mitigating agricultural impacts but rather a policy that land designated for development in the General Plan should be developed in accordance with that plan, which included consideration of land use, housing, conservation and open space issues at that time. The City adopted long term goals, objectives and policies relating to the appropriate balance between development of housing, industrial, commercial and other uses, and the preservation of agricultural land and open space. The City Council considered the significant impact associated with the conversion of farmland resulting from buildout of the General Plan and adopted a Statement of Overriding Considerations (Resolution No. 97-22). That Resolution reflected the judgment of the City Council that the social, economic and environmental benefits of the project outweighed its significant environmental risks.

The conclusion in the DEIR for this project is consistent with the policies established by the General Plan and findings for the proposed project would require adoption of a Statement of Overriding Considerations.

CEQA Guidelines Section 15126.4 outlines the requirements for mitigation measures. Specifically, the CEQA Guidelines state "[a]n EIR shall describe feasible measures which could minimize significant adverse impacts …" (Section 15126.4(a)(1)). The significant adverse impact identified in the analysis conducted in the DEIR is related to the conversion of 229 acres of important farmland on the project site. Mitigation suggested by commenters includes Agricultural Trust Lands, off-site conservation easements, and fee title acquisitions of comparable land. However, conserving agricultural land at a location other than the project site would not prevent or reduce the loss of important farmland at the project site. As concluded in the DEIR, mitigation that would eliminate the loss of agricultural land to urban development on the project site is not possible. The City has discretion to consider and then reject proposed mitigation measures. A lead agency's "duty to condition project approval on incorporation of feasible mitigation measures only exists when such measures would [avoid or] 'substantially lessen' a significant environmental effect." The agency is not required to adopt every proposed mitigation scheme brought to its attention. (*San Franciscans for Reasonable Growth v. City and County of San Francisco* (1989) 209 Cal. App. 3d 1502, 1519.) The DEIR's approach is appropriate, given that the direct and cumulative impacts to agriculture caused by the conversion of farmland to non-agricultural uses was described and analyzed in the Vision 2015 General Plan EIR. (DEIR, pp. 4.1-7 – 4.1-8.) As stated in the DEIR, the site for the proposed project and the surrounding area have been designated for non-agricultural uses ever since the City adopted its current General Plan. (See *Id.* at pp. 4.1-4, 4.1-11.) The City of Merced previously considered the significance of impacts associated with conversion of farmland resulting from buildout of the General Plan and adopted a Statement of Overriding Considerations (Resolution No. 97-22). For these reasons, the conclusions made in the DEIR meet the requirements of CEQA and adequately conclude that "feasible measures which could minimize significant adverse impacts" are not available in accordance with CEQA Guidelines 15126.4.

Development Pressure on Adjacent Farmland

The DEIR includes a comprehensive evaluation of existing agricultural production occurring in the project vicinity. As described on page 4.1-12 of the DEIR, agricultural operations currently occur on the project site, in the immediate vicinity of the project site, and extend outward to the east, west, and south into Merced County.

Impacts of the proposed project related to other changes in the environment that could result in the conversion of important farmland were described in detailed in Impact 4.1-3. As described therein, urban development of the project site could foster future farmland conversions. However, the DEIR identifies an industrial land use, as proposed by the project applicant, can be compatible with agricultural activities if the industrial use is not sensitive to noise, dust, unfavorable smell, and other nuisances commonly associated with agricultural operations and therefore can exist in proximity to one another without significant impacts. The DEIR also indicates that the proposed project conforms to the City's plans and designations for industrial land uses and is located within the City's planned build-out boundary. Therefore, the DEIR concludes significant impacts associated with changes in the environment that could result in conversion of farmland to nonagricultural use would not occur with implementation of the proposed project.

As discussed in the DEIR, the Williamson Act establishes a mechanism for contracts between local governments (e.g., Merced County) and private landowners (e.g., agricultural operators) that restrict parcels of land to agricultural or related open space land uses and offered reduced property tax assessments as an incentive for the restrictions on land use. These contracts are valid for ten years, and subject to renewal. Cancellation and/or breach of Williamson Act contracts carries stiff financial penalties. If a property owner decides not to renew, the annual tax assessment gradually increases until the end of the nonrenewal period, when the contract is terminated. However, development of the project site will not necessarily lead to increased property assessments on adjacent parcels—properties are only reassessed at the time of sale. Exhibit 4.1-2 of the DEIR identifies three adjacent parcels, and parcels in the vicinity, of the project site that are currently enrolled in Williamson Act contracts. As discussed in Impact 4.1-2 of the DEIR, implementation of the proposed project would not remove any parcels

under an existing Williamson Act contract. In addition, implementation of the proposed project would not inhibit adjacent parcel owners from enrolling in a Williamson Act contract. The fact that the site is developed has no correlation to the property tax assessments on adjacent agricultural land. Those assessments will only change subject to the terms of the Williamson Act contract or by action of those particular property owners. It is impossible to even speculate what those property owners might do in the future. The DEIR fully analyzes all potential impacts associated with conflicts of Williamson Act contracts, which is directly related to tax assessments, as is required by CEQA. No additional analysis is required.

Where appropriate a DEIR may contain discussion of economic impacts of a project (e.g., tax assessment); by themselves, however, such impacts "shall not be treated as significant effects on the environment" (CEQA Guidelines, Section 15131, subd. (a)). As discussed in the CEQA Guidelines, "there must be a physical change resulting from the project directly or indirectly before CEQA will apply" (discussion following CEQA Guidelines, Section 15131). If a proposed project may cause economic consequences but no significant environmental impacts, CEQA does not require that an EIR be prepared (Hecton v. People of the State of California (1976) 58 Cal.App.3d 653, 656 [CEQA was "not designed to protect against the…decline in commercial value of property adjacent to a public project"]). Thus, a project's changes to land uses do not necessitate CEQA review unless such effects are "related to or caused by physical change" (discussion following CEQA Guidelines, Section 15131).

However, the City recognizes there is pressure on adjacent agricultural land to convert to urban development that could be construed as "growth-inducing", growth which could indirectly result in additional physical changes to the environment. However, as mentioned above, a change in property value is not in itself considered "growth-inducing" as defined by CEQA. As identified in CEQA Guidelines Section 15126.2(f), growth inducing is defined as fostering economic or population growth either directly or indirectly in the surrounding environment. CEQA Guidelines also identify a growth-inducing project as one "… which would remove obstacles to population growth …" The project would not require extension of services or utilities to an otherwise undevelopable area which could allow for more construction or development in service areas. In addition, the project would not remove any boundary to growth. The project site is located inside the city limits and does not require annexation. The primary obstacle to population growth is the city limits located east of the project site. Implementation of the proposed project would not remove this obstacle.

MASTER RESPONSE 6: TRUCKS AND THE TRANSPORTATION ANALYSIS

Several commenters raise issues related to heavy truck traffic in the vicinity of the project. Assumptions regarding the truck trips, including the number of trucks trips, the routing of trucks on local and regional roadways, and their hours of activity, were carefully reviewed prior to incorporation into the traffic analysis. In addition to City staff review, a comprehensive peer review of the traffic analysis was commissioned by the City of Merced and conducted by an independent consultant. The analysis assumptions and methodology was also confirmed by Merced County staff (see Comment Letter 11, second paragraph).

Assumptions regarding the use of truck containers on site was assumed to be the same as that of the Wal-Mart Distribution Center Apple Valley, California site, in the sense that containers are loaded and unloaded, and the traffic analysis is based the number of trucks entering and leaving the site.

The designated truck routes for Wal-Mart Distribution Center trucks, whether STAA routes or other routes approved by the City of Merced, would be defined as per Mitigation Measure 4-11-2b (a, b and c). The truck routing is based on the most logical routes to access SR 99, SR 140 and the regional roadway network. Truck routes are typically the shortest routes between a site and the regional roadway network, and that is the case here as well. The routes noted in Mitigation Measure 4.11-2b(c) are the routes that were assumed in the traffic analysis, are the logical truck route choices, and make the most sense to include in the truck route plan mitigation measure plan.

Goods that are brought to the Distribution Center come from various sources. It would be speculative to estimate how the proposed distribution center would potentially affect the Port of Oakland or any other port. Traffic dissipates as it moves further from the source, and the number of available route choices increases. Therefore, this location was considered outside the study area and too far way to accurately forecast project-generated traffic volumes.

It is an industry standard recommended practice to survey a similar facility when published standardized trip generation rates are not available for a proposed land use. In this case, the Apple Valley site was chosen for the trip generation survey as it was considered the most similar distribution center site to the proposed site in Merced in terms of its size and operating characteristics. The Apple Valley Distribution Center has 1,201 employees and a similar fleet mix as the proposed facility in Merced. Although the surrounding land uses may differ at the Apple Valley site, the trip generation of the site is based on the site function and size.

MASTER RESPONSE 7: DETENTION BASINS AND DRAINAGE

Several comments were made regarding the adequacy of the proposed detention basin with respect to run-off volume. Because plans for the proposed project are not yet designed to construction-level detail, calculations have not been finalized for the stormwater detention and conveyance facilities. However the preliminary designs described in Mitigation Measure 4.6-2 at the conceptual phase are conservative, that is, the basins and conveyance facilities are sized larger than necessary to handle the 100-year storm event and would be refined at the final design phase. The detention basins would be as shallow as possible; target depth for the detention basin or basins is 5 feet below ground surface (bgs), and although some areas may be deeper (8 to 10 feet) due to grading and terrain, the water depth would still be targeted at 5 feet. The berms would be designed and compacted pursuant to the final geotechnical report for the project (ENGEO 2006b). (Jim Emerson, pers. comm. 2009) The final geotechnical report will include evaluation of the filled-in stream channel areas, which are less dense and more permeable to water than surrounding land and soil and have high shrink-swell potential.

Senior City Engineer John Franck and City Engineer Dave Tucker (now retired) reviewed and found acceptable the preliminary plans with one condition. An agreement with the Merced Irrigation District's (MID) would be required by the City on proposed project stormwater discharge points and drainage improvement details (Kim Espinosa, pers. comm. 2009). This agreement, which would reconcile differences in the requirements from the City and MID including stormwater holding times in the retention basins and release rates, contain the following conditions (per MID Letter to City of Merced [Comment 13]):

- If storm water is to be discharged to any MID facility, the project proponent shall enter into a “Storm Drainage Agreement” with the MID Drainage Improvement district No. 1, and pay all applicable fees.
- The project proponent shall verify with MID stormwater discharge rates, means for connection to MID facilities, and water quality requirements so that MID can set final stormwater requirements. Depending on the approved route and discharge location (preferred alternative Fairfield Canal or the Farmdale Lateral/Doane Lateral) certain improvements including, but not limited to, pipelines, sensors, discharge structure assemblies and their appurtenances, would be required.
- The property owner must execute an appropriate agreement for all crossings over or under any MID facilities, including utilities, crossings, and pipelines.
- A signature block will be provided for MID on all project Improvement Plans that impact MID facilities.
- A “Construction Agreement” between the owner and the MID shall be executed for any work associated with MID facilities.

- Construction runoff into MID facilities is not allowed. Storm water discharges meeting MID requirements during the construction phase shall be agreed upon beforehand such that water quality is protected within the Doane Lateral and any downstream connected facilities or creeks.

- The west portion of the warehouse under the proposed project plan shall be realigned to avoid the existing electrical line, servicing City Well No. 10-R2 near the south end of the project site, within a new appropriately sized easement.

- MID shall receive a copy of the final, signed CEQA documents

These conditions of approval have been added to the text of the DEIR. Please see Section 4 "Revisions and Corrections to the Draft EIR" for the specific revisions to the DEIR text. Note that these revisions provide additional clarity and do not alter the conclusions or analysis in the DEIR.

MASTER RESPONSE 8: RUNOFF WATER QUALITY

As is the case for detention basins and drainage systems, the proposed project is not at the shovel-ready design level for its stormwater treatment facilities; therefore a detailed SWPPP has not been produced nor is one required at this time. Mitigation Measures 4.6-1b and 4.6-2 contain the performance standards that would be adhered to in the stormwater facilities. Master Plan standards have been applied to the formulation of required drainage infrastructure including storm drain conveyance elements and stormwater detention basins at the primary local watershed level (see page 4.6-1), in order to accommodate stormwater runoff under buildout conditions pursuant to the City of Merced Vision 2015 General Plan. As with the stormwater detention and conveyance facilities, the preliminary stormwater quality designs described in Mitigation Measure 4.6-2 at the conceptual phase are conservative (Jim Emerson, pers. comm. 2009). It should also be noted that the stormwater detention basins would be maintenance dredged when deemed necessary by the City Environmental Control Officer to remove fine sediments and other deposition, and the dredged materials would be disposed of in compliance with federal, state, and local hazardous materials regulations.

The applicant is required to develop and implement a Spill Prevention, Control, and Counter measures to ensure that all pollutants are controlled and contained. An SPCC is required as part of the unified hazardous waste and hazardous materials management program (i.e. Unified Program) required by Senate Bill 1082 (1993). The Merced County Division of Environmental Health (MCDEH) is the Certified Unified Program Agency designated to oversee the SPCC. The Unified Program includes requirements for a SPCC pursuant to California Safety Code Sections 25270-25270.13 and U.S. CFR Title 40 Part 112. The following types of BMPs must be incorporated into the SPCC:

- Material Delivery and Storage Controls: Provide covered storage for materials, especially toxic or hazardous materials, to prevent exposure to stormwater. Toxic or hazardous materials shall also be stored and transferred on impervious surfaces that will provide secondary containment for spills. Vehicles and equipment used for material delivery and storage, as well as contractor vehicles, shall be parked in designated areas.

- Spill Prevention and Control: Ensure that spills and releases of materials are cleaned up immediately and thoroughly. Ensure that appropriate spill response equipment, such as spill kits preloaded with absorbents in an overpack drum, are provided at convenient locations throughout the site. Spent absorbent material must be managed and disposed of in accordance with applicable regulations. In particular, absorbents used to clean up spills of hazardous materials or waste must be managed as hazardous waste unless characterized as nonhazardous.

- Solid Waste Management: Provide a sufficient number of conveniently located trash receptacles to promote proper disposal of solid wastes. Ensure that the receptacles are provided with lids or covers to prevent windblown litter.

- Vehicle and Equipment Fueling: Fuel vehicles and equipment off site whenever possible. If off site fueling is not practical, establish a designated on site fueling area with proper containment and spill cleanup materials.

- Vehicle and Equipment Maintenance: Use off site maintenance facilities whenever possible. Any wash bays or on site maintenance areas must be protected from stormwater runoff to or from the area.

- Toxic debris requiring disposal, including discarded chemical containers, shall be disposed of in a landfill designed to satisfy the standards for protecting groundwater in as described in the design criteria and associated performance standards in the Federal statutes 40 CFR 258.4.

Note that the DEIR text has been revised to include this discussion regarding the SPCC.

As described on p. 4-20 in Section 4.3 "Revisions and Corrections to Draft EIR in Response to Public Comment", an agreement with the Merced Irrigation District's (MID) will be required by the City on proposed project stormwater discharge points and drainage improvement details (Kim Espinosa, pers. comm. 2009). Since final designs have not been approved, this agreement contains performance standards protective of the beneficial uses of water in the proposed project area, including verification with MID regarding stormwater discharge rates, means for connection to MID facilities, and water quality requirements prior to MID setting final stormwater requirements.

All wastewater generated by the truck wash bay would be discharged to the City's sanitary sewer system after initial processing by separators and other pretreatment approved by the City Environmental Control Officer. The wash bays would be protected from stormwater runoff pursuant to City requirements (Jim Emerson, pers. comm. 2009b).

MASTER RESPONSE 9: GROUNDWATER QUALITY

Several comments identify issues related to the potential for leakage from underground storage tanks. The following discussion addresses these issues.

As described on page 4.10-6, the planned aboveground and underground storage tanks would be under the authority of the Merced County Department of Environmental Health. As described in Impact 4.10-3: "Create a Significant Hazard to the General Public through the Routine Use of Hazardous Materials during Operation of the Project", compliance with federal, state, and local hazardous materials regulations, which would be monitored by the state and/or local jurisdictions, would reduce impacts associated with the use, transport, and storage of hazardous materials during operation of the project.

As described on page 4.10-6, the Merced County Division of Environmental Health (MCDEH) is the designated Certified Unified Program Agency (CUPA) in Merced County for both unincorporated areas and incorporated cities. CUPAs carry out the unified hazardous waste and hazardous materials management regulatory program (Unified Program) that consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental programs:

- hazardous waste generator and hazardous waste on-site treatment programs;

- Underground storage tank (UST) program;

- hazardous materials release response plans and inventories;

- California Accidental Release Prevention Program;

- Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans; and

- California Uniform Fire Code (UFC) hazardous material management plans and inventories.

The project proponents would be required to comply with Chapter 6.7 of Division 20 of the California Health and Safety Code, and Title 23 of the California Code or Regulations, which includes an Underground Storage Tank Monitoring and Spill Response Plan. Project proponents would be required to prepare and implement a SPCC Plan for the aboveground storage tanks in accordance with U.S. Code of Federal Regulations, Title 40, Part 112 and conduct periodic inspections to assure compliance with 40 CFR 112.

The installation of the proposed USTs would require a permit from the MCDEH. As specified in the CCR Title 23, Division 3, Chapter 16, the proposed USTs would:

- Contain a primary containment system that meets specified Title 23 requirements;

- Include a secondary containment system in the event of a leak or unauthorized release;

- Contain a leak-monitoring program that would consist of either an audible and visual alarm system or a daily visual monitoring program as approved by the MCDEH; and

- Be contingent upon a response plan approved by MCDEH in the event of a leak or unauthorized release.

City Domestic Well: The City Domestic Well No. 10-R2 site is on a separate parcel and is not part of the project site. It has an established, direct access to Gerard Avenue, which exists by right. The well will continue to be used as a City well and contribute to the City water supply. The access will still be retained for City maintenance. There are no fees to be paid to keep the access since the City doesn't have to travel through private property to access the well. The County of Merced Division of Environmental Health conducts onsite inspections to oversee ongoing operations and compliance (Kim Espinosa pers. comm. 2009).

The methodologies and technologies for UST installation, operation, and maintenance are continually improving, and the best available technologies would be implemented for the proposed project. Although the potential for UST failure exists, attempts to predict likelihood of UST failure after compliance with applicable regulatory requirements as described in the FEIR would be speculative. Furthermore, the final geotechnical report that will be prepared for the project will address any issues related to corrosive soils and will provide recommendations to ensure that the UST's would not be adversely affected by these types of soil conditions.

The City is required to comply, and does comply, with California Department of Public Health (DPH) and City of Merced requirements for domestic well testing, monitoring, and reporting.

The City of Merced Environmental Control Officer would monitor inputs to the sanitary sewer system in order to insure compliance with the above regulations. The City Fire Department would conduct hazardous materials inspections on the proposed project (Kim Espinosa, pers. comm.).

MASTER RESPONSE 10: SWAINSON'S HAWK AND BURROWING OWL

A number of comments addressed potential impacts to Swainson's hawk and burrowing owl and the mitigation measures described in the DEIR. Some comments suggested that the mitigation was not adequate for protection of burrowing owl and Swainson's hawk while others suggested that it was excessive. Comments were also received suggesting that mitigation based on California Department of Fish and Game (DFG) draft 1994 guidelines was not appropriate. None of the commenters disagreed with the conclusion in the DEIR that impacts to Swainson's hawk and burrowing owl resulting from implementation of the proposed project would be significant and that mitigation was necessary to reduce those impacts to less than significant.

Swainson's hawk and burrowing owl are both known to occur in the vicinity of the project site. As noted on page 4.3-6 of the DEIR, the California Natural Diversity Database (CNDDB) documents six occurrences of Swainson's hawk nest sites active since 1991 within 10 miles of the project site, including one nest site within 5 miles. On page 4.3-5, the DEIR notes that the CNDDB includes one documented occurrence of burrowing owl within 10 miles of the project site. The project site provides very low-quality habitat for these species and more suitable habitat is available elsewhere in the region (see page 4.3-10 of the DEIR). However, the DEIR concludes that both species could be affected by implementation of the project.

To mitigate impacts to burrowing owl and Swainson's hawk, the DEIR recommends compensatory mitigation in accordance with DFG guidelines. Two comments suggest that this mitigation is excessive or otherwise inappropriate (Comments 22-8 and 213-2). Comment 22-8 states that the mitigation could conflict with DFG requirements but does not state specifically how that conflict could occur. The proposed alternative mitigation presented in comment 22-8 provides no assurances that compensatory mitigation necessary to reduce the impact to less than significant would be developed or implemented. The 1994 draft guidelines represent the only standard recommended mitigation issued by DFG for Swainson's hawk. The fact that the staff report that included the mitigation guidelines was released by DFG in 1994 and could therefore be considered dated is inconsequential because the mitigation would be effective in reducing the impact to Swainson's hawk to a less than significant level. The DEIR outlines compensatory mitigation requirement for burrowing owl should this species be detected onsite during preconstruction surveys. By including impact avoidance, minimization, and compensation measures, the mitigation in the DEIR provides higher levels of protection and greater assurance of implementation for both species compared to the mitigation presented by the commenter in comment 22-8.

One commenter states that the proposed .0.75 acres of mitigation lands for each acre of foraging habitat lost is inadequate to mitigate impacts to Swainson's hawk (Comment 118-4). The commenter notes that the mitigation would still result in a loss of habitat with only a small amount of the remaining habitat protected from future development. Although the compensatory mitigation ratio is less than 1:1, the long term protection of these mitigation lands would comply with CEQA by reducing the impact to a less than significant level. The commenter's suggestion that mitigation require protection of all remaining foraging habitat within 5 miles of the nearest active nest is not likely feasible and is not necessary to reduce this impact to a less-than-significant level.

MASTER RESPONSE 11: ECONOMICS AND URBAN DECAY

Several comment letters raise concerns that the EIR does not evaluate the economic impacts to surrounding property owners and dismisses the potential for urban decay as a result of the Wal-Mart distribution center. A number of comments stated that the distribution center would result in negative economic impacts to surrounding residential property owners. Several comments suggest that an increase in truck traffic activity combined with the perceived land use conflict between the proposed distribution center and surrounding residential uses would further decrease property values as to result in urban decay. The following discussion prepared by an expert in economics and urban decay addresses these concerns.

CEQA Standards for Urban Decay

CEQA Guidelines Section 15131(a) through (c) provides guidance on the discussion of economic and social effects in an EIR. Specifically, such effects may be included in an EIR but "shall not be treated as significant effects on the environment." However, economic and social effects may be used to determine the significance of physical changes caused by a project, but these changes "need not be analyzed in any detail greater than necessary to trace the chain of cause and effect." An EIR, therefore, should evaluate the extent to which socio-economic impacts result in permanent physical impacts, which are often manifested as urban decay. Thus, a decrease specifically in neighboring property values would not, on its own, represent a significant environmental impact. Rather, the socioeconomic impact would need to result in physical impacts, in this case urban decay, either through abandonment or dislocation.

Potential Urban Decay Impacts

To evaluate a project's potential to cause urban decay, an analysis must determine if the surrounding buildings would remain viable locations for housing, commercial, and industrial uses.

Economic Effects on Commercial Buildings. For commercial uses, proximity to a warehouse distribution center can provide positive economic impacts due to increased business activity, employment, and additional traffic which help to drive retail expenditures. As an example of increased retail benefits from additional employment, the International Council of Shopping Centers reports that suburban office workers averaged approximately $29 per week in lunchtime spending in 2004. Further, increased traffic counts are commonly used by retailers to determine a location's retail viability. Both factors would contribute positively to retail real estate conditions. In addition, office real estate would have marginal, if any, positive or negative impacts. Additional truck traffic and warehouse adjacencies generally do not generate significant adverse economic impacts to office buildings, although the distribution center may create additional business activity that can lead to a marginal increase in demand for office space.

Economic Effects on Industrial Buildings. Industrial and warehouse distribution would also be marginally impacted, at most, as the warehouse distribution center would not increase the *available* supply of industrial building floor area but is a build-to-suit building with a predefined tenant (i.e. Wal-Mart). However, the competitive available supply of warehouse distribution space in Merced and the surrounding market area would remain mostly the same after implementation of the proposed project.

Economic Effects on Residential Buildings. The land use specifically cited in comment letters to incur negative economic impacts is residential. Cited concerns included land use conflicts, increased truck traffic, additional air pollution, and noise.

Current housing market conditions are challenged in Merced with high foreclosure rates and devaluation. The downturn in the housing market was the result of a number economic factors including:

- Speculation and artificial home appreciation not tied to rising household incomes.
- Over construction in a market devoid of household or employment growth.
- Liberal and flexible lending practices that lead to households that could not afford home loans.
- Overall rise in unemployment and decreasing gross domestic product.

Home depreciation has been particularly acute in Merced County. According to Dataquick, a private real estate data vendor, the average monthly home sales price in Merced County decreased from a high of approximately $358,000 in October of 2006 to a low of approximately $97,000 in March 2009. The dramatic decline in home values has resulted in a significant rise in foreclosures with approximately 846 home foreclosures in Merced County from January to March 2009.

Despite the loss of home values and increased foreclosures, the critical CEQA question remains whether the proposed project would result in lasting residential vacancy and abandonment, leading to urban decay. This argument implies that housing demand within Merced will halt to the extent that marginal neighborhoods will be abandoned. But the argument fails to take into account the current and projected population, employment, and household growth that is projected to continue increasing the housing demand over the long-term. According to MCAG, Merced County will grow by approximately 74,800 persons from 2010 to 2020. Assuming the City of Merced would maintain its proportionate share of Merced County's overall population, the City of Merced would grow by approximately 23,600 residents over the 10-year period.

In addition, the possible introduction of a California High Speed Rail Station would improve Merced's access to regional employment centers in the Bay Area and increase local housing demand as Merced becomes a more affordable option to expensive housing markets in the Bay Area. Combined with the high speed rail is the continued expansion of University of California, Merced which will attract additional faculty, staff, and students.

According to the California Employment Development Department, State Education Employment will grow by approximately 1,700 employees from 2004 to 2014 in Merced County. Overall, employment is projected to grow by 11,600 employees from 2004 to 2014, inducing population growth.

This indicates long-term housing demand as employment expands and more people move to Merced County. If Merced's estimated average household size remains constant at 2.99 persons per household as of January 2008, then there would be additional household growth of approximately 7,900 households.[1] Household growth translates directly to housing demand, which can be absorbed either by the existing housing stock or from new housing. According to the California Department of Finance, approximately 1,570 housing units were vacant in the City of Merced. If the number of vacant units doubled to over 3,100 units, there would remain ample projected household growth to absorb the available supply and additional housing would need to be constructed to accommodate the increase in population. Those more affordable housing units will become a viable housing source for low and middle-income renters and buyers unable to afford new homes.

It is also important to note that one of the causes of the real estate downturn has been the dramatic increase in unemployment. This rise in unemployment has been especially sever in Merced. The Merced City Manager reported a 19.9% unemployment rate in Merced County for the month of February (Merced Chamber of Commerce 2009). It is difficult to imagine that a project generating up to 1,200 jobs would compound the real estate downturn in an area currently experiencing such high unemployment.

Conclusion

In conclusion, any negative effects to the housing markets resulting from additional truck traffic generated from the distribution center will be offset by continued household growth and continued demand for affordable places to live within Merced, including areas surrounding the proposed distribution center. This does not include any positive effect on the housing market that could result from the generation of up to 1,200 jobs in an area that is currently experiencing 19.9% unemployment (which is one of the factors in the real estate downturn).

MASTER RESPONSE 12: ALTERNATIVES

Several commenters raised questions or offered comments about the alternatives analysis, including the following:

- The No Project Alternative identified in the Draft EIR must represent existing, pre-project conditions.
- The assumption that a project similar to the proposed project would be developed on the project site if the project is not approved is speculative; the EIR should not assume that denial of the proposed project would result in a similar project being proposed. Rather, the DEIR should identify the No Project Alternative as preservation of the existing undeveloped site.
- The range of alternatives selected for analysis in the DEIR is too limited; further consideration should have been given to alternatives that were rejected and not analyzed in the DEIR.
- Vacant sites in other communities suitable for the proposed project should have been evaluated as alternative locations to the proposed project.
- The DEIR does not sufficiently explain the reasons why Wal-Mart rejected other possible sites described in Exhibit 5-1 and Table 5-1.
- The comparison of alternative sites is inadequate.

[1] The calculation divides the proposed projected population growth by the average persons per household to determine the net increase in households.

- Some commenters recommended that one or more of the alternatives be selected, instead of the proposed project site.

The following provides responses to the above described comments.

Pages 5-1 and 5-2 of the DEIR paraphrase Section 15126.6(a) through (f), of the State CEQA Guidelines, which contain the following guidance for the analysis of alternatives:

> An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

Section 15126.6(f)(1) of the State CEQA Guidelines states, in part:

> The range of alternatives required by an EIR is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision-making and informed public participation. An EIR need not consider an alternative whose effect cannot be ascertained and whose implementation is remote and speculative.
>
> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

Pages 5-1 through 5-5 of the DEIR contain substantial documentation of the process leading to the selection of alternatives for analysis. Furthermore, Section 3.5 of the DEIR provides background information about the process Wal-Mart used in selecting the proposed project site for its new distribution center. Section 3.6 describes the objectives of the project from the perspectives of the City of Merced and the project proponent. Together, these discussions provide information concerning the criteria used to reject a number of alternative locations for the proposed project and to select the proposed project site as the preferred site to meet the project objectives.

The project objectives are reiterated in Section 5 Alternatives to the Proposed Project. This section of the DEIR provides a thorough description of the process by which alternatives to the proposed project were identified for analysis in the DEIR. Included in this section is an identification of sites that Wal-Mart had initially considered for development of its new distribution center, but had ultimately rejected, and the reason for the rejection.

The DEIR describes the process used to assess alternative project sites including "… physical criteria for selection of potential sites [which] were primarily limited to size of the parcel, absence of development, compatibility with surrounding land uses, and proximity to major roadways" (see Section 5.3.1, Alternatives to the Proposed Project). CEQA Guidelines state "the EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination" (Section 15126.6(c)). In accordance with CEQA Guidelines, the DEIR provides a brief explanation of why alternative sites were rejected and were deemed unable to meet project objectives including physical issues and political or socioeconomic issues (see Section 5.3.1, Alternatives to the Proposed Project). In addition, CEQA Guidelines state "an EIR need not consider an alternative whose … implementation

is remote and speculative" (Section 15126.6(f)(3)). As stated previously, physical issues and political or socioeconomic issues in other communities, such as Patterson (as recommended by commenters), would make implementation of such project alternatives remote and speculative. In addition, the DEIR analyzes three alternative sites (i.e., between Gerard and Mission avenues; West of SR 99, between Gerard and Mission avenues; South of the airport, at the Thornton Road/West Dickenson Ferry Road intersection) in compliance with the requirement to analyze alternative project locations if selecting such alternative locations could avoid or substantially lessen the project's impacts (CEQA Guidelines Section 15126.6(f)(2)(A)).

"[A]n EIR for any project subject to CEQA review must consider a reasonable range of alternatives to the project, or to the location of the project, which (1) offer substantial environmental advantages over the project proposal...; and (2) may be 'feasibly accomplished in a successful manner' considering the economic, environmental, social and technological factors involved." (See *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal. 3d 553, 566 (*Goleta II*) (italics deleted from original).) One of the factors that a lead agency may consider when analyzing the feasibility of alternatives is the land-use designations for the proposed project site as well as those of potential alternative sites. (See *id.* at pp. 572-573. "[A]n EIR is not ordinarily an occasion for the reconsideration or overhaul of fundamental land-use policy." (*Ibid.*) The range of alternatives to the proposed project considered in the DEIR fully complies with all requirements in CEQA Guidelines Section 15126.6.

One commenter asserts that the "No Project" Alternative must compare the impacts that would result from the proposed project to the impacts that would occur if no development would occur on the project site. This assertion is an inaccurate portrayal of what is required for this analysis under CEQA. Pursuant to CEQA Guidelines, Section 15126(e)(2), a "No Project" alternative analysis must discuss "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." Furthermore,

> If disapproval of the project under consideration would lead to predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

Comments urging an approach that would treat the "No Project" alternative as a "no build" alternative rely on *County of Inyo v. City of L.A.* (1981) 124 Cal.App.3d 1, a case decided 17 years before the above CEQA Guideline provision and CEQA Guidelines § 15125 were enacted. (See Remy, et al., Guide to CEQA, Appendix III, p. 1090.) On this point, therefore, *County of Inyo* is no longer good law.

The DEIR chapter concerning alternatives describes the assumptions behind the No Project Alternative. As stated on page 5-5, there are several reasons for characterizing the No Project Alternative as the development of a regional distribution facility that would be similar to the proposed project. In defining the No Project Alternative, the DEIR concluded that there are several factors that make the project site highly attractive for development. As such, the potential for it to remain in an undeveloped state is highly unlikely and unrealistic. Based on these factors, the DEIR reasonably concludes that the project site would not remain undeveloped if the project were withdrawn or rejected but would instead likely be developed into a project of similar size and scope to the proposed project. The discussion of the No Project Alternative also takes into consideration the existing conditions, as is required, by incorporating by reference the DEIR's earlier discussion of existing conditions. (See DEIR, p. 5-5 [referencing discussion of existing conditions in Chapter 4]; see also *Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 150 Cal. App. 4th 683, 715-716 ["The Guidelines on the no-project alternative do require attention to existing physical conditions "as well as" to hypothetical future developments under existing plans"], citing CEQA Guidelines, § 15126.6(e)(2).)].)

In other words, the analysis for No Project Alternative was adequate because, if the Wal-Mart distribution center is not approved, the factors that made it attractive to Wal-Mart would likely lead to a similar land development proposal by a different applicant. For this reason, the DEIR was not required to analyze a "no project" alternative that is based on "the property remaining in its existing state" because such a scenario would include "artificial assumptions that would be required to preserve the existing physical environment" (CEQA Guidelines, § 15126.6(e)(3)(B)). Similarly, the "no project" alternative analysis was not required to analyze every possible scenario that might unfold should the project not be approved. (See *Residents Ad Hoc Stadium Committee v. Board of Trustees* (3d Dist. 1979) 89 Cal. App. 3d 274, 286 ["The discussion of alternatives need not be exhaustive, and the requirement as to the discussion of alternatives is subject to a construction of reasonableness. The statute does not demand what is not realistically possible given the limitation of time, energy, and funds. 'Crystal ball' inquiry is not required"].) Thus, the No Project Alternative analyzed in the DEIR satisfies CEQA's requirements (See CEQA Guidelines, §15126(e)).

It should be noted that the DEIR appropriately uses the undeveloped site as the environmental baseline against which potential impacts of the proposed project are compared.

The six alternatives presented in the DEIR were identified after publication of the notice of preparation for the project, but before the release of the DEIR, at a point in time where many potential impacts of the proposed project were known. Accordingly, each of the alternatives—with the exception of the CEQA-required No Project Alternative—was formulated with the objective of reducing the known potential environmental impacts. The first alternative analyzed is the No Project Alternative, which represents development of the site with a industrial or warehouse use similar to that proposed by Wal-Mart. The remaining five alternatives were developed by the City to provide rational and meaningful modifications to the proposed project location and design that would reduce environmental impacts while still achieving most project objectives. Each of the alternatives is potentially feasible, fosters informed decision-making (e.g., the City of Merced may consider components of the proposed alternatives as preferable to components of the proposed project), and informs public participation (e.g., members of the public also may recommend components of the proposed alternatives during public hearings on the proposed project).

Several comments described the need for the DEIR to incorporate alternatives that reduce specific impacts. The City is not obligated under CEQA to identify alternatives that reduce *all* potentially significant impacts to a less-than-significant level. (See *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 545–547 [rejecting the argument that an EIR's alternatives analysis was insufficient because each alternative had environmentally disadvantageous aspects.) Rather, as stated above, Section 15126.6(a) of the State CEQA Guidelines allows the City to select alternatives that would result in avoidance or substantial reduction of *any* significant effects of the project, and does not require reduction of impacts to a less-than-significant level. Project alternatives are not required to reduce specific individual impacts of the proposed project, so long as the City has established a reasonable range of feasible alternatives that address the significant effects of the project. Table 5-8 on page 5-39 of the DEIR compares the environmental impacts of the alternatives to those of the proposed project. The DEIR concludes that two alternatives may be environmentally superior to the proposed project, but one of these alternatives does not meet all of the project objectives.

MASTER RESPONSE 13: PROJECT-GENERATED EMISSIONS OF AIR POLLUTANTS AND PUBLIC HEALTH CONCERNS

Multiple comments argue that the DEIR fails to correlate the project's contribution to increases in air pollution to increased health effects in the affected population. Some comments mention concern because some individuals who live or attend school in areas near the project site suffer from asthma or other respiratory problems. Other comments mention that high rates of asthma and other respiratory problems exist in Merced and throughout the San Joaquin Valley Air Basin (SJVAB). Table 4.2-3 (pages 4.2-7 and 4.2-8) in the DEIR summarizes the California and National Ambient Air Quality Standards (AAQS), which are health-based standards for criteria air pollutants (CAPs) identified in the California Clean Air Act and the federal Clean Air Act. Overwhelming

scientific evidence has shown that exposure of members of the public to concentrations of these pollutants in excess of these standards can result in the adverse health effects described in detail on pages 4.2-3 through 4.2-5 of the DEIR.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates criteria air pollutant and precursor emissions in the SJVAB through a variety of control measures, regulations, and emissions limits with the goal of attaining AAQS by the earliest practical date. SJVAPCD's CEQA thresholds of significance (i.e., 10 tons per year [TPY] of reactive organic gases (ROG) and oxides of nitrogen (NOx) (which are precursors to secondary pollutant formation of ozone [a CAP for which the SJVAB is in nonattainment]) and 15 TPY of PM10) are designed to limit emissions from new development to a level that would be consistent with attainment planning efforts (i.e., accounted for in emissions inventory projections for the SJVAB; see Table 4.2-5 (page 4.2-19) for a list of applicable attainment plans in the SJVAPCD's jurisdiction). Projects that would exceed these emissions thresholds would not be considered compliant with SJVAPCD air quality planning efforts, and would be considered to result in a substantial contribution to a violation of AAQS and/or expose members of the public to concentrations of pollutants from which adverse health effects could result. The DEIR has not omitted any analysis of the increase in pollutant emissions that would occur associated with project implementation (see Tables 4.4-5 and 4.4-6) and has conducted the correct level of analysis to correlate project-generated emissions with health effects on the public. Impact 4.2-1 regarding construction-generated emissions of CAPs and precursors was found to be significant and mitigation measures 4.2-1a through 4.2-1e were proposed to minimize this impact to a less-than-significant level. Impact 4.2-2 regarding operational emissions of CAPs and precursors was found to be significant and mitigation measures 4.2-2a through 4.2-2e were proposed to minimize this impact to a less-than-significant level. Impact 4.2-3 regarding localized mobile-source emissions of carbon monoxide was found to be less than significant. Impact 4.2-4 and the supporting health risk assessment (HRA) examined the localized exposure of sensitive receptors to emissions of toxic air contaminants. This analysis did not address the potential for short-term acute effects on individuals with asthma or other respiratory conditions because none of the TACs that would be generated by construction or operation of the project has an acute risk value according to the Office of Environmental Health Hazard Assessment (OEHHA 2003); therefore, no short-term acute risk elevation is expected (and none were raised in the comments). In addition, with regards to diesel particulate matter (PM) from vehicle exhaust, the potential cancer risk from inhalation was found to be less than significant in Impact 4.2-4. Because the potential cancer risk from inhalation, as discussed in the EIR, outweighs the potential non-cancer health impacts (ARB 2003), the potential for non-cancer health impacts was also concluded to be less than significant.

3.2.2 RESPONSES TO INDIVIDUAL COMMENTS

The written comments received on the Draft EIR and the responses to those comments are provided in this section. Each comment letter is reproduced in its entirety and is followed by the response(s) to the letter. Where a commenter has provided multiple comments, each comment is indicated by a line bracket and an identifying number in the margin of the comment letter.

This page intentionally blank.

1

DEPARTMENT OF CONSERVATION

DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES

466 N. FIFTH STREET • COALINGA, CALIFORNIA 93210

PHONE 559 / 935-2941 • **FAX** 559 / 935-5154 • **WEBSITE** conservation.ca.gov

RECEIVED
APR 23 2009
CITY OF MERCED
PLANNING DEPT.

April 20, 2009

Kim Espinosa
City Of Merced
678 West 18th Street
Merced, CA 95340

Steve Rough & Steve Reichmuth
Merced County Department of Public Works
Professional Services Division
345 West 7th Street
Merced, CA 95340-6041

RE: Proposed Wal-Mart Distribution Center
Assessor's Parcel 061-250-090, Childs Avenue/Kibby Road,
Sec 34, T7S, R14E MDB&M, State Clearing House # 2006071029

I have reviewed the above document and researched the location. There is an abandoned dry exploratory oil and gas well "Fancher" 54-34, located in the Section 34 T7S, R14E. The well location within the section is, from the northeast corner 2310' south, 2310' west. The well was drilled by Atlantic Richfield Company in 1953 and plugged and abandoned as a dry hole in 1953.

We plotted this well using your proposed site plan and it appears the well is located west of the proposed project. **It appears the well will be under the future Campus Parkway road. See attachment (copy of your Exhibit 3-1) with the well plotted. Most likely the remaining top of the well casing is cut off and buried about 5 feet below the ground surface and it is unlikely it will be visible from the surface.**

1-1

Please note that the well may not be located exactly as recorded and may be on a parcel in the general area. When the parcel(s) near this well are developed it is prudent to exactly locate this well to determine its position relative to any proposed structures. Sometimes a metal detector is necessary.

The well record can be viewed and downloaded from our website at:

http://owr.conservation.ca.gov/WellSearch/WellSearch.aspx (key the API # 04700022) or

The Department of Conservation's mission is to balance today's needs with tomorrow's challenges and foster intelligent, sustainable, and efficient use of California's energy, land, and mineral resources.

directly at:

http://owr.conservation.ca.gov/Well/WellDetailPage.aspx?apinum=04700022

If the well is located during any construction process please notify this office. If you have any questions you can call at (559) 935-2941,or email me at tim.boardman@conservation.ca.gov

Thank you.

Timothy S. Boardman PG, CHG
District Deputy

CC "Fancher" 54-34 well file

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2006071029

Project Title: Wal-Mart Distribution Center
Lead Agency: City of Merced — Contact Person: Kim Espinosa
Mailing Address: 678 West 18th Street — Phone: (209) 385-6858
City: Merced — Zip: 95340 — County: Merced

Project Location: County: Merced — City/Nearest Community: Merced
Cross Streets: Childs Avenue/Kibby Road — Zip Code: 95340
Longitude/Latitude (degrees, minutes and seconds): ___ ° ___ ' ___ " N / ___ ° ___ ' ___ " W — Total Acres: 230
Assessor's Parcel No.: 061-250-090 and 061-290-047 — Section: 34 and — Twp.: 7S — Range: 14E — Base: Mt Diablo
Within 2 Miles: State Hwy #: SR 99 — Waterways: N/A
Airports: N/A — Railways: Santa Fe, Union Pacific — Schools: Pioneer,Weaver,Golden

Document Type:
CEQA: ☐ NOP ☑ Draft EIR ☐ Supplement/Subsequent EIR ☐ Early Cons ☐ Neg Dec (Prior SCH No.) ☐ Mit Neg Dec Other:
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other:

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FEB 27 2009
12:50
STATE CLEARINGHOUSE

Local Action Type:
☐ General Plan Update ☑ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☑ Site Plan
☐ Rezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other: ROW abandon

Development Type:
☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☑ Industrial: Sq.ft. 1.1 M Acres 230 Employees 1,200
☐ Educational:
☐ Recreational:
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type
☐ Mining: Mineral
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type
☐ Other:

2/27

Project Issues Discussed in Document:
☑ Aesthetic/Visual ☑ Agricultural Land ☑ Air Quality ☑ Archeological/Historical ☑ Biological Resources ☐ Coastal Zone ☑ Drainage/Absorption ☐ Economic/Jobs
☐ Fiscal ☑ Flood Plain/Flooding ☑ Forest Land/Fire Hazard ☑ Geologic/Seismic ☑ Minerals ☑ Noise ☑ Population/Housing Balance ☑ Public Services/Facilities
☑ Recreation/Parks ☑ Schools/Universities ☐ Septic Systems ☑ Sewer Capacity ☑ Soil Erosion/Compaction/Grading ☑ Solid Waste ☑ Toxic/Hazardous ☑ Traffic/Circulation
☑ Vegetation ☑ Water Quality ☑ Water Supply/Groundwater ☑ Wetland/Riparian ☑ Growth Inducement ☑ Land Use ☑ Cumulative Effects ☐ Other:

Present Land Use/Zoning/General Plan Designation:
Undeveloped/Heavy Industrial District/Industrial

Project Description: *(please use a separate page if necessary)*
The primary building on the site will be a 1.1 million square foot regional distribution warehouse, which will be primarily a materials handling operation whereby most goods typically are conveyed through the distribution center. The facility will not handle groceries, such as fruit, vegetables, dairy products, bakery goods, and meat. There will also be warehouse support space to house administrative offices, the data processing center, and a cafeteria. Other internal office support areas for administrative uses include an electric forklift battery charging maintenance area and an aerosol product storage area. Approximately 37,000 square feet of floor space will be devoted to office support.

State Clearinghouse Contact: (916) 445-0613 SL
State Review Began: 2-25- 2009
SCH COMPLIANCE 4-27- 2009
per lead.

Please note State Clearinghouse Number (SCH#) on all Comments
SCH#: 2006071029
Please forward late comments directly to the Lead Agency

AQMD/APCD 18
(Resources: 2,28)

Project Sent to the following State Agencies

- X Resources
- ___ Boating & Waterways
- ___ Coastal Comm
- ___ Colorado Rvr Bd
- X Conservation 4
- X Fish & Game # ___
- ___ Delta Protection Comm
- X Cal Fire
- ___ Historic Preservation
- X Parks & Rec
- ___ Central Valley Flood Prot.
- ___ Bay Cons & Dev Comm
- X DWR
- ___ OES (Emergency Svcs)

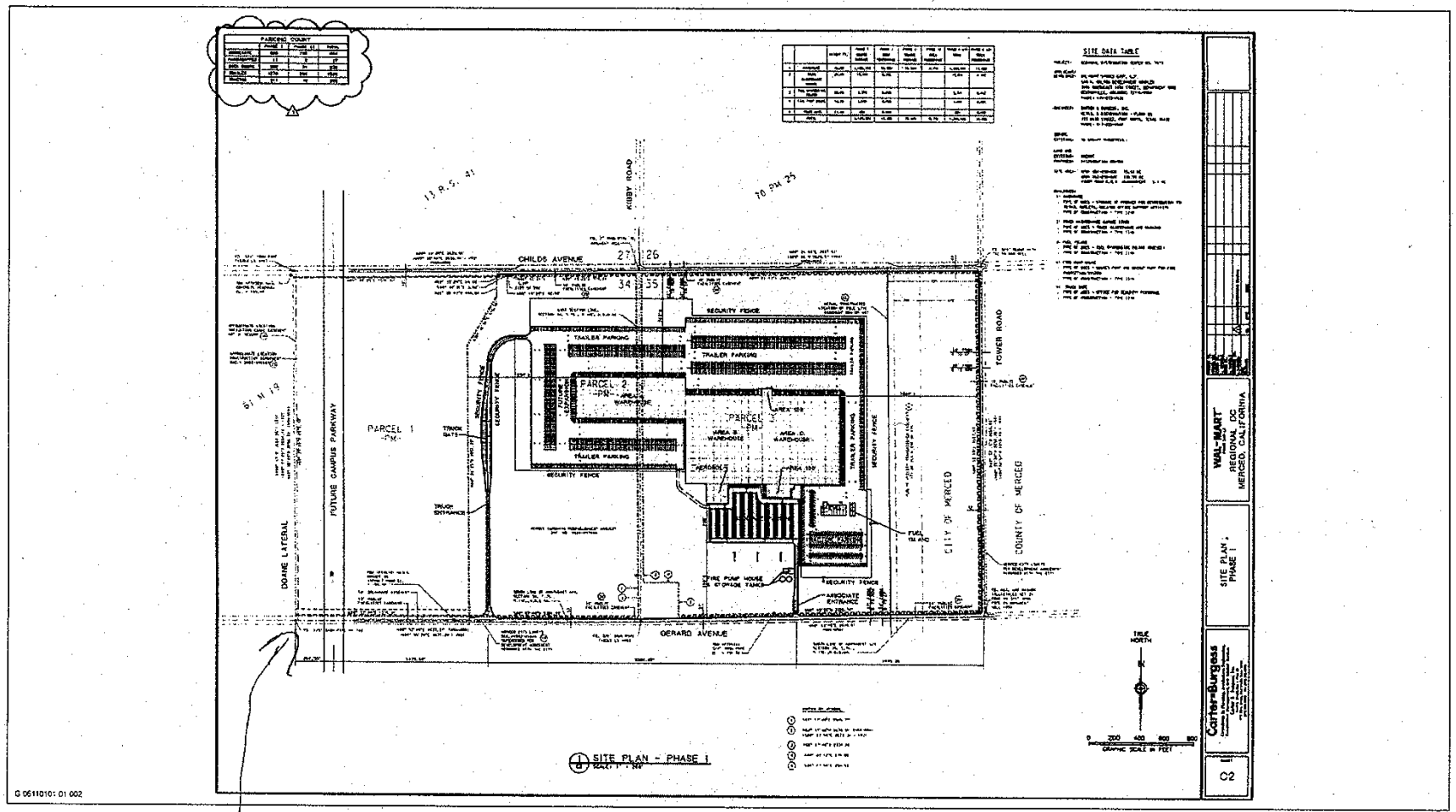
Bus Transp Hous
- ___ Aeronautics
- X CHP
- X Caltrans # 10
- ___ Trans Planning
- ___ Housing & Com Dev
- ___ Food & Agriculture
- ___ Health Services

State/Consumer Svcs
- ___ General Services

Cal EPA
- ___ ARB – Airport Projects
- ___ ARB – Transportation Projects
- X ARB – Major Industrial Projects
- ___ Integrated Waste Mgmt Bd
- ___ SWRCB: Clean Wtr Prog
- ___ SWRCB: Wtr Quality
- ___ SWRCB: Wtr Rights
- X Reg. WQCB # 5F
- X Toxic Sub Ctrl-CTC

Yth/Adlt Corrections
- ___ Corrections

Independent Comm
- ___ Energy Commission
- X NAHC
- X Public Utilities Comm
- ___ State Lands Comm
- ___ Tahoe Rgl Plan Agency
- ___ Conservancy
- ___ Other: ___



Proposed Project Site Plan

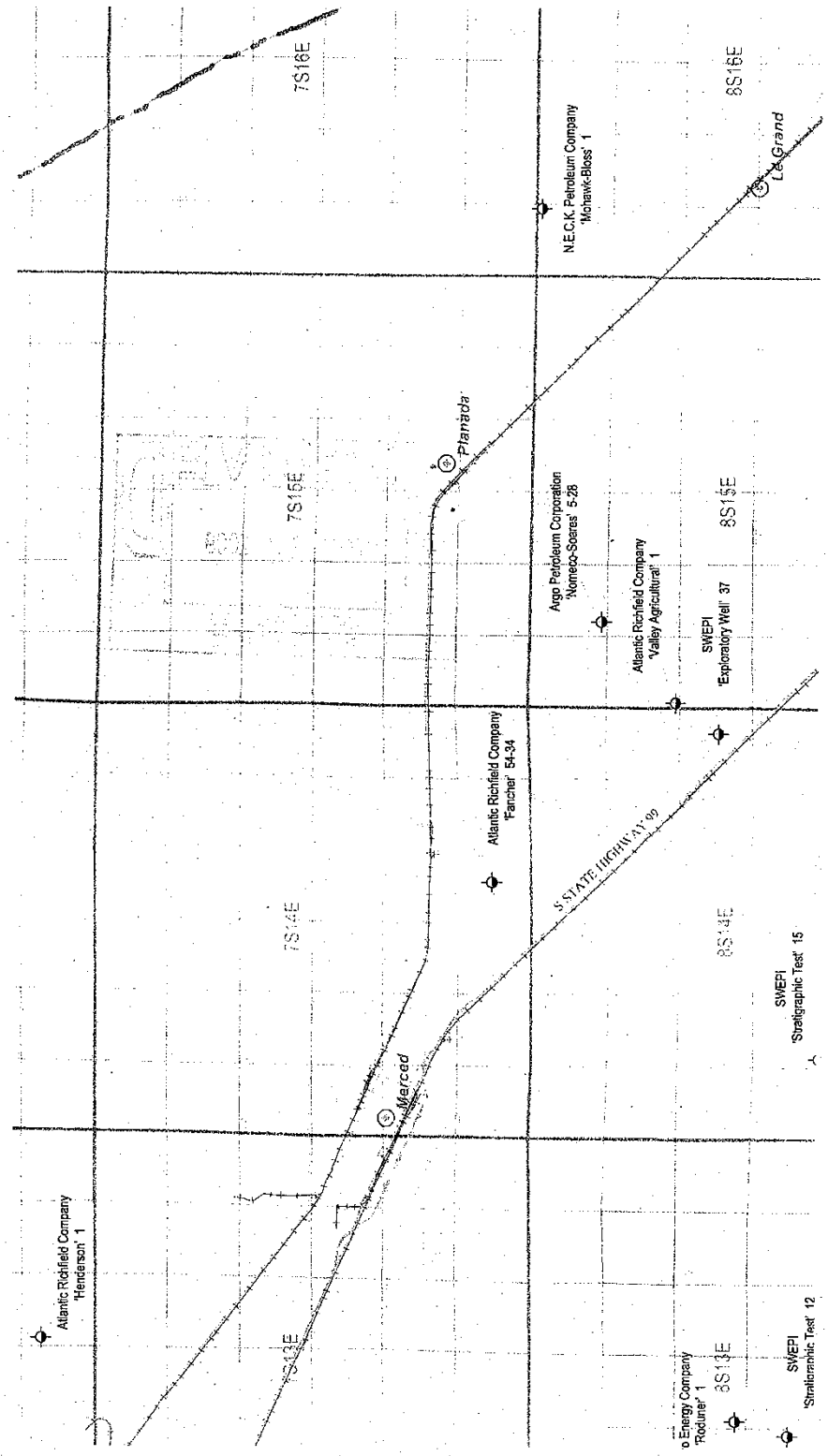
Exhibit 3-1

Atlantic Richfield Co

"Fancher" 54-34 Sec 34 T7S R14E

API # 047-00022

Field / Operator	Sec	Twn	Rge	Well#	API#	Well Type	Well Status	Location	Casing detail
Merced County									
Atlantic Richfield Co.									
	34	7S	14E	"Fancher" 54-34	047-00022	DH	ABANDONED	Fr NE cor 2310 S 2310 W	20" cem 14'; 12-3/4" cem 524'. TD 4110'. Plugged w/cem 940'-835', 559'-463' & 10'-0'.


7S16E
8S16E
N.E.C.K. Petroleum Company
'Mohawk-Bloss' 1
Le Grand
Planada
7S15E
8S15E
Argo Petroleum Corporation
'Nomeco-Soares' 5-28
Atlantic Richfield Company
'Valley Agricultural' 1
SWEPI
'Exploratory Well' 37
Atlantic Richfield Company
'Fancher' 54-34
7S14E
8S14E
S STATE HIGHWAY 99
Merced
SWEPI
'Stratigraphic Test' 15
Atlantic Richfield Company
'Henderson' 1
7S13E
8S13E
SWEPI
'Stratigraphic Test' 12



Online WellRecord Query for State of California, Department of Conservation, Division of Oil, Gas, and Geoth

DOGGR Home Page | Online Production/Injection | H

Back

Well Details

Well Details

API: 04700022 Well Status: Plugged Dis

Operator: Atlantic Richfield Co. Operator Code: A4505 Operator

Lease: Fancher Well Number: 54-34

Field: Any field Field Code: 000 Area: Any

Section: 34 Township: 7S Range: 14E BaseMeridian: MD Latitude: 37.2815

Spud Date: 8/30/1953 Abandonment Date: 9/8/1953 Longitude: -120.42

Well Records: (Click File Name to view the document.)

File Type	File Name	File Size	File Created On	File Modified On
	04700022_DATA_02-21-2008.pdf	436.77 KB	03/26/08 10:18 AM	02/22/08 08:45 AM
	04700022_1953-09-06_DIL_2_3.tif	596.29 KB	11/30/07 04:22 PM	01/16/08 12:39 PM

Last edited on January 15, 2009

Contact: doggrwebmaster@conservation.ca.gov | Copyright © California Department of Conservation, 20
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FORM 159 (9-48)

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

REPORT OF WELL ABANDONMENT

Coalinga, California, November 23, 1953

Confidential

Mr L C Hirsa Agent
Richfield Oil Corporation
1250 - 16th Street
Merced, California

Dear Sir

Your report of abandonment of Well No. [illegible],
Sec. [illegible], T. [illegible], R. [illegible], [illegible] B. & M., [illegible] oil field,
[illegible] Merced County, dated October 9, 1953, has been
examined in conjunction with records filed in this office.

A review of the reports and records shows that the requirements of this Division, which are based on all information filed with it, have been fulfilled.

only
11-27-53
c/f

GM:sf
cc: Company, L A
Company, Bakersfield

R. D. BUSH
State Oil and Gas Supervisor

By E R Murray-Aaron
Deputy Supervisor

82601 7-53 6700 SPO

COMPLETION REPORT OF NEW (NEW, DEEPENING, ETC.) WELL NO. Fancher 34-3h

FIELD Merced Area County LOC. 2310' due South and 2310' due East from the Northeast Corner of Section 3h SEC. 34 T. 7 S. R. 14 E. M.D.

ELEV. OF GROUND 183' ALL MEAS. FROM Kelly Bushing DRILLING UNIT 9

COMMENCED DRILLING August 30, 1953 COMPLETED DRILLING September 6, 1953 DRILLING TOOLS ☒ ROTARY ☐ CABLE

ORIG. T.D. 4330' PLUG 910' 835' REDRILL PLUG

DEEPENING 559' 463' PLUG 24' 14' JUNK

COMMENCED PRODUCING Abandoned ☐ FLOWING ☐ PUMPING ☐ GAS LIFT

PRODUCTION DATA

DATE	CLEAN OIL, BBLS. PER DAY	GRAVITY CLEAN OIL	PER CENT WATER INCL. EMULSION	GAS M.C.F. PER DAY	TUBING PRESSURE	CASING PRESSURE
INITIAL PRODUCTION	HOLE ABANDONED AS OF SEPTEMBER 8, 1953					
PROD. AFTER ____ DAYS						

CASING RECORD

SIZE OF CASING A.P.I.	TOP OF CASING	DEPTH OF SHOE	WEIGHT OF CASING	GRADE OF CASING	NEW OR USED	SEAMLESS OR LAPWELD	SACKS CEMENT	DEPTH OF CEMENTING IF THROUGH PERFORATIONS
20"	1h'	18'	65# - conductor pipe.					
12-3/4"	1h'	52h'	3.77%	Grade "B"	New	Line Pipe	500	
		(welded steel plate on 12-3/4" casing at the surface.)						

CEMENTING OR OTHER SHUT OFF RECORD

SIZE OF CASING	DEPTH LANDED	DEPTH CEMENTED	HOLE SIZE	NO. SACKS USED	KIND OF CEMENT	RESULT OF TEST
12-3/4"	52h'	52h'	17½"	500	Permanente construction	500# on casing. O.K.

PERFORATION RECORD

SIZE OF CASING	FROM	TO	SIZE OF PERFORATION	NUMBER OF HOLES	DISTANCE BETWEEN CENTERS	METHOD

PRESENT CONDITION OF WELL AS OF:

DATE October 29, 1953 ATTACHED FORM

RICHFIELD OIL CORPORATION

BY J. P. Shamon
District Development Engineer

FORM 5413 200 4-53

LOG AND HISTORY
PANCHER 5A-34
Section 34, T. 7 S., R. 14 E., M.D.B.&M. Page #2

(DRILLED BY: Clyde Hall Drilling Co.)

Commenced drilling operations at 9:00 a.m., August 30, 1953, drilling a 10-5/8" hole 0-524'. Ran Schlumberger electric log and recorded from 522', drilled depth 524'.

0 524 Surface sand and clay

Opened 10-5/8" hole to 17½" 0-524'.

August 31, 1953:
12-3/4" Casing Cemented at 524': Ran and cemented 510' net, 11 joints, of 12-3/4" 43.77#, Grade "B" line pipe as casing at 524', K.B., with 500 sacks of Permanente construction cement mixed with 15 sacks of gel and treated with 2% calcium chloride. Mixing time 20 minutes. Displaced with 422 cubic feet of mud in 4 minutes. Cement in place at 12:30 p.m. Final pressure 500#. Used one bottom and two top wooden plugs. Good cement returns. By Oil Well Cementing Company, one power truck used.

Landed casing. Installed b.o.p. equipment. Tested C.S.O. with 500# pressure for 30 minutes, O.K. Tested 4½" drill pipe rams with 500# for 30 minutes, O.K. Drilled out plugs and shoe of 12-3/4" casing.

Drilled 11-3/4" hole 524-1890'. Reduced 11-3/4" hole to 10-5/8" at 1890' and drilled 10-5/8" hole 1890-2500'. Ran Schlumberger electric log and recorded from 2497', drilled depth 2500'. Drilled 10-5/8" hole 2500-4108'. Cored 8½" hole 4108-4110', the Total Depth, which was reached on September 6, 1953.

524 1285 Sand and clay
1285 4108 Sand and shale

4108 4110 Core #1 - Recovered 1½"
1½" Amphibolite, dark gray green, coarse crystalline, with abundant quartz, amphiboles and pyroxenes with rare pyrrhotite crystals very hard, massive with rare near vertical thin 1/16" quartz veins, no cut, stain, odor or fluorescence.

Ran Schlumberger electric log and recorded from 4108', drilled depth 4110'.

September 7, 1953:
Plugged 940-835': With 4½" open-end drill pipe hanging at 940', pumped in 100 sacks of Permanente construction cement treated with 2% calcium chloride. Displaced to equalization. Cement in place at 4:20 p.m. Stood cemented 4 hours and located top of cement plug at 835' and tested plug with 4000#, O.K. Witnessed by Richfield Oil Corporation representative for Division of Oil and Gas.

Plugged 559-463': With 4½" open-end drill pipe hanging at 559', pumped in 75 sacks of Permanente construction cement treated with 2% calcium chloride. Displaced to equalization. Cement in place at 10:00 p.m. By Oil Well Cementing Company.

Stood cemented a total of 4½ hours. Located top of cement plug at 463'. Witnessed by Richfield Oil Corporation representative for Division of Oil and Gas. Removed b.o.p. equipment. Placed 10' cement plug in top of 12-3/4" casing. Welded steel plate on stub of 12-3/4" casing. Contractor's crew and equipment released at 6:30 a.m., September 8, 1953. HOLE ABANDONED AS OF SEPTEMBER 8, 1953.

RECEIVED
NOV 12 1953
DIVISION OF OIL AND GAS

FORM 111 (1-49)

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS

No. P 553-261

Coalinga Calif. September 10- 19 53

Mr. L C Jirsa

1250 - 16th Street Merced Calif.

Confidential

Agent for RICHFIELD OIL CORPORATION

DEAR SIR:

Your proposal to abandon Well No. "Fancher" 54-34,

Section 34, T. 7 S., R. 14E., M.D. B. & M., ——— Field, Merced County,

dated Sept 7 19 53, received Sept 9 19 53, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:
"The present condition of the well is as follows:
1. Total depth. 4110'
2. Complete casing record.
4' - 20" 65# conductor set at 18', K.B.
500' - 12-3/4" 43.56#, Grade "B" casing cemented at 524', K.B.
This well was drilled and cored to a Total Depth of 4110'. The electric log was run. There was no evidence of commercial oil or gas."

PROPOSAL:
"The proposed work is as follows: (Conforming telephone conversation Forwie - Chea)
1. Place 100' cement plug above 950'. Location and hardness of plug to be witnessed by Richfield Oil Corporation representative for the Division of Oil and Gas.
2. Place 60' bridge plug across shoe of surface casing. Location and hardness of plug to be witnessed by Richfield Oil Corporation representative for Division of Oil and Gas.
3. Leave all unplugged portions of hole filled with heavy mud.
4. Place 10' cement plug at surface. Location of plug to be witnessed by Richfield Oil Corporation representative for Division of Oil and Gas.
5. Weld steel plate across stub of surface casing, tear out all surface lines and equipment and [illegible]."

DECISION:
THE PROPOSAL IS APPROVED.

Blanket Bond
ERM A:ef
cc: Company, L.A.
Company, Bakersfield

R. D. BUSH
State Oil and Gas Supervisor
By R Murray Deputy

FORM 108. 37613 2-52 20M ⓖ SPO

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Notice of Intention to Abandon Well

This notice must be given at least five days before work is to begin; one copy only

Bakersfield, Calif. September 7, 19 53

DIVISION OF OIL AND GAS

Coalinga, Calif.

In compliance with Secs. 3228, 3229, 3230, 3231 and 3232, Ch. 93, Stat. 1939, notice is hereby given that it is our intention to abandon well No. Fancher 54-34

Sec. 34, T. 7 S., R. 14 E., M. D. B. & M. Merced Area Field,

Merced County, commencing work on the 7th day

of September, 19 53

The present condition of the well is as follows:

1. Total depth. 4110'

2. Complete casing record. 4' - 20" 65# conductor set at 18', K.B.
500' - 12-3/4" 43.56#, Grade "B" casing cemented at 524', K.B.

This well was drilled and cored to a Total Depth of 4110'. The electric log was run. There was no evidence of commercial oil or gas.

3. Last produced. _____ (Date) _____ (Net oil) _____ (Gravity) _____ (Cut)

The proposed work is as follows: (Confirming telephone conversation Corwin - Shea)

1. Place 100' cement plug above 950'. Location and hardness of plug to be witnessed by Richfield Oil Corporation representative for the Division of Oil and Gas.
2. Place 60' bridge plug across shoe of surface casing. Location and hardness of plug to be witnessed by Richfield Oil Corporation representative for Division of Oil and Gas.
3. Leave all unplugged portions of hole filled with heavy mud.
4. Place 10' cement plug at surface. Location of plug to be witnessed by Richfield Oil Corporation representative for Division of Oil and Gas.
5. Weld steel plate across stub of surface casing, tear out all surface lines and equipment and ABANDON HOLE AND LOCATION.

RICHFIELD OIL CORPORATION
(Name of Operator)

By [signature] District Development Engineer

ADDRESS ONE COPY OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED

FORM 111 (1-49)

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS

No. P 553-221

Coalinga Calif. August 14 19 53

MR. [illegible]

1250 - 16th Street Merced Calif.

Confidential

Agent for [illegible]

DEAR SIR:

Your proposal to drill Well No. "Sanchez" 54-34,

Section 34, T. 7 S, R. 14 E, M.D.B. & M., [illegible] Field, Merced County,

dated August 12 19 53, received August 13 19 53, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE PETTUS STATE:

"Legal description of lease

Location of well: 2310 feet due South and 2310 feet due West from the Northeast corner of section 34

Elevation of ground above sea level 183 feet (top) datum.

All depth measurements taken from top of Kelly Bushing which is 9 feet above ground."

PROPOSAL:

Size of Casing Inches O.D.	Weight	Grade and Type	Top	Bottom	Cementing Depths
20"	65#	Conductor	13'	18'Z	
12-3/4"	49.56#	Grade "B"	13'	300'	300'

Intended zone or zones of completion:

Please designate as [illegible].

It is understood that if changes in this plan become necessary we are to notify you before running casing."

DECISION:

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. At least 300' of 12-3/4" surface casing shall be cemented in the hole with sufficient cement to fill back of the casing from the shoe to the ground surface.
2. Mud fluid of sufficient weight and proper consistency to prevent blow-outs shall be used in drilling, and the column of mud fluid shall be maintained to the surface at all times, particularly while pulling the drill pipe.
3. Adequate blow-out prevention equipment shall be provided and kept ready for operation at all times.
4. Water suitable for irrigation shall be protected from contamination.
5. This division shall be notified before landing or cementing any casing below the 12-3/4" surface casing, and additional requirements will be outlined at that time.

Blanket Bond
CHC:ef
cc: Company, L. A.
Company, Bakersfield

R. D. BUSH
State Oil and Gas Supervisor

By G. G. Peirce Deputy

FORM 105

STATE OF CALIFORNIA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice and surety bond must be filed before drilling begins

047-00022

Bakersfield, Calif. August 12, 1953

7

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence the work of drilling well No. Fancher 54-34, Sec. 34, T. 7 S., R. 14 E., M.D. B. & M., Merced Area Field, Merced County.

Legal description of lease

(Attach map or plat to scale)

Location of Well: 2310 feet due South (Direction) ~~property~~ along section line and 2310 feet due West (Direction) ~~property~~ from the Northeast corner of section 34.

Elevation of ground above sea level 183 feet (topo) datum.

All depth measurements taken from top of Kelly Bushing which is 2 feet above ground.

(Derrick Floor, Rotary Table or Kelly Bushing)

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
20"	65#	Conductor	13'	18'±	
12-3/4"	49.56#	Grade "B"	13'	300'	300'

Intended zone or zones of completion:

Please designate as CONFIDENTIAL PROSPECT WELL.

It is understood that if changes in this plan become necessary we are to notify you before running casing.

Address P.O. Box 147, Bakersfield, Calif. RICHFIELD OIL CORPORATION

(Name of Operator)

Telephone Number 5-5951 By District Development Engineer

SEND ONE COPY OF NOTICE TO DIVISION OFFICE IN DISTRICT WHERE WELL IS LOCATED

1-1 There is an abandoned well that would be under the planned Campus Parkway road. The well location will be confirmed and noted in the final grading plans, will either be avoided or decommissioned in conformance with Section 13801 of the California Water Code and City of Merced Standard Designs—Well Destruction, as described in Impact 4.6-6.

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STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 STOCKTON, CA 95201
(1976 E. CHARTER WAY/1976 E. DR. MARTIN LUTHER KING JR. BLVD. 95205)
TTY: California Relay Service (800) 735-2929
PHONE (209) 941-1921
FAX (209) 948-7194

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PLANNING DEPT.

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2

March 26, 2009

10-MER-99-PM 14.8
Initial Study/Negative Declaration
Wal-Mart Distribution Center DEIR
SCH #206071029

Ms. Kim Espinosa, Principal Planner
City of Merced
678 West 18th Street
Merced, CA 95340

Dear Ms. Espinosa:

The California Department of Transportation (Department) appreciates the opportunity to review and comment on the Draft Environmental Impact Report (DEIR) for the proposed Wal-Mart Distribution Center located in the southeast portion of the City of Merced in Merced County. The Department has the following comments:

The proposed project consists of a warehouse and distribution center and support facilities, located on 230 acres in the city of Merced. The proposal includes approximately 1.1 million sf of warehouse, office support facilities, a cafeteria, a fire pump house, and aerosol storage (all located within the warehouse building), as well as a truck maintenance garage, a truck fueling station, and parking facilities.

The DEIR Traffic Impact Study (TIS) is inadequate and should be revised to address the following areas:

1) **The provided Traffix analysis (Appendix A, Merced Wal-Mart Distribution Center) was prepared using an unreasonable peak hour factor (PHF). Applying a PHF = 1.0 is contrary to recommended practice for HCM intersection analysis, and will result in underestimating impacts to intersection LOS and queue lengths. Please revised the Traffix analysis and submit the electronic files to the Department for review.** 2-1

2) **The proposed project trip generation indicates 45 inbound trips and 283 outbound trips during PM peak hour as shown in Table 16, page 34. (Merced Wal-Mart Distribution Center TIS) This rate appears at odds with the level of expected employees by shift as shown in Table 3-2 page 3-14. (Merced** 2-2

"Caltrans improves mobility across California"

Wal-Mart Distribution Center DEIR) For instance, Tuesday-Friday 5:30 am-4:00 pm shift has 359 employees which equates to 359 outbound trips, and Tuesday-Friday 4:00 pm-2: 30 am shift has 255 employees equating to 255 inbound trips during PM peak hour. These trips (expressed as vehicles) do not include expected trips from other shifts, which have a designated 6-hour workday. Additionally, the TIS for the Merced Distribution Center prepared by KD Anderson dated June 29, 2005 provides a proposed trip generation of 205 inbound trips and 405 outbound trips during PM peak hour. Please provide clarification in regard to the inconsistent trip generation assumptions and rates. 2-2 Cont'd

3) **The TIS contains uncompleted signal warrant analysis at all unsignalized intersections (only warrant 3, peak hour is analyzed). A traffic signal is warranted if it satisfies all eight warrants as shown in Figure 4C-101 (CA) MUTCD. Please revise the signal warrant analysis .** 2-3

4) **The proposed project anticipates improvements to the intersection of SR 140/Tower Rd to accommodate STAA trucks. Please provide electronic (AutoCAD) files of truck turning templates.** 2-4

5) **According to the existing lane configuration at the SR 99/Mission Ave. Interchange, there is no dedicated left-turn lane at the SR 99 SB off-ramp traveling westbound to Mission Ave. However, the provided truck turning template shows STAA trucks making left-turn from westbound Mission Ave onto SR 99 southbound on-ramp. Need to verify and submit the electronic (AutoCAD) file of STAA truck turning templates at SR 99 SB ramps and Mission Ave, and SR 99 NB ramps and Mission Ave.** 2-5

6) **Approved residential/commercial projects will contribute a significant traffic volume at the interchange of SR 99/SR 140; however the TIS does not include it into the analysis. Please include data for these approved projects and submit an operational analysis at this interchange .** 2-6

If you have any questions, please contact John Gedney at (209) 942-6092 (email: or me at (209) 941-1921. We look forward to continuing to work with you in a cooperative manner.

Sincerely,

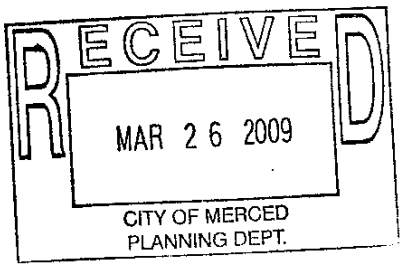
TOM DUMAS, Chief
Office of Metropolitan Planning

"Caltrans improves mobility across California"

STATE OF CALIFORNIA
FACSIMILE COVER
10-2A-0049

TO: **Ms. Kim Espinosa** **Principal Planner**		**FROM: John Gedney** **Caltrans – D10, Metropolitan Planning** **DEPARTMENT OF TRANSPORTATION** **1976 EAST CHARTER WAY** **STOCKTON, CA 95205**	
UNIT/COMPANY: **City of Merced** **Planning Division**		**DATE: 3-26-09**	**TOTAL PAGES (Including Cover Page): 3**
		FAX # **(209) 942-7194**	**ATSS FAX** **N/A**
DISTRICT/CITY: **Merced**		**PHONE #** **(209) 942-6092**	**ATSS** **N/A**
PHONE # **(209) 385-6858**	**FAX #** **(209) 725-8775**	**ORIGINAL DISPOSITION:**	

RE: Wal-Mart Distribution Center DEIR



Thank you,

- John -

2-1 The commenter indicates that the peak hour factor used in the Traffix analysis is not consistent with recommended practice. A peak hour factor of 1.0 was applied consistently in the traffic analysis. This is often used for analysis of future conditions, as it is not possible to forecast a future peak hour factor. The peak hour factor of 1.0 was also applied to existing conditions to allow for a common comparison between analysis conditions. This is an accepted analysis approach in planning-level transportation studies. The City of Merced and Merced County, after review of the traffic study assumptions and methodology, concurred with this approach.

2-2 The commenter suggests an inconsistency between the proposed project trip generation and the level of expected employees by shift. The trip generation forecast that was used in the traffic analysis was based on a survey of a similar facility in Apple Valley, CA, which has 1,201 employees and a similar fleet mix as the proposed facility in Merced. The survey of the Apple Valley facility analyzed the number of vehicles entering and exiting the site throughout the day and the type of vehicles (car, truck, etc.). The number of trips from the trip generation survey at the Apple Valley site included all trip purposes (e.g., trucks, automobiles, deliveries, staff, and other trips associated with the facility). The kd Anderson study was not based on actual survey data, and therefore applied different assumptions. In response to this comment, DKS Associates, Inc., preparers of the Traffic Impact Study, have checked and verified the trip generation rates and analysis in the DEIR.

2-3 The commenter requests additional signal warrant information. Only peak hour traffic signal warrants were conducted for unsignalized intersections, based on the data available. A peak hour warrant is appropriate for a planning-level CEQA analysis; additional warrants are typically conducted for more detailed operational studies or during the design process. To achieve this level of detail, other warrant studies require additional data, which has not been calculated at this point in the project planning. However, a peak hour warrant is a standard initial test for traffic signal necessity, and it is recognized that other warrants may be desired during the more detailed design process; however, again, these are not necessary to evaluate or mitigate the impact under CEQA.

2-4 The commenter requests truck turning templates in AutoCAD for the intersection of SR 140 and Tower Road. This information is not necessary to determine the conceptual effectiveness or feasibility of the proposed roadway improvement at SR 140/Tower Road. The City will endeavor to provide this information to Caltrans when or if it is available.

2-5 The commenter notes that the existing lane configuration of SR 99/Mission Avenue interchange shows no dedicated left-turn lane at the SB off-ramp traveling westbound to Mission Avenue, but that the template shows trucks making left-turns from westbound Mission Avenue. The commenter requests to review the AutoCAD file. The City will endeavor to provide this information to Caltrans when or if it is available. Existing lane configurations in the Traffic Impact Study were based on observations taken at the time the traffic counts were performed. Lane configurations identified in the Traffic Impact Study (and Draft EIR) remain consistent with the actual lane configurations, as currently observed at the interchange.

2-6 The commenter notes that the interchange of SR 99 and SR 140 was not included in the traffic analysis, despite several approved projects affecting that interchange. The Traffic Impact Study and the Draft EIR appropriately assumed that project traffic would not typically utilize this

interchange; consequently, the analysis considered only the SR 99 interchanges that would potentially be impacted by the proposed project. These include the Mission and Childs interchanges, but not the SR 140 interchange. Data on approved projects is provided in Tables 4.11-4, 4.11-5 and 4.11-6, and the trips associated with approved projects were included in the Background Conditions analysis.

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Linda S. Adams
Secretary for Environmental Protection

California Regional Water Quality Control Board
Central Valley Region
Karl E. Longley, ScD, P.E., Chair

1685 E Street, Fresno, California 93706
(559) 445-5116 • Fax (559) 445-5910
http://www.waterboards.ca.gov/centralvalley

Arnold Schwarzenegger
Governor

RECEIVED
MAR 13 2009
CITY OF MERCED
PLANNING DEPT.

12 March 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE WAL-MART DISTRIBUTION CENTER, MERCED COUNTY

On 25 February 2009, we received your request to comment on the proposed project to construct a Wal-Mart distribution center in Merced County. The distribution center will be sited on a 325 acre site with 110 acres of impervious surfaces, and include a 1.1 million square-foot warehouse and ancillary structures.

Based on the project description, it appears the project proponent intends to conduct activities at the site described by the Standard Industrial Classification (SIC) Code of 4225 (General Warehousing and Storage). Operators of facilities with the SIC Code 4225 are required to obtain coverage under the *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 for Storm Water Discharges Associated With Industrial Activity, Water Quality Order No. 97-03-DWQ* (Industrial General Permit). To obtain coverage, the project proponent must submit a Notice of Intent, a site map, and a fee of $1,008 to the State Water Resources Control Board. 3-1

Prior to commencing construction activity at the site, the project proponent must obtain coverage under the *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Storm Water Discharges Associated With Construction Activity, Water Quality Order No. 99-08-DWQ* (Construction General Permit). To obtain coverage, the project proponent must submit a Notice of Intent, a site map, and the appropriate fee to the State Water Resources Control Board. 3-2

If facility operations include the storage of petroleum products in above-ground tanks, with a single tank capacity of greater than 660 gallons, or a cumulative capacity of greater than 1,320 gallons, the project proponent will be subject to State above-ground petroleum tank 3-3

regulations. The project proponent must file a storage statement with the State Water Resources Control Board, pay a facility fee, and prepare a federal Spill Prevention Control and Countermeasure Plan. 3-3 Cont'd

As mentioned in Section 4.6.2, the City of Merced is covered under the *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004 for Storm Water Discharges From Small Municipal Separate Storm Sewer Systems, Water Quality Order No. 2003-0005-DWQ* (Municipal General Permit), as a member of the Merced Storm Water Group (MSWG).

The MSWG is required to comply with Attachment 4 of the Municipal General Permit, which requires that developments such as the Wal-Mart distribution center comply with Design Standards that include, among other things:

- Mitigation of peak storm water runoff discharge rates,
- Conservation of natural areas,
- Properly designed outdoor material storage areas, trash storage areas, loading/unloading dock areas, repair/maintenance bays, and vehicle/equipment wash areas; and
- Stenciling and signage of storm drain inlets.

3-4

The project proponent must ensure compliance with these requirements prior to commencing construction activity at the site. Mitigation Measure 4.6-2 discusses the use of detention basins to treat storm water runoff prior to discharge to nearby irrigation canals, but there is no discussion regarding source control of pollutants prior to discharge to the basins. The facility, when complete, will have potential storm water pollutants on site, which have not been identified or discussed in this section.

The Draft Environmental Impact Report indicates portions of the project site are located within the 100-year flood zone. However, there is no discussion of mitigation measures to account for the impact of inundation of flood waters on the facility. When flood waters come into contact with potential pollutants on the site, there is the potential for the pollutants to discharge with receding flood waters. 3-5

There is no discussion of the ultimate disposition of wastewater or process water generated on the site. The project description states that a wash bay will be included in the truck maintenance building. Wastewater generated from the wash bay must be treated and/or disposed of properly under separate waste discharge requirements, fully contained on site, discharged to the sanitary sewer, or removed from the site and disposed of at a properly permitted site. If wastewater or process water is contained on site, there should be a discussion of mitigation measures to prevent contamination from inundation with flood waters. 3-6

The Final Environmental Impact Report should discuss facility operations and identify any activities that could potentially generate process water, wastewater, or other non-storm water

discharges, or the storage of such waters. If facility operations include the discharge of wastewater or process water other than to the sanitary sewer, the project proponent must submit a Report of Waste Discharge 180 days prior to commencing discharges at the site. 3-6 Cont'd

Thank you for the opportunity to comment as a Responsible Agency on this Draft Environmental Impact Report under the California Environmental Quality Act.

If you have any questions, please contact Bridget Supple at (559) 445-5919 or by email at bsupple@waterboards.ca.gov.

W. DALE HARVEY
Senior WRC Engineer
RCE No. 55628

cc: State Clearinghouse, Sacramento

3-1 The comment indicates that planned project activities under SIC Code 4225 require NPDES Industrial General Permit. This permit and its requirements are included on Page 4.6-5 of the Draft EIR. Project proponent will obtain coverage under this permit.

3-2 The comment indicates that planned project activities require Construction General Permit. This permit and its requirements are included on Page 4.6-6 and Mitigation Measure 4.6-1a of the Draft EIR. Project proponent will obtain coverage under this permit.

3-3 The comment indicates that a storage statement to the SWRCB is required for the proposed above-ground storage tanks. Project proponent will obtain the required above ground tank storage permit. Spill prevention is addressed in Mitigation Measure 4.6-1a. Aboveground and underground tank regulations and safety procedures are explained in Section 4.10 "Public Health and Hazards" (p. 4.10-14). It is not necessary to create mitigation measures to describe safeguards and procedures that the proposed project would be subjected to under existing regulations.

3-4 The commenter suggests that there is no discussion of source control of pollutants prior to discharge to the proposed stormwater basins. Regarding source control, see Master Response 8: Runoff Water Quality. Also see Comment 3-1. Source control measures are required under NPDES Industrial General Permit requirements.

3-5 The commenter indicates that the potential exists for pollutants to discharge with receding flood waters. See Master Response 7: Detention Basins and Drainage which describes the adequacy of the proposed drainage facilities during the 100-year storm event. Also see Master Response 8: Runoff Water Quality, which describes existing regulations and mitigation measures to reduce pollutants in stormwater runoff.

3-6 The commenter indicates that there is no discussion of wastewater or disposal water generated onsite. Regarding source control, see Master Response 8: Runoff Water Quality. Also see Comment 3-1. Source control measures are required under NPDES Industrial General Permit requirements.

4

the Chamber
The Greater Merced Chamber of Commerce

11 March, 2009

The Honorable Ellie Wooten, Mayor
City of Merced
678 W 18th Street
Merced, CA 95340

Dear Mayor Wooten:

I am writing in regard to the Draft EIR process for the Walmart Distribution Center.

I read with concern about the attempts of some Mercedians to delay the comment process for the Draft EIR. The 60 days allocated for comment on the Walmart Draft EIR is fair and generous.

In an effort to determine what other entities provide for equivalent comment periods I found that the City of Santa Barbara provides a 45-day comment period for "Plan Santa Barbara EIR." In 1989 the City of Modesto provided a 49-day comment period for a water treatment EIR. In a CEQA document I found online, Article 7 provides for "at least 30-days" of EIR comment.

In short 60 days for a comment process is far more generous than many I found. To extend it further only slows down and obfuscates the process.

Additionally, the State of California and the City of Merced are currently severely impacted by the current financial crisis. Reuters reported that California lost 79,300 jobs in January, the most of any state in the U.S. California unemployment rates are running 10.1% compared to a national rate of 7.6%. 4-1

But Merced's unemployment was reported to be 15.5% in January, up from 13.3% in November. This was reported in the Merced Sun-Star. The rate of current unemployment is double that of the national average. Double!

Needless to say, Merced needs lots of good paying jobs to stem the flow of economic blood from our community. We need the jobs now; we do not have time to wait. Walmart will bring a lot of excellent jobs with benefits and stability. Furthermore, Walmart will serve as a magnet to attract other good companies.

Please do not allow this process to be delayed any further. Let us get on with the important task of providing jobs for our citizens. It will increase tax revenues, lower crime, and contribute to the reversal of Merced's economic misfortunes. I am

Very truly yours,

Bruce W. Logue, Chairman
The Greater Merced Chamber of Commerce

360 East Yosemite Ave. #100 • Merced, CA 95340 • Phone (209) 384-7092 • Fax (209) 384-8472

4-1 The commenter notes that the public comment period for the DEIR is consistent with CEQA requirements and with those allowed by other California cities. The comment is noted.

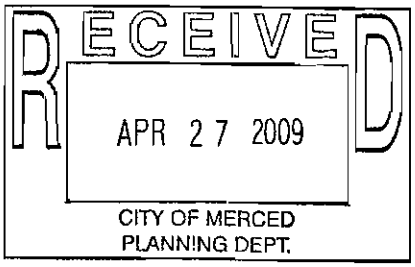
Lippe Gaffney Wagner LLP www.lgwlawyers.com

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SACRAMENTO • 9333 Sparks Way, Sacramento, CA 95827 • T 916.361.3887 • F 916.361.3897

Thomas N. Lippe
Brian Gaffney
Keith G. Wagner
Jennifer L. Naegele
John H. Curran
Celeste C. Langille
Kelly A. Franger

5

April 27, 2009



Submitted by email to: espinosak@cityofmerced.org

Ms. Kim Espinosa, Planning Manager
City of Merced Planning Department
678 West 18th Street, Merced, CA 95340

Re: Proposed Wal-Mart Regional Distribution Center, Draft Environmental Impact Report, State Clearinghouse Number 2006071029

Dear Ms. Espinosa:

This office represents the Merced Alliance for Responsible Growth ("Alliance") with respect to the City of Merced's consideration of the proposed Wal-Mart Regional Distribution Center (the "Project") and the Draft Environmental Impact Report ("DEIR") prepared for the Project. As described in more detail below, the Alliance objects to approval of the Distribution Center on grounds the DEIR does not comply with the requirements of the California Environmental Quality Act ("CEQA").

1. THE DEIR FAILS TO DISCUSS A TRUE "NO PROJECT" ALTERNATIVE.

CEQA requires that an EIR discuss a reasonable range of project alternatives and that one of these alternatives must be a "no-project" alternative. Since at least 1981, the rule has been that the "no-project" alternative must represent existing pre-project conditions.[1]

The no-project alternative described in this DEIR makes a mockery of this fundamental requirement of CEQA. In an amazing display of chutzpah, the DEIR assumes that if Wal-Mart does not build the proposed Project, then someone else will build a virtually identical project, with virtually identical environmental effects.

5-1

[1] *County of Inyo v. City of L.A.* (1981) 124 Cal. App. 3d 1, 9 ("As we have said, '[an] accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR.' As a corollary to this requirement, the project must be compared with its pre-project conditions in order, inter alia, to provide a uniform baseline for the measurement of its impact and to 'assess the advantage of terminating the proposal.' [Citation.] This is called a 'no-project' alternative and is required by law. [Citations.]")

CEQA Guideline section 15126.6, subdivision (e), provides guidance for the discussion of the "no-project" alternative in an EIR. This Guideline purports to establish a rule that in some factual situations it may be appropriate for the "no-project" alternative to consist of predictions of future development under existing land use plans rather than existing conditions. A recent Court of Appeal decision notes that an environmental treatise takes the position that "The Guidelines have repudiated 'the proposition that the analysis of the 'no project' alternative in an EIR 'must describe maintenance of the existing environment as a basis for comparison of the suggested alternatives to the status quo.'" (*Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 150 Cal.App.4th 683, 715 (*Woodward Park*).) However, the *Woodward Park* decision neither endorsed nor based its holding on this view. In fact, the Court in *Woodward Park* held: "In circumstances like these, the no-project alternative should discuss both the existing physical conditions and likely future conditions under the existing zoning and plan designations." (*Id.* at p. 714.) Moreover, neither a treatise nor the Guidelines can make law that is contrary to CEQA. Thus, until is it disapproved, the rule stated in *County of Inyo v. City of L.A.*, *supra*, remains the law.

But most important, even if Guideline section 15126.6, subdivision (e), did establish a rule allowing the "no-project" alternative to consist of predictions of future development under existing land use plans rather than existing conditions, the factual prerequisites for doing so that are specified in the Guideline are not present here. The key provision applicable to this Project is subparagraph (B) of paragraph (3) of subdivision (e), which provides:

5-1
Cont'd

> If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

Thus, for this Project the Guideline requires that the "no-project" discussion "compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved." This DEIR utterly fails to do so.

The Guideline also provides that where "disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed." But this does not authorize the approach taken in this DEIR, for two reasons.

First, if the City disapproves this Project, it is not "predictable" that anyone would propose or the City would approve a nearly exact replica of Wal-Mart's proposal. Instead, this possibility is entirely speculative. Indeed, the opposite possibility is more predictable: i.e., that if the City does not want this Project, no prospective developer is likely to assume the City will approve the same project if submitted by a different applicant.

Second, even if future City approval of a replica of this Project were "predictable," this would not provide grounds to dispense with a "no-project" alternative based on "the property remaining in its existing state." It would merely require the DEIR to also "discuss" the effects of the predictable future action in addition to "the property remaining in its existing state." Here, the no-project alternative in the DEIR contains no discussion of "the property remaining in its existing state" whatsoever. 5-1 Cont'd

In sum, the DEIR's discussion of the impacts of the "no-project" alternative is entirely useless because it is the same as the proposed Project.

2. THE DEIR IS INFORMATIONALLY DEFICIENT.

a. Hydrology Impacts

As explained in the letter dated April 24, 2009 from hydrologist Dennis Jackson (attached hereto as Exhibit 1 and incorporated by reference), the DEIR is informationally deficient with respect to storm water runoff impacts. 5-2

b. Traffic Impacts

As explained in the letter dated April 24, 2009 from traffic engineer hydrologist Dan Smith (attached hereto as Exhibit 2 and incorporated by reference), the DEIR is informationally deficient with respect to traffic impacts. 5-3

c. Land Use Impacts

As explained in the letter dated April 24, 2009 from economist Dr. Phillip King (attached hereto as Exhibit 3 and incorporated by reference), the DEIR is informationally deficient with respect to land use and urban decay impacts.

Dr. King describes the immediate, local and direct effects of this Project on the surrounding residential neighborhoods, including increased rates of foreclosure, abandoned homes, increases in crime, etc. 5-4

The DEIR also fails to assess the Project's potential to cause regional urban decay impacts by enabling the development of new Wal-Mart stores in the region (both regular stores and Supercenters) and the conversion of existing regular stores to Supercenters, that this distribution

center will service. As a result, the DEIR fails to assess impacts on the "affected environment." The DEIR achieves this failure by studiously not providing any information about Wal-Mart's plans to expand retail operations in this region.

For example, the Project description is narrow, stating: "The underlying purpose of the project is storage and distribution of nongrocery goods to Wal-Mart retail stores located throughout the region." The growth-inducing impact section is singularly evasive, stating: "Any growth-inducing effect the proposed regional distribution center may have relative to new Wal-Mart retail stores in the area or beyond is difficult to accurately determine. The proposed Project can be viewed as a means to simply improve the service to existing retail outlets, given the fact that proximity to a distribution warehouse in and of itself and in the absence of consumer demand is not likely to warrant construction of a new retail facility." 5-4 Cont'd

As explained by Dr. King, this Project will devastate the existing residential neighborhoods in the vicinity of the Project. It also threatens the viability of plans to build out the undeveloped portions of the residential zones in the immediate vicinity. Thus, the Project will frustrate the goals of the City's General Plan, yet the DEIR fails to recognize this as a significant impact.

d. Visual Impacts

As explained in the letter dated April 27, 2009 from Harry Benke of Visual Impact Analysis LLC (attached hereto as Exhibit 4 and incorporated by reference), the DEIR is informationally deficient with respect to visual impacts.

While the DEIR admits that cumulative visual impacts are significant, it does not quantify or document the magnitude of the impact. *See Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831 ["The EIR must contain facts and analysis, not just the bare conclusions of a public agency. ... The conclusion that one of the unavoidable adverse impacts of the project will be the "[increased] demand upon water available from the Santiago County Water District" is only stating the obvious. *What is needed is some information about how adverse the adverse impact will be*" (emphasis added).] 5-5

e. Air Quality Impacts

(1) Greenhouse Gases (GHG) and Climate Change Impacts

As explained in the letter dated April 27, 2009 from Dr. Klaas Kramer and his colleagues (attached hereto as Exhibit 5 and incorporated by reference), the DEIR is informationally deficient with respect to the magnitude of this Project's cumulatively considerable contribution to greenhouse gas emissions. 5-6

(2) Impacts on Ozone Precursors: Reactive Organic Gases ("ROG") and Nitrogen Oxides ("NOX") 5-7

The DEIR is also informationally deficient with respect to the Project's ozone precursor and diesel PM imapcts on air quality.

The San Joaquin Valley Air Basin (SJVAB) is classified as an "extreme non-attainment" area for ozone, for which ROG and NOX pollutants are precursors. The DEIR finds that as long as mitigation measures identified in the DEIR keep increases in these pollutant emissions below a threshold of significance ("TOS") of 10 tons per year (TPY), the "project-level" (i.e., "individual" or "incremental") impacts are not "significant." (DEIR p. 4.2-34.) The DEIR also uses this same TOS to conclude that such impacts are not cumulatively significant. (DEIR, p. 6-4.)

The DEIR borrows this TOS from the San Joaquin Valley Air Pollution Control District ("air district"). The DEIR's use of the air district's TOS is erroneous as a matter of law because the DEIR applies the TOS uncritically, without any factual explanation as to why the 10 TPY standard represents an appropriate TOS for judging the significance of project-level ozone pollution impacts. 5-7 Cont'd

The DEIR's use of the air district's TOS to determine that cumulative ozone precursor emission impacts are less than significant is legally erroneous for the same reasons. Thus, the DEIR's assessment of cumulative ozone impacts is inconsistent with CEQA's definition of cumulative impacts because it assumes that if its incremental impacts are not significant its cumulative impacts are not either. But it is well settled that even incremental minor changes can be cumulatively significant.

Moreover, it is also well-settled that where a project will exacerbate existing significant impacts, the project's cumulative impacts must be recognized as significant. That is the case here and the DEIR should concede the point.

(3) Toxic Air Contaminants - Diesel PM Impacts

The DEIR states that the baseline condition from existing (at least in the year 2000) Diesel PM impacts is 390 excess cancer cases per million people in the air basin. (DEIR, p. 4.2-10 ["Diesel PM poses the greatest health risk among these ten TACs mentioned. Based on receptor modeling techniques, ARB estimated the Diesel PM health risk in 2000 to be 390 excess cancer cases per million people in the SJVAB."].)

5-8

The DEIR estimates this Project will add Diesel PM health risks of 7.3 excess cancer cases per million people in the basin among people living within one mile of the Project; 2.4 excess cancer cases per million people in the basin among workers working within one mile of the Project; 0.18 excess cancer cases per million people in the basin among children attending schools within one mile of the Project; and 1.31excess cancer cases per million people in the basin among workers working in schools within one mile of the Project.

The DEIR concludes these project-level Diesel PM impacts are not "significant" because,

as it did with ROG and NOX, they are below a TOS (10 additional cancer cases per 1 million population) borrowed from the air district. This is erroneous as a matter of law for the same reasons discussed above regarding ozone precursors, i.e., the DEIR applies the air district's TOS uncritically, without any factual explanation as to why the threshold of 10 additional cancer cases represents an appropriate TOS for judging significance.

Indeed, the DEIR does not even provide a "project plus baseline" health risk assessment, in violation of CEQA Guideline 15125, subdivision (a). But adding the project-induced health risk increase (7.3) to the baseline health risk (390) yields a total cumulative Diesel PM health risk of 397.3 excess cancer cases per million people in the basin among people living within one mile of the Project. 5-8 Cont'd

Why isn't this a significant cumulative impact? Instead of providing a true assessment of cumulative impacts, the DEIR, as it did with ROG and NOX, relies on the fact that the individual Diesel PM impacts of the Project are below a TOS borrowed from the air district. See DEIR, p. 6-5. This is erroneous as a matter of law for the same reason discussed above in relation to ROG and NOX, i.e., that where a project will exacerbate existing significant impacts, the project's cumulative impacts must be recognized as significant.

f. Growth-Inducing Impacts

See discussion of urban decay impacts in section 2.c, *ante*. 5-9

Thank you for your attention to this matter.

Very truly yours,

Thomas N. Lippe

List of Exhibits

1. Letter from Mr. Dennis Jackson dated April 24, 2009 and curriculum vitae for Mr. Jackson.
2. Letter from Mr. Dan Smith dated April 24, 2009 and curriculum vitae for Mr. Smith.
3. Letter from Dr. Phillip King dated April 27, 2009 and curriculum vitae for Dr. King.
4. Letter dated April 27, 2009 from Harry Benke of Visual Impact Analysis LLC and curriculum vitae for Mr. Behnke

5. Letter dated April 27, 2009 from Dr. Klaas Kramer and colleagues and curriculum vitae for Dr. Kramer, Dr. Michel Gelobter and Dr. Dan Matross.

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EXHIBIT 1



Dennis Jackson - Hydrologist

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(831) 295-4413
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April 24, 2009

Tom Lippe
Lippe Gaffney Wagner LLP
9333 Sparks Way
Sacramento, CA 95827

re: Merced Wal-Mart Distribution Center DEIR

Dear Mr. Lippe:

You asked me to review how the Merced Wal-Mart Distribution Center DEIR deals with stormwater runoff quantity and quality issues. My *curriculum vita* is attached.

The details of the drawings in the DEIR are unreadable. So, on Thursday April 23, I stopped by the City of Merced's Planning and Permitting Division to see if they had higher resolution drawings available. The Planning staff was unable to find drawings with adequate resolution to read the details. They did print a one of the drawings from a PDF file on a large sheet of paper but the details were no clearer than the electronic version of the same drawing.

Project Description

The DEIR gives the following project description.

> *The proposed project includes development of a Wal-Mart Stores East LP regional distribution center (approximately 1.1 million square feet) and associated facilities on 230 acres in the southeast area of the City of Merced and would primarily store and distribute non-grocery goods to Wal-Mart retail stores located throughout the region. No retail commercial is proposed as part of the project. The proposed regional distribution center would operate 24-hours per day and would employ approximately 1,200 employees (1,050 employees to work at the facility and an additional 150 employees as drivers).*

EIR Areas of Controversy

Section 1.7 of the DEIR lists the *areas of controversy/issues to be resolved.* The DEIR identified the following areas of concern for Hydrology and Water Quality.

Hydrology and Water Quality

- Concern about water quality because of the fuel storage and truck wash.

- Concern over stormwater system failing and pollution running into the nearby neighborhoods.
- Concern over underground storage tanks and affect on water quality in the event of leakage.

None of these issues are directly addressed in the DEIR. The DEIR has failed to address these areas of concern and is therefore incomplete.

The DEIR contains no substantive discussion of the risks to water quality associated with fuel storage or the truck wash. There is no description of how the waste water from the truck wash will be disposed of. There is no description of what measures will be taken to contain and clean up fuel spills. Truck fuel and motor oil will be stored in underground tanks. Fuel for the backup fire pump and generator will be stored above ground. The DEIR does not discuss what will be done to ensure leaks from either the aboveground or underground tanks.

The following tanks are proposed as part of the project.

Underground Tanks

- new oil tank, 6,000 gallons
- waste oil tank, 2,500 gallons
- diesel fuel tank, 20,000 gallons
- diesel fuel tank, 20,000 gallons

Above Ground Tanks

- diesel fuel, 500 gallons, warehouse emergency generator
- diesel fuel, 500 gallons, standby fire pump
- fire water tank, 300,000 gallons
- fire water tank, 300,000 gallons

The DEIR contains no substantive discussion of the underground storage tanks and the risk they pose to the City of Merced water well 10-R2 which is located on the southern edge of the project. Page 4.10-6 of the DEIR notes that underground storage tanks (USTs) are regulated under the Unified Program created by Senate Bill 1082 (1993). The Merced County Department of Environmental Health implements the Unified Program at the local level. However, it is well known that even USTs that were installed according to state standards have failed.

The DEIR does not mention the close proximity of a municipal water well to the proposed location of the underground storage tanks. The DEIR does not mention that municipal well is down-gradient from the USTs. In addition, the DEIR does not mention that the presence of corrosive soils on the project site has the potential to increase the risk of failure of the underground tanks. The geotechnical report (ENGEO 2006) states that:

> As indicated in the Cerco laboratory letter (Appendix B), because of the resistivity measurements on samples obtained at the site, metal that is designed to contact site soils should be protected against corrosion. Specific design recommendations for corrosion protection for buried metals should be provided by a corrosion consultant.

The City of Merced water well 10-R is located on the southern border of the project. Supposedly, it can pump 3,000 gpm. This well was installed in 2005 to replace the well lost to the underground TCE plume at the GE facility about 2,500 feet north of the project. Underground tank installations are regulated by the state. However, there is the potential for underground tank failure, especially since the soils are corrosive. Failure of one or more of these underground tanks would discharge petroleum products relatively close to a pumping municipal water supply well. Appendix F of the DEIR states that the general

direction of the groundwater in the Merced Subbasin is the southwest. Well 10-R is located to the southwest of the truck maintenance garage and fuel island. The characteristics of well 10-R were not discussed in the DEIR. In general, the City wells are supposed to tap a deep aquifer and not the surface water, but there is always a possibility that contaminated surface water could find its way into the well. Assessing the risk to the water quality in well 10-R requires knowing the characteristics of well 10-R and the characteristics of the subsurface materials around well 10-R are important. The DEIR did not discuss the close proximity of the underground tanks that will be up-gradient to a City water well.

By neglecting the presence of corrosive soils on the project site and the proximity of a municipal water supply well down-gradient from the proposed underground storage tanks the DEIR has failed to provide full disclosure of potential environmental risks.

The DEIR also does not address the concern about the potential for the failure of the stormwater system to fail and release pollution into nearby neighborhoods. The DEIR does not appear to apply the information in the geotechnical report to the design of the stormwater detention ponds. The geotechnical report states that the soils have shrink/swell potential that must be accounted for in the building design but does not mention this problem with regards to the design of the detention ponds. Construction techniques that do not account for the shrink/swell characteristics of the soil could lead to a failure of the detention pond berm or collapse of the sidewalls of the excavation. Failure of the pond berm could release the stored water and at least a portion of the captured sediment that is expected to be contaminated. This issue will be discussed in more detail below.

Lack of Information in the DEIR

Neither the DEIR nor the *Preliminary Site Drainage Analysis* (Carter-Burgess, 2007) present the technical details of the hydrologic calculations used to design the stormwater detention ponds. The hydrologic information presented in the DEIR and the *Preliminary Site Drainage Analysis* is not presented in a coherent fashion. Failure to clearly present the technical details used to formulate the design of the stormwater detention ponds makes it very difficult to assess if realistic estimates of the storm runoff volumes were estimated or if the ponds were adequately sized.

The 24-hour rainfall totals for the various storm events (e.g. 2-year 24-hour storm etc.) are not listed in the DEIR or the Preliminary Site Drainage Analysis. The estimated total rainfall volumes associated with each of the analyzed storm events (e.g. 2-year event etc.) for the pre-project and project conditions are not given in the DEIR or in the main text of the Preliminary Site Drainage Analysis, however, they are given in a table that appears on a drawing sheets C4.24 and C4.25.

The total detention pond volume (62.73 acre-feet) is only given on a table printed on two of the construction drawings (C4.24 and C4.25) along with the pre and post project storm volumes for the 10, 25, 50 and 100 year 24-hour events. They estimate the post-project 100-year storm volume to be 39.7 acre-feet. But no details of the calculations were given.

The development of the approximately 235 acre site would create approximately 110 acres of impervious surface area. The developed portion of the property is in the central area of the project property. The eastern portion of the property contains a power-line right-of-way and is not developed. The western portion of the property is not being developed and the southern portion of the property between the truck entrance and employee entrance is not being developed. It is not clear if the ground surface in these "undeveloped" areas will be graded or in some other way altered by the project. If these "undeveloped" areas are altered it is reasonable to expect that the infiltration rate of these areas will decrease leading to

greater post-project stormwater runoff. It is not clear if this was accounted for when estimating stormwater runoff from the project.

There is no narrative that explains how the stormwater detention system will operate. There is no discussion on how stormwater from the undeveloped portions of the project property will be handled. The drawings available in the DEIR are so small that the many details on the drawings are unreadable. It appears from the drawings that the developed portion of the property is to be completely surrounded by a series of six detention ponds that are connected by pipes. It appears from the drawings that the berms of the detention ponds form a continuous barrier that essentially creates an "island" during a 100-year flood event. Stormwater runoff generated inside the bermed developed area is directed into the detention ponds. It appears from the drawing that runoff generated along the truck entrance will be directed into the detention basins.

It appears from the drawings available in the DEIR that stormwater generated outside of the developed area is expected to pool in the southeast corner of the project and possibly be directed into the detention basins. It is not clear whether the stormwater inlets along the truck entrance are above the level of the 100-year flood. If the stormwater inlets along the truck entrance are lower than the 100-year flood level then water from the 100-year flood will flow into the stormwater inlet and fill the detention ponds. Presumably, once the detention ponds have been filled by water from the 100-year storm entering the storm drain inlets along the truck entrance water will start flowing out of the storm drain inlets inside the developed area. How will water from the 100-year flood be excluded from the detention ponds? If 100-year flood water freely enters the detention ponds how will they be pumped dry in 108 hours?

The maximum depth (10 feet) and the surface area (about 10.5 acres) of the detention ponds are not provided in the DEIR but are only given in the *Groundwater Recharge Discussion* memo (ENGEO 2007). The elevation differences between the stormwater inlets and the discharge points at the bottom of the detention ponds are not given in either the DEIR or the *Preliminary Site Drainage Analysis* (Carter-Burgess 2007). Let us call this elevation difference the *maximum functional pond depth*. Adding more water than the maximum functional pond depth will cause water to flow backwards out of the lowest inlet. The maximum water depth in the detention ponds for the various design storms (e.g. 100-year storm) is not given. This is important because when the depth of the water in the detention ponds exceeds the maximum functional pond depth the water in the ponds will start flowing out the stormwater inlets. The DEIR has not demonstrated that the detention pond can receive all the stormwater from all of the design storms analyzed without water ponding at the inlets or having water flow backwards from the ponds back through the lowest inlets.

The DEIR provides no discussion of the water velocities expected in the detention ponds under different conditions. Water velocities must be low enough to allow very fine sediment to settle out. This is important for water quality impacts because many of the expected contaminants attach to particles of very fine sediment.

The DEIR does not provide enough information regarding the design and construction of the detention basins to evaluate whether the ponds are adequately sized, whether the ponds can receive stormwater from the large storms, whether the ponds can adequately capture sediment and contaminants from the site and what impacts would occur if the pond berm failed.

Inconsistent Information in the DEIR

The DEIR states that the stormwater detention facilities can accommodate a 50-year 24-hour event in some place and in others claims that the 100-year 24-hour event can be handled. On page 2-33 of the DEIR they state that one foot of freeboard above the water level from the 50-year 24-hour storm has been incorporated into the conceptual design.

The DEIR, on page 2-33, states that there are two detention ponds, one draining the north portion and one the south portion of the project. The drawings in the Preliminary Site Drainage Analysis (Carter-Burgess 2007) show six detention ponds linked together by pipes.

Detention Basin Design

The information in the geotechnical report (Engeo, 2004 and 2006) was not apparently used to guide the design of the permanent stormwater detention basins. Conversely, the design of the permanent stormwater detention ponds does not seem to have been communicated to the geotechnical engineers.

The final geotechnical report (Engeo 2006) states that:

> Expansive Soils
>
> Near-surface soils at the site exhibit a moderate to high potential for expansion. Expansive soils shrink and swell as a result of moisture changes which can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. To mitigate expansive soils, the designs for building foundations and concrete slabs-on-grade should take into consideration the potential for differential movement of the soil with moisture changes. Mitigation measures during grading are provided in this report, including moisture conditioning of the site soils to obtain a high moisture contents to reduce the potential for future shrinkage and swelling.
>
> Settlement/Fill Consolidation
>
> Since the existing site is relatively flat and anticipated to be near proposed pad grades, it is expected that cutting and filling will be minor. In general, long-term settlement is not anticipated to be a major concern for this project provided that proper fill subgrade preparation, moisture conditioning and recompaction are performed during mass grading.

The design of the permanent detention ponds calls for excavating a five foot deep trench (DEIR page 2-33). The total pond depth is given as 10 feet in the *Groundwater Recharge Discussion* memo (Engeo 2007). According to the DEIR, the detentions pond bottoms were to be 5 feet below grade to avoid high groundwater. The height of the detention pond berms appears to be five feet or greater.

The design recommendations in the geotechnical report (Engeo 2006) are for slab floors and retaining walls and do not mention the excavation of a five foot deep trench topped by a five foot (or higher) berm. If the expansive nature of the project site soils is not taken into account the detention pond berm has the potential to fail.

The sidewalls of the excavation must be engineered so that they do not collapse as a result of lateral spreading or the shrink/swell action of the expansive project soils. The berm must be constructed in a manner that accounts for the properties of the expansive project soils. In addition, the outside face of the berms has the potential to be in contact with water from a 100-year flood. The DEIR states that during a 100-year flood event the project property would be covered by one to three feet of flood water. The DEIR has not considered if floodwater moving around the outside of the detention ponds has the potential to erode the berms of detention ponds.

If the outside berm fails the consequences would depend on the level of floodwater on the outside of the berm. If the floodwaters outside the berm are higher than the water level inside the ponds the external floodwater will flow into the ponds. However, the external floodwater will eventually recede and so the water from the detention pond would flow out of the ponds and join the receding floodwaters. Some of the contaminates, stored in the detention pond, would be expected to be carried out of the ponds.

If an inside berm fails personnel outside of the warehouse could be exposed to rapidly moving water if the water level in the detention ponds was higher than the finished grade around the warehouse.

The preliminary geotechnical report (Engeo 2004) noted that a 1917 topographic map suggested that there are two filled-in stream channels on the property, one in the northern portion of the site and one in the southeast corner of the site. The stream channels have been filled at some time in the past and no longer exist at the project site. The final geotechnical report (Engeo 2006) states that test pits found no field evidence of filled-in channels. Of course, the subsurface of the entire property was not examined so there is a potential that the extensive excavation for the detention ponds may encounter sands and gravels from the filled-in stream channels. The preliminary geotechnical noted the potential for liquefaction at the locations of the filled-in stream channels (Engeo 2004). Page 4.5-5 of the DEIR states that: "The fill that was placed in the historic stream channels noted above may represent a potential for settlement or consolidation that could adversely affect building foundations".

The DEIR has not discussed the potential for off-site impacts if the excavation of the detention ponds intersected the filled-in stream channels. Since the detention ponds are unlined water would freely percolate into any sand and gravel deposits associated with the filled-in streams. The old stream deposits could provide a pathway for potentially significant volumes of water to be transported off-site and on to adjacent property.

The City of Merced has agreed to waive their requirement that the detention ponds can be drained within 48-hours. At the 2,200 gpm maximum discharge rate allowed by MID it would take 72 hours to drain the ponds after a 10-year storm and 108 hours to drain the ponds after a 100-year event. In addition, the MID will have the ability to completely turn off the discharge from the project's detention ponds which could extend the drainage time well passed the 108 hours agreed to by the City. The DEIR does not discuss if there is any impact associated with allowing the ponds to drain in 108 hours instead of 48 hours or the impacts if the MID shuts off the discharge from the project detention ponds. Extending the time it takes to drain the ponds increases the possibility that a subsequent large storm will occur before the ponds are drained. If a large storm occurs before the ponds are drained will the stormwater detention system fail?

The MID will only accept stormwater discharge from the project at a rate of 2,200 gpm. This low discharge rate increases the time to drain the ponds to 108 hours for a 100-year storm. The City of Merced would prefer to see the ponds drain in 48 hours.

Alteration of Flow Patterns

The disposal of stormwater from the project has not been adequately discussed in the DEIR. The DEIR has not adequately addressed two of the standard CEQA Environmental Check List questions:

> VIII. HYDROLOGY AND WATER QUALITY. Would the project:
>
> (d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase

> the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
>
> (e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The proposed project would significantly alter the existing stormwater drainage pattern. Project stormwater would be discharged into a different MID Canal. Language in the DEIR suggests that project stormwater would contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems.

The Preliminary Site Drainage Analysis (Carter-Burgess 2007) states that:

> Storm water runoff from the site currently ponds in a low lying area near the southwest corner of the site and eventually spills over to a roadside ditch running to the west along the north side of Gerard Avenue.

The DEIR proposes two alternatives for disposing of the stormwater collected to the detention ponds. The DEIR states that the preferred alternative would be to pump the water from the detention ponds out of the northeast corner and route it to the MID Fairfield Canal. None of the pre-project storm water flowed to the northeast.

The second choice would be to pump the water from the detention ponds out of the southwest corner and route it into the MID Farmdale Lateral. The DEIR says that, "In the event the Fairfield Canal could not be utilized, the alternative canal to receive the flow would be the Farmdale Lateral (Exhibit 4.6-4)". The DEIR does not explain when this decision would be made, who would make the decision or why the decision is even necessary. Having two alternative methods of disposing of project stormwater makes the project description ambiguous and makes it difficult to evaluate the environmental impacts of the project.

The DEIR does not discuss where either the Fairfield Canal or the Farmdale Lateral discharge and the DEIR does not discuss if there is any potential for off-site impacts associated with adding floodwater to either of the MID canals.

The Merced Irrigation District (MID) wants to limit the discharge from the project detention ponds to its canals to 2,200 gpm (4.90 cfs) which is substantially less than the estimated pre-project 2-year 24-hour discharge of 8,960 gpm (20 cfs). In addition, page 2-36 of the DEIR states that:

> If MID determined that downstream conditions warranted the discharge from the proposed project site be discontinued, then MID would have the ability to shut the pumps down to discontinue the discharge.

The requirement to reduce the stormwater discharge from the project to less than 25% of the pre-project 2-year discharge coupled with allowing MID to shut off the project stormwater discharge suggests that there is a problem from downstream (off-site) flooding that would be exacerbated by adding project stormwater to the Fairfield Canal (and possibly to the Farmdale Lateral) that the DEIR has not discussed.

Routing project stormwater to the Fairfield Canal, even at a rate less than the pre-project 2-year discharge, is a direct project impact since no pre-project stormwater flowed to the northeast. In addition, routing project stormwater to the Fairfield Canal appears to be a significant cumulative impact since the MID wants to restrict the discharge rate from the project detention ponds to less than 25% of the pre-project 2-year storm runoff.

The DEIR does not discuss the environmental impact of sending stormwater from the project site in a completely new direction. The DEIR must discuss the downstream consequences of routing stormwater from the project into the Fairfield Canal.

Flood Issues

The DEIR has not fully addressed Impact 4.6-5: Proposed Project Structures within the 100-year Flood Zone Could Impede or Redirect Flood Flows.

The berms of the detention ponds form a continuous barrier so that during a 100-year storm the developed portion of the project property becomes an island. The DEIR has not addressed how the "island" formed by the project detention ponds would impede or redirect flood flows. Will the presence of the "island" cause 100-year flood water to accelerate in the vicinity of the project? Will the 100-year flood water have sufficient velocity to erode the outside face of the detention pond berms?

As discussed above, the design of the detention pond trench and berm apparently does not account for the expansive soils on the project site. This design oversight could lead to the failure of the detention pond berms. If a berm that separates the detention pond from the developed area (inside berm) fails it may be possible for water from the detention pond to flow into the developed area. If both the inner and outer berms fail during a large storm event flood waters surrounding the project could enter the developed area.

The maximum water depth in the ponds is given as 10 feet in the *Groundwater Recharge Discussion* memo (ENGEO 2007). The bottom of the ponds will be five feet below the ground surface. So the maximum water surface is about 5 feet above ground surface. This suggests that water gushing out of a failed inside berm would enter the developed area at high velocity and pose a threat of injury or death to anyone near the berm failure.

The project stormwater detention ponds collect stormwater through a gravity collection system. When the water in the detention ponds is at the same elevation as the lowest stormwater inlet the ponds are effectively full and can not take any additional stormwater. The space in the ponds above the water depth when the ponds are effectively full can not store any stormwater.

The DEIR and the other documents available on-line do not give the maximum water surface elevation (or water depth) in the detention ponds for each of the design storms (e.g. 10-year 24-hour storm). The DEIR does not reveal the elevation of the lowest stormwater inlet. Therefore, the DEIR does not clearly demonstrate that the detention ponds can receive stormwater from the project during the 50-year or the 100-year 24-hour storm event.

Water Quality

Water Quality impacts from the project will come from short-term construction activities and long-term operation of the distribution center. The DEIR describes the short-term impacts from construction as follows.

> **Impact 4.6-1: Short-Term Degradation of Water Quality from Project-Related Construction Activities**
>
> *Construction disturbances associated with the proposed project would create the potential for soil erosion and sedimentation of stormwater drainage systems and runoff to the Merced Irrigation District Doane Lateral Canal west of the proposed project site. The construction process may also involve the potential for releases of other pollutants to surface waters and/or the future storm drain system, including oil and gas, chemical substances used in the construction process, accidental discharges, waste concrete and wash water. This impact is considered potentially significant.*

The DEIR says that the applicant will follow all the required rules and regulations and develop a Storm Water Pollution Prevention Plan (SWPPP). The DEIR speaks of general standard erosion control measures. However, the effectiveness of an erosion control plan is in the details of the plan and the diligence with which it is implemented. A realistic construction erosion control plan needs to be prepared and made part of the EIR. The construction erosion control plan needs to be developed in conjunction with the grading plan for the site. Together, the construction erosion control plan and the grading plan will clearly show the area of the project property that will be disturbed and the direction that stormwater runoff will flow. Knowing the precise area of ground that will be disturbed is critical to accurately estimating the volume of storm runoff that will be generated after the project is complete. Disturbance of the ground surface during construction tends to compact the soil an increases runoff from an area. Knowing the direction of stormwater movement will help determine the area that drains to the stormwater detention ponds.

Impact 4.6-2: Long-Term Degradation of Surface Water Quality from Project-Related Contaminants

The conversion of undeveloped land to urban land uses would alter the types, quantities, and timing of contaminant discharges in stormwater runoff. Overall, the potential for the proposed project to cause or contribute to long-term discharges of urban contaminants (e.g., oil and grease, trace metals and organics, trash) into the stormwater drainage system would increase compared to existing conditions. This impact is considered ***potentially significant****.*

The DEIR Mitigation Measure 4.6-2 states that, "Design standards for water quality treatment **are being formulated** that would meet or exceed City of Merced Storm Drain Master Plan and Standard Design requirements" (Emphasis added). The DEIR goes on to say that:

> The stormwater treatment system would reduce the increased amount of stormwater runoff and associated erosion created by the proposed project site. The runoff would be collected by overland flow and an underground storm sewer system into detention ponds to control the quantity of runoff exiting the site. The quality of runoff would be controlled by sedimentation ponds, biological treatment of the water by vegetation, infiltration of the water into the ground and a skimmer plate to skim floatable objects from the water surface. Implementation of these mitigation measures would reduce impacts to a ***less-than-significant*** level.

The detention ponds will be grass lined. The grass will help slow the water velocities to promote settling of fine sediment. The grass lining the detention pond is not likely to provide "biological treatment of the water". The detention ponds will be unlined so water will be able to soak into the ground. In general the clay in the soils will tend to trap contaminates, however, if the bottom of the detention pond intersects the filled-in stream channels water from the pond may flow through sand and gravel which do not bind contaminates. The contaminate laden groundwater flowing through old stream deposits may be carried off-site. The DEIR has not discussed this impact.

The detention ponds are the key element in ensuring that the quality of the stormwater discharging into the MID Canal meets the Basin Plan standards. The DEIR provides no discussion of the water velocities expected in the detention ponds under different conditions. Water velocities must be low enough to allow very fine sediment to settle out. This is important because many of the expect contaminants attach to particles of very fine sediment. The DEIR should demonstrate that the very fine sediment delivered by the inlet closed to the discharge wet well will have adequate time to settle out.

Weekly sweeping of paved area with a modern vacuum assisted street sweeper should be included as a mitigation to reduce the amount of contaminated fine sediment entering the detention basin. Removing contaminated fine sediment before it reaches water is the best way to preserve water quality. Older street sweeping equipment was ineffective in picking up fine sediment that carries contaminates such as petroleum products and heavy metals.

Summary:

- The Hydrology and Water Quality section of the DEIR is deficient since it does not give sufficient detail assess the impacts.
- The input values and the output from the TR-55 model run to estimated stormwater volume are not presented so the accuracy of the calculations can not be checked.
- The site's geologic and geomorphic characteristics include two risk factors that the DEIR does not include in its evaluation of potential Project impacts. These risk factors are (1) two old stream channels that are now filled with soil that is less dense and more permeable to water than the surrounding land. (2) The soil on the site has a high "shrink-swell potential", meaning that it expands and contracts when exposed to wet and dry conditions. These characteristics of the site exacerbate several risks that the EIR does not assess.
- Drinking Water Quality Impacts. The City of Merced has a municipal drinking water well on the western border of the Project, and the Project includes both underground and above-ground storage tanks that will hold over 40,000 gallons of diesel fuel and over 6,000 gallons of motor oil. But the DEIR fails to assess, or provide enough information to allow the public to assess, the risk of the Project contaminating this water source if these tanks fail.
- Runoff Water Quality Impacts. The DEIR does not assess, or provide enough information to allow the public to assess, the risk of the Project contaminating downstream water quality if these tanks fail.
- Detention Pond and Berm Failure - Flooding Impacts. The DEIR does not assess, or provide enough information to allow the public to assess, the risk of the berms that surround the runoff detention ponds failing and releasing large volumes of water into the surrounding neighborhood. The design specifications for the detention pond system are not sufficiently detailed to allow an evaluation of this risk. Similarly, the intensity of design storms and the details of the runoff calculations are not given in the DEIR, preventing a complete examination of these issues. Apparently, neither the presence of the old stream channels nor the expansive soils were considered in design of detention ponds. (The filled-in stream channels may contain sand deposits which may experience liquefaction during earthquakes which could cause collapse of the overlying berm.)
- Fine sediment tends to accumulate on pavement over time. Fine sediment can be from wind blown sources or arrive on truck tires. Is there a monitoring program to determine if and when the accumulated fine sediment needs to be removed from the detention pond bottoms? If accumulated fine sediment is removed from the pond bottoms where will the potentially hazardous material be disposed of?
- The Project will alter the natural drainage pattern on the site by collecting, concentrating and discharging all runoff into one of two possible outlets: Fairfield Canal to the northeast or the Farmdale Lateral to the Southwest. The EIR does not describe the environmental setting

downstream of the project, nor does it provide any assessment of the potential impact of the increased peak flows on either channel or surrounding land downstream. The Merced Irrigation District limits stormwater discharge from project to less than 25% of pre-project 2-year discharge, suggesting that there are existing off-site cumulative impacts from routing stormwater into MID's Fairfield Canal that the EIR has not disclosed.

- The MID will only accept stormwater discharge from the project at a rate of 2,200 gpm. This low discharge rate increases the time to drain the ponds to 108 hours for a 100-year storm. The City of Merced would prefer to see the ponds drain in 48 hours. Extending the time it takes to drain the ponds increases the possibility that a subsequent large storm will occur before the ponds are drained.
- The Project's surrounding detention pond berms will form an "island" in times of surface water flooding that will apparently form a complete barrier to 100-year flood water. The effect of a 110 acre "island" on the movement of 100-year flood water has not been discussed. The DEIR fails to ask or answer the question whether the presence of this "island" will cause 100-year flood water to accelerate near the project and if so will erosion of the surrounding land or roads result.

Revisions to the Hydrology and Water Quality Section

The Hydrology and Water Quality Section of the DEIR should be completely revised. The revised Hydrology sections should clearly present the following information at a minimum.

- Clear narrative describing all aspects of the drainage plan
- Conceptual grading plan
- Conceptual construction erosion control plan.
- Accurate map of disturbed and undisturbed areas
- Detailed TR-55 analysis of pre-project and post-project conditions for 2-year, 10-year, 25-year, 50-year and 100-year 24-hor events.
- Estimate of volume Post-project of runoff volume from the developed area routed to detention pond
- Estimate of volume Post-project of runoff volume from the undeveloped area routed to detention pond
- Estimate of volume of runoff from undeveloped area that does not enter the detention ponds
- List of rainfall intensities used and source
- Inflow hydrograph into the detention ponds
- Water velocities in the detention pond
- Estimate of what size particles will pass through the pond
- Estimate of the sediment trap efficiency of the ponds
- Maximum water surface in detention pond for each storm event modeled
- Elevation of pond bottom
- Elevation of stormwater inlets
- Design of the detention pond incorporating the findings of the geotechnical reports

Sincerely,



Dennis Jackson
Hydrologist

References

Carter-Burgess, 2007, Preliminary Site Drainage Analysis.

City of Merced, 2002, City of Merced Storm Drain Master Plan.

City of Merced, 2006, Water Supply Assessment, Proposed Wal-Mart Regional Distribution Center.

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ENGEO, 2006, Final Geotechnical Exploration Report (FGR2), Proposed Industrial Warehouse Distribution Center, Merced, CA.

ENGEO, 2007, Groundwater Recharge Discussion, Wal-Mart Distribution Center, Merced, California.

DENNIS JACKSON

HYDROLOGIST

Fluvial geomorphology

Sediment transport

River and watershed assessment and restoration

EXPERIENCE

Dennis Jackson is a consulting hydrologist. Mr. Jackson has over 15 years of experience in river and watershed restoration, mitigation planning, policy evaluation, and project implementation. Mr. Jackson has studied watersheds along the north coast of California and in the eastern Sierra Nevada.

Mr. Jackson has completed all the phases of successful stream and watershed restoration projects. His experience includes: obtaining restoration grant funding, design of restoration projects, obtaining permits, facilitating advisory committee meetings, and completion of project implementation and monitoring.

He taught an upper division class entitled Physical Hydrology and River Hydrology at California State University, Monterey Bay. These courses focused on runoff generating processes, streamflow measurement and detecting watershed change through an analysis of discharge records.

Mr. Jackson served on the City of Santa *Cruz's Watershed Management Technical Advisory Task Force*. The Task Force's charge is to guide the preparation of a watershed management plan for the 3,380 acres owned by the City.

EMPLOYMENT HISTORY

- Since 1995, Mr. Jackson has been a consulting hydrologist focusing on river monitoring and watershed dynamics. In addition to data collection and analysis he has also reviewed numerous CEQA documents on a wide range of projects included timberland conversion, timber harvest plans, fiber optic installations, and water rights applications.
- In 2003 and 2004 Mr. Jackson subcontracted with Environmental Science Associates (ESA) to perform a hydrologic analysis of the Pescadero-Butano Creek watershed, focusing on the USGS stream gauging record and a study of the changes in stream bed elevation at various locations in the watershed.
- In 2003 Mr. Jackson worked a subcontractor with Environmental Science Associates (ESA) to monitor the streamflow on Ferrari, Molino, Liddell, and San Vicente Creeks on the Coast Dairies property for the Trust for Public Land (TPL). TPL acquired the Coast Dairies property in the 1990's. TPL wanted to ensure that the all the agricultural surface water diversions on the Coast Dairies properties are in compliance with all environmental laws. Monitoring the streamflow help the State Water Resources Control Board determine bypass flows that would protect salmonids.
- In 2001-2003 Mr. Jackson subcontracted with Environmental Science Associates (ESA) to assist in evaluating the hydrology, geomorphology, and biology of the Pescadero Marsh, for the California Department of Parks and Recreation (DPR). In particular, the purpose was to repeat several surveys conducted by other parties for DPR in the 1980s, in order to ascertain

changes that have occurred in the Marsh since several restoration projects were undertaken in the 1990s. The overall goal of this report is to make recommendations for future management of the State Preserve.

- In 2002 Mr. Jackson subcontracted with Environmental Science Associates (ESA) to perform a hydrologic assessment of the Coast Dairies property to assist the Trust for Public Land development management guidelines prior to turning the land over to the State Parks system. The objectives of this hydrologic assessment are to determine: the characteristics of each of the six streams that cross the Coast Dairies property; the general condition of each stream and its watershed; the sensitivity of the watershed to disturbance; and hydrologic indicators for suitability for salmonids. Mr. Jackson established nine stream gauging stations, measured stream flow and interpreted the data. Mr. Jackson also extended an erosion hazard model developed for the neighboring San Lorenzo Valley to the Coast Dairies property.
- Mr. Jackson was an instructor for a week-long workshop in April 2002 to familiarize Department of Transportation (CalTrans) personnel about streams and the Department of Fish and Game's Streambed Alteration Agreement process. Mr. Jackson lectured about fluvial geomorphology in the classroom and in the field.
- During the spring semesters of 2006 and 2000, Mr. Jackson taught the upper division Physical Hydrology course at California State University, Monterey Bay. The courses focused on runoff generating processes, streamflow measurement and detecting watershed change through an analysis of discharge records.
- Mr. Jackson managed a 319(h) grant for the Sotoyome Resource Conservation District in 1995.
- From 1989 -1994, he was the Hydrologist/Director for the Mendocino County Water Agency where he studied the effects of in-stream gravel extraction on the rivers of Mendocino County. He also completed several stream restoration projects from concept to completion.
- From 1986 through 1989, he studied the studied the effect of upwind obstructions on the distribution of snow in the Mammoth Creek watershed for the Mammoth County Water District.
- From 1983 through 1986, he was a hydrologic technician with the U.S. Forest Service, in charge of a network of well, stream and spring monitoring stations.

PROJECT EXPERIENCE

- As Hydrologist/Director of the Mendocino County Water Agency, Mr. Jackson was responsible for advising the Mendocino County Board of Supervisors on all aspects of water policy. Mr. Jackson also commented on the hydrologic aspects of projects undergoing CEQA review by the County Planning Department.

  Mr. Jackson conducted a comprehensive study of the hydrology and fluvial geomorphology of the Russian River. Mr. Jackson was able to obtain 319(h) grants from the State Water Resources Control Board to prepare *Gravel Management Plans* for the Russian and Garcia Rivers.

  His study of in-stream gravel extraction revealed the importance of the shape of the riverbed and how it influences fish habitat. Mr. Jackson has applied his knowledge of river processes and hydrology to develop the basis for several stream restoration projects. His study of the natural

shape of gravel bars helped him to successfully design the channel restoration required after a bentonite spill on the Garcia River near Point Arena. He also used his knowledge of gravel bar form to design successful stream restoration projects on Willits and Baechtel Creeks near Willits, CA.

As a private consultant, Mr. Jackson has completed numerous hydrologic studies and evaluated watershed functions. Some of these projects include:

- Suisun Creek Assessment: From 2001 through 2006 Mr. Jackson has monitored two channel reaches in the Suisun Creek watershed. He has also assessed the impact of Lake Curry on the flood regime of Suisun Creek. In 2007 he analyzed temperature records from 16 stations to determine the effect of releases from Lake Curry on summer water temperatures in Suisun Creek.
- Russian River Projects: From 1999 through 2004, Mr. Jackson has monitored several channel reaches in the Russian River. He has also done hydrologic assessments of the Copeland Creek and Maacama Creek watersheds in support of watershed assessments.
- Coast Dairies Hydrologic Assessment: In 2002 to 2003, Mr. Jackson performed a hydrologic assessment of the Coast Dairies property near Davenport, Ca to assist the preparation of a land management plan for Trust for Public Land.
- Mitteldorf Watershed Assessment: In 2002, Mr. Jackson participated with staff and students of CSUMB to perform a watershed assessment of the Mitteldorf Preserve owned by the Big Sur Land Trust.
- Pescadero Watershed Assessment: Mr. Jackson performed a hydrologic assessment of the Pescadero Creek watershed as part of an overall watershed assessment in 2003.
- Restoration Assessment for the Pescadero Natural Reserve: As a subcontractor, Mr. Jackson prepared a hydrologic assessment of the Pescadero Marsh preserved owned by State Parks Department in 2002-2003.
- Co-author of *Creating a Watershed Atlas and Monitoring Program: Watershed Stewardship Workbook*. The purpose of the book is to guide watershed groups to assess their watershed and help them design a monitoring program based on their assessment. The program is specifically aimed at the tributary watersheds of the Russian River.
- Garcia River Monitoring and Enhancement Plan: Mr. Jackson participated in preparing the Garcia River Enhancement Plan. In 1991, he laid out a series of cross sections on the Garcia River and estuary to monitor changes in the channel bed. Mr. Jackson has re-surveyed the cross section network each year since 1991. Mr. Jackson performed an extensive analysis of the USGS stream gaging records for the Garcia River. His analysis showed that a sediment wave moved past the USGS gaging station between 1969 and 1983. He also assisted in installing and maintaining a stage-recording device at the former USGS gaging station.
- Garcia River Gravel Management Plan: Increasing pressure for the gravel extraction industry created a need to prepare a gravel management plan for the Garcia River. Mr. Jackson was able to obtain a grant from the State Water Resources Control Board to prepare the gravel management plan. Mr. Jackson negotiated a contract with the USGS to collect total load sediment data on the Garcia River. As part of this effort, Mr. Jackson installed river stage recorders at two additional

locations on the Garcia. He also took stream flow measurements and constructed rating tables for the sites with stage recorders.

- Russian River Enhancement Plan: The Coastal Conservancy funded an extensive investigation of the entire mainstem of the Russian River. Mr. Jackson directed the Mendocino County portion of the study. Mr. Jackson facilitated the advisory committee meetings, collected field data, coordinated with the contractor preparing the enhancement plan and was the Mendocino County contact with the Coastal Conservancy.
- Russian River Gravel Management Plan: Mr. Jackson was hired by the Mendocino County Water Agency to study in-stream gravel extraction in the Russian River. The Russian River is severely incised resulting in unstable banks, loss of ground water storage and damage to public works such as bridges and pipelines. Mr. Jackson established a network of monitoring cross sections in 1989. He also conducted an extensive analysis of the USGS gaging station records on the Russian River. His analysis showed that the bed was incising prior to the construction of Coyote Dam. Mr. Jackson was able to obtain a grant from the State Water Resources Control Board to prepare a gravel management plan. The grant funding allowed Mr. Jackson to continue monitoring the cross section network and to retain the USGS to collect total load sediment data for the Russian River.
- Russian River Restoration Program: Mr. Jackson is currently participating in a multi-year effort to restore the riparian wetlands of the Russian River system in conjunction with local agencies and landowners. His work has included a regionalization of flood frequency data for the Russian River tributaries and developing a method to estimate channel dimensions based on watershed area. He is also providing technical assistance to an extensive volunteer monitoring program with watershed residents and landowners in creek and watershed restoration in the tributary basins. He is the co-author of a handbook for volunteer stream monitors prepared for the Sotoyome Resource Conservation District in Santa Rosa, CA. The handbook guides volunteers in obtaining a watershed perspective. The larger perspective is essential in designing a meaningful monitoring program.
- Russian River Watershed – A Voluntary Cooperative Approach for Attaining Water Quality Objectives: The Sotoyome Resource Conservation District had 319(h) grant to fund several water quality improvement. Mr. Jackson was the grant's Project Director. The grant included landowner/volunteer water quality monitoring, development of bioassessment reference conditions, cooperative projects with two high schools and work with dairymen to reduce water pollution from animal waste.
- Redwood Valley Ground Water Study: Mr. Jackson negotiated approval for a cooperative study of the ground water resources of Redwood Valley. The Redwood Valley Water District was under a court ordered moratorium until additional water supplies could be found. Mr. Jackson convinced the Water District's Board of Directors that it would be beneficial to engage the USGS to take a thorough look at the ground water supplies within their District. Mr. Jackson collected data and worked closely with the USGS during the study.
- Review of Proof of Water Tests: The town of Mendocino is on a coastal headland. Water supply is a critical issue within the Mendocino City Community Services District (MCCSD). The state of California granted MCCSD the authority to manage ground water within the District's boundaries. The District requires all new wells to perform a proof-of-water test to demonstrate

that the new well will not impact existing wells. As the Hydrologist for MCWA, Mr. Jackson reviewed and commented on proof-of-water tests done for the MCCSD. Mr. Jackson also reviewed ground water studies for the Mendocino County Division of Environmental Health. He also reviewed and commented on the hydrologic aspects of projects before the Mendocino County Planning Department. The projects ranged from subdivisions to zoning changes and quarries.

- CEQA compliance: Mr. Jackson has extensive experience as a government project manager in the preparation and review of all aspects of EIRs.
- Public outreach and advisory committees: Mr. Jackson has directed projects involving regular meetings of project advisory committees and public workshops. These committees can be essential to the success of a large project, but are also often contentious and require considerable skill and experience to direct and gain any agreement among the members. Both the Garcia River and Russian River projects utilized committees, created and directed by Mr. Jackson.

EDUCATION

M.S. Physical science with an emphasis in hydrology
California State University, Chico

Graduate studies in hydrology
University of Arizona

B.A. Mathematics with honors
Humboldt State University

PROFESSIONAL WORKSHOPS

Stream Restoration & Classification

Course was taught by David Rosgen in South Lake Tahoe. The course covered a review of stream mechanics and an introduction to Rosgen's stream classification system. The also covered the design of stream restoration projects based on Rosgen's classification system and the principles of geomorphology. Several field trips to restoration projects in the Tahoe basin provided practical hands-on experience.

Sediment Data Collection Techniques

The U.S. Geological Survey in Vancouver, Washington gave the course. The course covered the theory of river mechanics and sediment transport; methods of collecting suspended sediment and bed load data; the design of sampling equipment; and field trips to sediment sampling stations on the Tousle River and the USGS sediment laboratory.

Alluvial Systems

The U.S. Geological Survey gave the course at their national training center in Boulder, Colorado. The course covered the role of fluvial processes in shaping the modern landscape with an emphasis on river morphology. The course combined lectures, discussion sessions, fieldwork and hands-on exercises.

EXHIBIT 2



SMITH ENGINEERING & MANAGEMENT

April 24, 2009

Mr. Tom Lippe
Lippe Gaffney Wagner LLP
329 Bryant St.; Suite 3D
San Francisco, CA 94107

Subject: Wal-Mart Regional Distribution Center Draft Environmental Impact Report, Merced, CA (SCH# 2006071029)

P09004

Dear Mr. Lippe:

Per your request, I have reviewed the Draft Environmental Impact Report (hereinafter "the DEIR") and supporting documentation for the proposed Wal-Mart Regional Distribution Center (hereinafter "the Project") in the City of Merced (hereinafter "the City"). The focus of my review is in regard to matters involving traffic and circulation. My qualifications to perform this review include registration as both a Civil and Traffic Engineer in California and 40 years professional consulting practice in these fields. I have both prepared and reviewed and commented on the traffic and circulation components of numerous environmental impact documents under the California Environmental Quality Act (hereinafter "CEQA"). My professional resume is attached. My comments follow.

The DEIR Traffic Study Fails To Disclose Project Impacts By Comparing a Projected Existing + Project Scenario to Existing Traffic Conditions

The DEIR Traffic Study is inadequate because it lacks an analysis of the 'Existing + Project' traffic scenario as the basis for measuring Project traffic impacts. CEQA Guidelines € 15125(a) states that the ordinary baseline for measuring project traffic impacts is the existing environment at the time the Notice of Preparation was issued or, in circumstances where there is no NOP, the environmental conditions that existed when environmental analysis commenced. No such analysis of the Project's impacts on this baseline is provided in the DEIR. Instead, the DEIR evaluates Project impacts versus a hypothetical near term future scenario (intended to be representative of Year 2010 conditions). This is an analysis of the Project's near term cumulative impacts; not its direct impacts.

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The Year 2010 Cumulative Analysis in the DEIR Masks the Project's Impacts By Assuming an Unrealistic Level of Concurrent Development

The DEIR examines the Project's impacts against a hypothetical near term future traffic baseline condition assumed to be representative of Year 2010. The principal distinction between existing traffic conditions and the hypothetical near term baseline that was analyzed is that the hypothetical baseline assumes that some 1853 residential housing units will be constructed and occupied in the immediate area of the Project by Year 2010 and will be generating traffic onto the area roadway system at normal residential trip rates, creating a total new traffic loading in excess of 16,500 new trips. The hypothetical scenario also assumes that non-residential uses in the immediate area that would generate in excess of 12,000 vehicle trips daily would be developed by 2010. The problem with this is that, in today's economic climate, very few of those units are likely to be completed, sold and occupied by Year 2010.

While those preparing the DEIR and Project advocates might argue that the hypothetical 2010 baseline, in essence a near-term cumulative scenario, constitutes more of a worst-case condition for measuring the Project's impacts, this assertion is not correct. The hypothetical 2010 baseline scenario is unlikely to become reality because of the chaos in the housing and retail markets; many of the approved developments are unlikely to be completed and/or occupied in the time frame originally contemplated. While traffic level of service (LOS) on the area roadway system in the Existing Condition is generally highly adequate, in the hypothetical and unrealistic 2010 scenario of the DEIR, traffic conditions at many locations in the area are forecast to already have deteriorated to unacceptable levels before Project traffic is added. If the Project had been evaluated against existing traffic baseline conditions or a realistic representation of likely 2010 conditions, it might have been shown to be the agent that causes traffic conditions to degrade from 'acceptable' to 'unacceptable' at some locations, hence having direct Project traffic impacts. By measuring its impacts against an unrealistically inflated hypothetical future baseline, the DEIR casts the Project in the more palatable light of making traffic contributions to *already deficient* locations rather than being the direct cause of them going deficient. Moreover, because the DEIR measures the Project's impacts against a hypothetical scenario where traffic conditions have already deteriorated to unacceptable levels of service, it creates a situation where Project traffic must exceed a higher threshold to be found significantly impactful than if acceptable LOS thresholds had not already been exceeded at the critical locations. If traffic is at an acceptable LOS, the Project merely has to cause LOS to degrade to an unacceptable condition (which could result from a very small increment of traffic. But if LOS is already unacceptable in the "baseline" condition, the Project must add at least 5 percent to the total traffic using a road segment or intersection to be found significantly impactful. In the actual DEIR analysis, 4 intersections in

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the am peak and 5 intersections in the pm peak that operate at very acceptable LOS in the existing condition are found to be in excess of acceptable LOS in the 2010 Baseline No Project condition. The Project, which does add traffic to these intersections, escapes being found significantly impactful because its traffic contribution is less than 5 percent of the traffic in the overstated 2010 Baseline No Project scenario.

The inflated 2010 scenario the DEIR uses as a baseline to measure Project traffic impacts also creates the false impression that there will be many fair share payers toward area traffic mitigations, when in fact, because some developments will be deferred, these fair share funds may not emerge until long after the time traffic impacts are experienced.

The entire traffic analysis should be redone in light of a baseline that respects CEQA Guidelines € 15125(a) and the concurrent development reasonably likely considering the current development economy.

The DEIR Traffic Analysis Underestimates the Project's Trip Generation

The DEIR's estimate of the Project's trip generation is non-representative of the Project's full potential. According to Section 1.2 of the Appendix E Traffic Study, the trip generation is based on observations taken in the month of August at the Wal-Mart Regional Distribution Center in Apple Valley, CA. Sales of consumer shopping goods in some months are vastly higher than in August. The Institute of Transportation Engineers publication *Trip Generation,* an authoritative data source, indicates that activity at shopping centers in the peak month of the year is 39 percent higher than in August. Movement of goods into and out of the Wal-Mart distribution center would logically be higher by about the same proportion. Hence, the trip generation estimates, particularly the estimates of truck traffic, do not represent a peak or 'design level' or necessarily even an average trip generation for the Project.

Furthermore, there are other indications that the DEIR understates Project trip generation. For example, the DEIR estimates that the Project would generate 1756 auto trips each day. The Project description indicates the Center would have 1200 employees. It is reasonable to assume that each employee makes a trip to work and a trip home each day; in other words, that there are 2400 employee commute trips to and from the Project site each day. If it is assumed that all of the 1756 projected auto trips to and from the Project site daily are used for trips to and from work by the 1200 employees, that would imply that the employees travel to and from work at an average vehicle occupancy rate of 1.37 persons per car. This occupancy rate is highly implausible since average vehicle occupancy in similar areas is typically about 1.10. In addition, since many employee shifts apparently start and end in off-peak times, there is little incentive

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for ride sharing and virtually no likelihood of transit usage for commuting. The occupancy rate is even more implausible when it is realized that some of the 1756 trips that are projected must be accounted for by trips other than the commute trips of employees. Logically, a portion of those 1756 daily trips must be used for other non-commute trips (such as ordinary business callers, people seeking employment and by employees departing and returning in mid-shift for lunch or personal business). Since some of the 1756 auto trips the DEIR estimates must logically be accounted for by non-commute trips, the actual vehicle occupancy among worker commute trips implicit in the DEIR trip generation would actually be even larger than the 1.37 persons per car occupancy rate noted above, that is already unrealistically high. Therefore, the DEIR's estimate of auto trip generation of the project must be significantly understated. If it is assumed that the employee's average vehicle occupancy on commute trips is a realistic 1.10 persons per vehicle and that there would be 100 non-commute auto trips to and from the site each day, the net auto trip generation for the Project would be 2282, 30 percent higher than the 1756 trips the DEIR estimates.

The entire traffic analysis should be redone, factoring the August distribution center data to account for the additional traffic resulting from monthly variations in retail demand (which would logically alter truck and auto traffic at the distribution center) and also adjusting the auto trip generation to reasonably account for total employee commute traffic and other non-commute traffic.

The DEIR Fails To Analyze Residential Traffic Impacts of the Project

Many of the streets that would carry project traffic are residential in character. The entirety of the DEIR traffic analysis is focused on congestion, delay and levels of traffic service (LOS). No attempt has been made to estimate, disclose and mitigate the Project's traffic impacts on residential quality of life along the affected streets. The City of Merced adopted Neighborhood Traffic Calming Guidelines in January 2008. The DEIR makes no effort to evaluate whether Project traffic conforms to or conflicts with the goals and policies of the adopted traffic calming guidelines. The DEIR is deficient in its failure to address those issues.

The DEIR's Analysis of Truck Traffic Appears Flawed

The basis of truck trip distribution seems inconsistent with the service area of the Project. The DEIR states on page 4.11-21 that "the direction of approach and departure for project trips of the proposed Wal-Mart Distribution Center were estimated bases on the regional distribution of residences in Merced County and around the study area". However, the distribution of the Center's truck traffic would logically be more greatly affected by other factors – the locations of the nearest other Wal-Mart Distribution Centers and the locations of the Wal-Mart

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stores in the area the Merced Center is closest to. Since, according to DEIR page 3-4, the nearest other distribution centers are Porterville to the South and Red Bluff to the north, the pattern of outgoing truck shipments would be dictated by the locations of the Wal-Mart stores in an area extending about half-way to Porterville (in other words, extending about 65 miles south) and extending about half way to Red Bluff on the north (in other words, extending about 125 miles north), extending to the Pacific Coast on the west and an unspecified distance to the east. While there is some logic to the DEIR's assumption that most trucks would approach and depart the Project area via SR 99 or SR 152, there is no guarantee that project traffic and trucks approaching and departing the Project area via SR 99 to and from the north would use the Mission Interchange and Campus Parkway between SR 99 and the site. Even though the Project proposes to take all its access on the south side (from Gerard Avenue), there is no guarantee that traffic to and from the north on SR 99 will not transition from Gerard Avenue to E. Childs Avenue, taking the more direct route to/from 99 north via the E. Childs interchange. The DEIR should analyze the more realistic probability that traffic between the site and SR 99 will be split between Campus Parkway and E. Childs and assess impacts accordingly.

There Is No Apparent Connection Between the DEIR Traffic Study and the DEIR Air Quality Analysis

The traffic assumptions input to the URBEMIS air quality model are not documented anywhere in the traffic section of the DEIR or its Appendix (E). The DEIR must document a direct quantified relationship between the traffic analyses and the traffic estimates assumed in the air quality modeling.

Project Site Access Is Not Evaluated in the DEIR

Although Project access is limited to two points, both intersecting Gerard Avenue, the DEIR does not include any analysis of the Project's access intersections. Such an analysis should be provided.

Although the project description claims that the Project will provide a parking area for trucks that arrive at hours when the Project's receiving gates are closed and the traffic study, in Section 4.9 of Appendix E, hints at the truck parking problems in the area when trucks bringing inbound goods arrive when receiving gates are closed, the Project site plan in the DEIR shows no such parking area. The reality is that Wal-Mart has little control over the arrival times of trucks owned or contracted-for by shippers of goods from distant points of the country or overseas. Such trucks tend to frequently arrive when receiving gates are not open, and when that happens, truckers will normally park to wait in the area, often parking in inappropriate locations such as residential neighborhoods. The

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DEIR should explicitly identify an on-site parking area for off-hours arrivals or disclose the off-site truck parking condition as a potentially significant impact.

Conclusion

Based on all of the points noted in detail above, we are convinced the DEIR traffic analysis of the Project's significant impacts and mitigation needs is inadequate. The traffic analysis should be completely redone in light of all of the above comments and observations herein and the DEIR should be recirculated in draft status.

Sincerely,

Smith Engineering & Management
A California Corporation



Daniel T. Smith Jr., P.E.

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SMITH ENGINEERING & MANAGEMENT

DANIEL T. SMITH, Jr.
President

EDUCATION

Bachelor of Science, Engineering and Applied Science, Yale University, 1967
Master of Science, Transportation Planning, University of California, Berkeley, 1968

PROFESSIONAL REGISTRATION

California No. 21913 (Civil)
California No. 938 (Traffic)
Nevada No. 7969 (Civil)
Washington No. 29337 (Civil)
Arizona No. 22131 (Civil)

PROFESSIONAL EXPERIENCE

Smith Engineering & Management, 1993 to present. President.
DKS Associates, 1979 to 1993. Founder, Vice President, Principal Transportation Engineer.
De Leuw, Cather & Company, 1968 to 1979. Senior Transportation Planner.
Personal specialties and project experience include:

Litigation Consulting. Provides consultation, investigations and expert witness testimony in highway design, transit design and traffic engineering matters including condemnations involving transportation access issues; traffic accidents involving highway design or traffic engineering factors; land use and development matters involving access and transportation impacts; parking and other traffic and transportation matters.

Urban Corridor Studies/Alternatives Analysis. Principal-in-charge for State Route (SR) 102 Feasibility Study, a 35-mile freeway alignment study north of Sacramento. Consultant on I-280 Interstate Transfer Concept Program, San Francisco, an AA/EIS for completion of I-280, demolition of Embarcadero freeway, substitute light rail and commuter rail projects. Principal-in-charge, SR 238 corridor freeway/expressway design/environmental study, Hayward (Calif.) Project manager, Sacramento Northeast Area multi-modal transportation corridor study. Transportation planner for I-80N West Terminal Study, and Harbor Drive Traffic Study, Portland, Oregon. Project manager for design of surface segment of Woodward Corridor LRT, Detroit, Michigan. Directed staff on I-80 National Strategic Corridor Study (Sacramento-San Francisco), US 101-Sonoma freeway operations study, SR 92 freeway operations study, I-880 freeway operations study, SR 152 alignment studies, Sacramento RTD light rail systems study, Tasman Corridor LRT AA/EIS, Fremont-Warm Springs BART extension plan/EIR, SRs 70/99 freeway alternatives study, and Richmond Parkway (SR 93) design study.

Area Transportation Plans. Principal-in charge for transportation element of City of Los Angeles General Plan Framework, shaping nations largest city two decades into 21'st century. Project manager for the transportation element of 300-acre Mission Bay development in downtown San Francisco. Mission Bay involves 7 million gsf office/commercial space, 8,500 dwelling units, and community facilities. Transportation features include relocation of commuter rail station; extension of MUNI-Metro LRT; a multi-modal terminal for LRT, commuter rail and local bus; removal of a quarter mile elevated freeway; replacement by new ramps and a boulevard; an internal roadway network overcoming constraints imposed by an internal tidal basin; freeway structures and rail facilities; and concept plans for 20,000 structured parking spaces. Principal-in-charge for circulation plan to accommodate 9 million gsf of office/commercial growth in downtown Bellevue (Wash.). Principal-in-charge for 64 acre, 2 million gsf multi-use complex for FMC adjacent to San Jose International Airport. Project manager for transportation element of Sacramento Capitol Area Plan for the state governmental complex, and for Downtown Sacramento Redevelopment Plan. Project manager for Napa (Calif.) General Plan Circulation Element and Downtown Riverfront Redevelopment Plan, on parking program for downtown Walnut Creek, on downtown transportation plan for San Mateo and redevelopment plan for downtown Mountain View (Calif.), for traffic circulation and safety plans for California cities of Davis, Pleasant Hill and Hayward, and for Salem, Oregon.

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Transportation Centers. Project manager for Daly City Intermodal Study which developed a $7 million surface bus terminal, traffic access, parking and pedestrian circulation improvements at the Daly City BART station plus development of functional plans for a new BART station at Colma. Project manager for design of multi-modal terminal (commuter rail, light rail, bus) at Mission Bay, San Francisco. In Santa Clarita Long Range Transit Development Program, responsible for plan to relocate system's existing timed-transfer hub and development of three satellite transfer hubs. Performed airport ground transportation system evaluations for San Francisco International, Oakland International, Sea-Tac International, Oakland International, Los Angeles International, and San Diego Lindberg.

Campus Transportation. Campus transportation planning assignments for UC Davis, UC Berkeley, UC Santa Cruz and UC San Francisco Medical Center campuses; San Francisco State University; University of San Francisco; and the University of Alaska and others. Also developed master plans for institutional campuses including medical centers, headquarters complexes and research & development facilities.

Special Event Facilities. Evaluations and design studies for football/baseball stadiums, indoor sports arenas, horse and motor racing facilities, theme parks, fairgrounds and convention centers, ski complexes and destination resorts throughout western United States.

Parking. Parking programs and facilities for large area plans and individual sites including downtowns, special event facilities, university and institutional campuses and other large site developments; numerous parking feasibility and operations studies for parking structures and surface facilities; also, resident preferential parking .

Transportation System Management & Traffic Restraint. Project manager on FHWA program to develop techniques and guidelines for neighborhood street traffic limitation. Project manager for Berkeley, (Calif.), Neighborhood Traffic Study, pioneered application of traffic restraint techniques in the U.S. Developed residential traffic plans for Menlo Park, Santa Monica, Santa Cruz, Mill Valley, Oakland, Palo Alto, Piedmont, San Mateo County, Pasadena, Santa Ana and others. Participated in development of photo/radar speed enforcement device and experimented with speed humps. Co-author of Institute of Transportation Engineers reference publication on neighborhood traffic control.

Bicycle Facilities. Project manager to develop an FHWA manual for bicycle facility design and planning, on bikeway plans for Del Mar, (Calif.), the UC Davis and the City of Davis. Consultant to bikeway plans for Eugene, Oregon, Washington, D.C., Buffalo, New York, and Skokie, Illinois. Consultant to U.S. Bureau of Reclamation for development of hydraulically efficient, bicycle safe drainage inlets. Consultant on FHWA research on effective retrofits of undercrossing and overcrossing structures for bicyclists, pedestrians, and handicapped.

MEMBERSHIPS

Institute of Transportation Engineers Transportation Research Board

PUBLICATIONS AND AWARDS

Residential Street Design and Traffic Control, with W. Homburger *et al.* Prentice Hall, 1989.

Co-recipient, Progressive Architecture Citation, *Mission Bay Master Plan*, with I.M. Pei WRT Associated, 1984.

Residential Traffic Management, State of the Art Report, U.S. Department of Transportation, 1979.

Improving The Residential Street Environment, with Donald Appleyard et al., U.S. Department of Transportation, 1979.

Strategic Concepts in Residential Neighborhood Traffic Control, International Symposium on Traffic Control Systems, Berkeley, California, 1979.

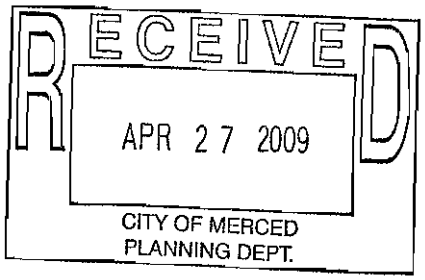
Planning and Design of Bicycle Facilities: Pitfalls and New Directions, Transportation Research Board, Research Record 570, 1976.

Co-recipient, Progressive Architecture Award, *Livable Urban Streets, San Francisco Bay Area and London*, with Donald Appleyard, 1979.

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EXHIBIT 3



April 27, 2009

Memo

To: Tom Lippe, Lippe Gaffney Wagner LLP

From: Philip King, Ph.D.

Re: Comments on DEIR for proposed Wal-Mart Distribution Center in Merced, CA

Attached: Curriculum Vita

I have examined the DEIR for the proposed Wal-Mart Distribution Center in Merced, CA and have several questions and comments.

1. The DEIR has virtually no discussion of Wal-Mart's future plans and how this distribution center fits into these plans. It seems reasonable to assume that Wal-Mart's plan to build a new distribution center also reflects its continuing expansion in California, in particular the north central valley. However there is no discussion of future stores or the role that this distribution center will play. Clearly, Wal-Mart is already servicing current retail operations in the area. Wal-Mart has already announced plans to build new retail stores in a number of locations which would be serviced by this center, for example in Tracy, Clovis, Sonora, etc., and a number of other stores have been discussed in the media. Yet this EIR only discusses the distribution center servicing existing stores.

a. As Wal-Mart expands, how will this affect the distribution center and the analysis contained in the EIR?

b. Are there any guarantees that traffic, air quality and other impacts will not be much more severe than discussed in the EIR due to Wal-Mart's continued expansion?

c. How can an EIR simply ignore future expansion? This is inadequate.

The full environmental impacts, traffic, air quality, noise, urban decay, etc., are all **directly** related to the volume of business that will be generated by this distribution center and the volume of business is directly related to the number of stores that this distribution center will service. Yet, the EIR is vague about these issues. It refers to full build-out, but when one examines the DEIR carefully, many of the estimates made are based on servicing the 49 existing stores. For example, in Table 4.3-7 on page 4.2-36, the DEIR states that:

"4. It is assumed that the average trip distance for all 322 outbound delivery truck trips would be equal to the average trip distance (in the San Joaquin Valley Air Basin) from the proposed distribution center to the 49 existing Wal-Mart stores that would be served by the Merced Distribution Center…" (Emphasis added.)

And it goes on to say that estimates:

"...are based on existing conditions data provided by Wal-Mart for the 49 existing stores that would be supplied by the Merced Distribution Center..."

This statement implies that the DEIR only considered current retail operations, but CEQA requires an analysis of "reasonably foreseeable" future retail operations if such information is relevant to potential environmental impacts, as it clearly is here.. This does not mean the exact locations of every future store, but at a very minimum it does mean the following:

a. An estimate of the number of retail stores (and total retail square footage) that this distribution center will service at full build-out;

b. A reasonably accurate estimate of the number of Supercenters that this distribution center is expected to service at full build-out.

c. A list of planned, proposed and anticipated new stores that would be serviced by this distribution center.

Urban Decay

2. I am concerned that the DEIR contains no analysis of potential urban decay impacts. There is a very brief discussion of potential retail impacts (see below) but no mention of the most salient fact here—that **this distribution center is very close to a residential development with hundreds of homes/finished home sites**. It is unusual to locate a large distribution center in such close proximity to a significant residential area. The EIR points out that the area is zoned for industry. However, not all industries are alike in their impacts. According to the EIR, there will be close to 800 truck trips per day (equivalent, on average to a truck either coming or going more often than once a minute) within a few hundred feet of existing residences. Moreover, these truck trips will not be limited to business hours, but will be 24 hours a day (as the EIR's analysis itself indicates in a traffic study of a similar center, not located in such close proximity to housing) implying truck trips every few minutes in the middle of the night with accompanying noise, pollution, etc..

3. Different industrial uses can have substantially different impacts on local residences, so one cannot dismiss the impacts on local neighbors merely because land deemed industrial was placed adjacent to land planned for residences.

4. In the economics profession there is a long and well established literature on the impacts of traffic, noise, air pollution and other industrial operations on local housing prices and on the potential for future development. As one would expect, all of these impacts have a negative impact on housing markets and prices. Even if the air, noise and other requirements for CEQA are met, an urban decay analysis should have been conducted to examine the cumulative effects of all of these actions on the fragile housing market adjacent to the proposed site.

5. Further, the Merced housing market is one of the worst in the State and the country, with a very high foreclosure rate. I visited the residential developments near the proposed site. There were an unusually high number of "For Sale" signs

as well as a number of homes that appeared abandoned—no signs of occupancy, lawns had not been mowed for months, etc. Unfortunately, these are the classic signs of a neighborhood where foreclosures are rampant.

6. It is clear from even a casual observation that these developments are struggling. Streets have been constructed, fire hydrants and sidewalks have been built and electrical/water hookups can be seen in front yards of vacant lots. This is not a healthy sign—clearly housing development was stopped dead in its tracks as the housing market turned down nationwide. It will be challenging to resurrect these projects and the addition of a distribution center with roughly 800 truck trips per day will make it extremely difficult. Consumers who wish to buy homes have many alternatives in today's over supply and they will not wish to locate in this area. Consequently, if the distribution center is built, housing prices will continue to fall in the area even after the rest of the market recovers. This, in my professional opinion, will eventually lead to urban decay and was not analyzed in the EIR. The hundreds of vacant lots in the area can easily become a center for crime and drug trade, especially as more houses are foreclosed on and become abandoned.

7. Lower housing prices also create a vicious circle for current tenants since it will be harder for them to refinance their houses or work with their lenders.

8. Even if the DEIR concludes that air, traffic, noise and other environmental impacts are less than significant in terms of CEQA standards, the cumulative urban decay impacts of these effects on a local housing market which is already fragile, could be significant. I have sufficient concerns here that I believe it should have been examined in the EIR.

Potential Urban Decay as a Result of Retail Expansion

9. The EIR briefly mentions the possibility that the distribution center could cause urban decay through the development of new retail centers, but it dismisses urban decay entirely while providing no evidence for this dismissal. The introduction to the DEIR makes it clear that there is some potential for urban decay:

"...it is possible that the project could support the operation of new Wal-Mart retail stores. Depending upon where retail stores are built, it is possible that such construction could contribute to urban decay in a nearby community." (DEIR, Introduction, p.3)

However, as pointed out above, the DEIR gives no estimates or analysis of the expansion of retail in the area and hence how can one adequately evaluate potential urban decay? Clearly a distribution center is an integral part of Wal-Mart's retail operations and hence an integral part of any potential urban decay impacts. At a minimum Wal-Mart should disclose how much new retail this distribution center will support.

10. It also is worth mentioning that California's central valley has been hit hard by the downturn in the housing market, drought, and corresponding downturn in

retail, at both a national and local level. Thousands of retail stores are closing nationwide. Given this background, it is even more imperative that a proper analysis of urban decay needs to be provided.

11. Further, since urban decay is generally a local impact, a complete and adequate analysis should disclose specific sites or plans for future stores, yet this DEIR does not even discuss future stores which are already in the public record. Without this information it is impossible to conclude that urban decay is not an issue or for the public to provide substantial evidence of potential urban decay—this is inconsistent with CEQA and good planning.

12. Although economic/fiscal impact is not part of the CEQA process, much has been made of the thousand or so jobs that Wal-Mart claims this project will create. I would like to point out that it is likely that most of these jobs will go to people who live outside Merced. While the EIR points out the jobs that could potentially be created, there is no mention of increased police/enforcement/maintenance costs of having 800+ trucks a day come through town. In particular, roughly half of these truckers will be independent truckers delivering supplies to the distribution center. Wal-Mart has much less control over these operators. If other distribution centers are any guideline, many of these trucks will park on the road while drivers (sometimes with families) sleep, wait for a time to off-load their goods, etc. In addition to creating potential hazards for Merced's residents, the abatement costs to local police and other City of Merced employees will be significant and should be factored into an analysis by the City, even if CEQA does not require such an analysis.

13. The DEIR appears to have little mitigation for many of the issues raised above. The preparers of the DEIR seem to dismiss many serious issues. If these issues are not serious, as the DEIR claims, then placing mitigation and penalties for noncompliance would not place a burden on Wal-Mart or the project. However, if these issues are indeed serious, such measures would help with compliance. I think it is foolish to build this distribution center so close to schools and residences, but should the project move forward, strict limits must be placed on such things as trucks parking on the side of the road and trucks idling for hours on end. Merely giving assurances that such things will not happen is insufficient and, frankly, dishonest. The City of Merced should demand enforceable guarantees with penalties which are enforceable—otherwise the City and its residents will bear the expense.

In short, it is my opinion that there is a substantial and significant possibility for urban decay to occur as a result of this project. First and foremost, the neighboring residential area is already vulnerable as discussed above. Second, I also have concerns about retail urban decay impacts that would result as a direct result of this project. Further, I am concerned that the DEIR fails to actually analyze the true build-out of the project once these retail stores are built. The failure of the DEIR to address all of these issues properly is a serious omission.

PHILIP G. KING

Economics Department, San Francisco State University

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Education:

July, 87	**Ph.D. in ECONOMICS**	**CORNELL UNIVERSITY**
	Fields: Applied Microeconomics, Economic Development, International Economics **Dissertation**: Bargaining between Multinational Corporations and Less Developed Countries over Mineral Concessions Contracts.	
May, 78	**B. A. in PHILOSOPHY & ECONOMICS**	**WASHINGTON UNIVERSITY**
	Nominated to Omicron Delta Epsilon (Economics Honor Society.)	

Work Experience:

1/06-present	**ASSOCIATE PROFESSOR**	**SAN FRANCISCO STATE UNIVERSITY**
9/02-12/05	**CHAIR, ECONOMICS DEPARTMENT**	**SAN FRANCISCO STATE UNIVERSITY**
9/93-present	**ASSOCIATE PROFESSOR**	**SAN FRANCISCO STATE UNIVERSITY**
9/87-9/93	**ASSISTANT PROFESSOR**	**SAN FRANCISCO STATE UNIVERSITY**
9/83-5/85	**ASSISTANT PROFESSOR, ECONOMICS**	**S.U.N.Y. at CORTLAND**

Policy Papers prepared for Government and Non-Profit Organizations:

Contributed Economics portion of Regional Sediment Master Plan for BEACON (Beach Erosion Authority for Clean Oceans and Nourishment—Santa Barbara and Ventura Counties), February 2009, with Noble Consultants.

ESTIMATING THE POTENTIAL ECONOMIC IMPACTS OF CLIMATE CHANGE ON SOUTHERN CALIFORNIA BEACHES, prepared for the California Energy Commission (Energy Commission) and the California Environmental Protection Agency (Cal/EPA), with Linwood Pendleton, Craig Mohn, D. G. Webster, Ryan K. Vaughn, and Peter Adams.

Economic Analysis of a Proposed Ordinance to Limit Grocery Sales at Superstores in Stockton, California (with Sharmila King), prepared for the City of Stockton. May 2007.

Contributed Economics Portion of: "The ARC GIS Coastal Sediment Analysis Tool: A GIS Support Tool for Regional Sediment Management Program: White Paper, Draft Technical Report for U.S. Army Corps of Engineers, by Ying Poon (Everest Consultants), Los Angeles District, April 2006.

Contributed Economics Portion of: "Coastal Sediment Analysis Tool (CSBAT) Beta Version--Sediment Management Decision Support Tool for Santa Barbara and Ventura Counties," Draft Technical Report for U.S. Army Corps of Engineers, by Ying Poon (Everest Consultants), Los Angeles District, June 2006.

"The Economic of Regional Sediment Management in Ventura and Santa Barbara Counties," prepared for the California State Resources Agency, Final draft (refereed) , Fall 2006, prepared for the Coastal Sediment Management Work group (CSMW).

"The Potential Loss in GNP and GSP from a failure to Maintain California's Beaches," with Douglas Symes, prepared for the California State Resources Agency, 2002, http://userwww.sfsu.edu/~pgking/pubpol.htm.

"The Economic and Fiscal Impact of Beach Recreation in San Clemente," presented as part of Hearings on Congressional Appropriations for California Coastal Projects, US House of Representatives, April 2002. Also completed similar projects for Cities of Carlsbad, Carpinteria, Encinitas, and Solana Beach.

San Francisco's Economic Growth 1995-2000: The Fiscal Health of the City and Implications for the Future," prepared for the San Francisco Committee on Jobs Summer 2001. This report was widely cited in the San Francisco press including front page articles by the *Chronicle* and *Examiner*.

"The Fiscal Impact of Beaches in California," prepared for the *Public Research Institute*, San Francisco State University, Fall 1999, available at http://online.sfsu.edu/~pgking/beaches.htm.

"An Economic Analysis of Coastal Resources on the Majuro Atoll," prepared for the *United Nations Development Program* Project MAS 95/001/D01/99 and the *Majuro Atoll Local Government*, September, 1997.

"The Economic Impact of California's Beaches," prepared for the *Public Research Institute*, San Francisco State University, Summer, 1997 (with Michael Potepan.)

"The Economic Impact of California's Ports and Harbors," prepared for the *Public Research Institute*, San Francisco State University, Spring, 1997 (with Ted Rust).

Books: *International Economics and International Economic Policy*, 5th Edition, McGraw-Hill, 2009.

International Economics and International Economic Policy, 4th Edition, McGraw-Hill, 2004.

International Economics and International Economic Policy, 3rd Edition, McGraw-Hill, 2000.

International Economics and International Economic Policy, 2nd Edition, McGraw-Hill, 1995.

International Economics and International Economic Policy, 1st Edition, McGraw-Hill, 1990.

Published Papers:

"Potential Loss in GNP and GSP from a Failure to Maintain California's Beaches", Fall 2004, with Douglas Symes, *Shore and Beach* (**Refereed**).

"Do Beaches Benefit Local Communities?: A Case Study of Two California Beach Towns," Fall 2002, *Proceedings of the Conference on California and the World Oceans.*

"The Economic Value of California's Beaches," Fall 1997, *Proceedings of the Conference on California and the World Oceans* (with Michael Potepan.)

"Negotiations over Mineral and Petroleum Contracts in Developing Countries: a new explanation," Winter 1987, *Journal of Economics and International Relations.*

"A Political Theory of MNC-LDC Negotiations over Mineral Concessions Contracts," 1988, *International Interactions.*

Public Testimony:

Testified to Stockton City Council on a proposed Big Box Ordinance, May 2007

Testified and prepared report to the California Coastal Commission in San Diego on the economic loss due to a proposed seawall at Las Brisas, Solana Beach, California.

EXHIBIT 4



Visual Impact Analysis LLC

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April 27, 2009

Tom Lippe
Lippe Gaffney Wagner LLP
329 Bryant St.; Suite 3D
San Francisco, CA 94107

RE: REVIEW OF VISUAL RESOURCES SECTION DRAFT EIR: PROPOSED WAL-MART REGIONAL DISTRIBUTION CENTER

Dear Mr. Lippe:

At your direction, a review of the visual resources analysis, contained in the Draft Environmental Impact Report: Proposed Wal-Mart Regional Distribution Center, was conducted to determine conformance with the environmental evaluation requirements of the "CEQA Guidelines." The review comprised information from the following materials from the Draft EIR:

1. Chapter 3. Project Description
2. Chapter 4.13. Visual Resources
3. Chapter 6. Cumulative and Growth-inducing Impacts

PROJECT DESCRIPTION

According to Section 15124, Project Description, of the CEQA Guidelines, "....description of the project ....should not supply extensive detail beyond that needed for evaluation and review of the environmental impact."

The Project Description does not appear to provide sufficient information to conduct an adequate visual analysis and to determine the level of environmental effects from the proposed development. Significant and visually important details and components have been omitted or are unclear. They include, but are not limited to, the following:

Site Lighting. Although the type (metal halide lamps), height (45 feet), and average lighting level (0.5 foot candle) of the lamps are provided, no further details are provided that could have implications upon visual effects such as the type of poles (e.g., metal which could reflect), extent of shielding for the lights, orientation and the amount of coverage. While the average lighting level is given (presumably over the entire 230-acre site), it is unclear if there would be lamps that are significantly brighter than others. The Project Description does indicate that the lighting "....has not been designed based on a uniformity ratio." There is also no mention of possible lighting around loading bays.

Number, Location and Operation of Lights. The potentially large number of lighting poles and lamps and the location of the lights are not provided for a site that is 230 acres, including 1.1 million square feet of warehousing distribution structures. These details could have a bearing upon resultant visual impacts. What would be the operating hours of the lighting for the 24-hour facility?

Structures. The color of the warehouse and distribution structures (siding and roof tops) should be clarified. The photosimulations (along with existing buildings to the north of the project site) indicate that the color is likely to be white. The color will have a bearing upon the reflectivity of the structures during both day and night conditions.

Paving. The type of paving has not been detailed. Lighter versus darker paving could affect the amount of light reflectance, particularly during evening/early morning operations.

Fencing. No description of the fencing has been provided. Characteristics such as the type (e.g., chain link; chain link with slats; fine chain link), height, and color could have a bearing upon potential visual impacts.

Landscaping. While the Project Description indicates that the City would require a landscaping plan, that would include tree planting, as a condition of approval, not even preliminary details have been provided in this chapter of the Draft EIR. If the Project Description is to serve as the basis for the analysis of potential impacts and identification of mitigation measures, at least some further information (e.g., type and possible height of trees, planting intervals) needs to be provided.

VISUAL RESOURCES

The Visual Resources section of the Draft EIR has a number of shortcomings, resulting from the lack of detail and clarity, to adequately and fully disclose the potential impacts resulting from implementation of the proposed project. The lack of disclosure precludes the identification of meaningful and relevant mitigation measures and the opportunity for the public to make comments about the potential visual effects of the project as required by CEQA.

Following are comments based upon the review of the visual resources analysis.

Extent of Sensitive Viewers and Their Location. The discussion of the existing viewshed and the number and location of potentially sensitive viewers that might be affected by the project and their location is very general. Residences around the project site are noted, but not their density or approximate number. The distance of the project site facilities from the residences is not provided. Without this information, it makes it difficult to discern where the greatest impact to the greatest number of sensitive viewers might be and where the greatest amount of visual impact (e.g., areas of high illumination) might occur within the site and, ultimately, determination of whether an impact is significant or not.

Photosimulations. Inexplicably, the locations used to prepare the photosimulations for the visual resources analysis were all taken from sites adjacent to the project site. As part of visual analysis, view locations are typically selected based upon factors such as view sensitivity, public access, and land uses in which a greater number of viewers with the greatest sensitivity and duration of views are present. There

is no indication that the higher density residential areas to the west of the project site were considered or "represented" as part of any of the key viewpoints.

The photosimulations themselves do not include any perimeter fencing, landscaping, or lighting that should have been included as features to further give the reviewer a better idea of the actual visual appearance of the project facilities. Furthermore, the images used as the basis for the subsequent preparation of the photosimulations appear to have been taken with a "wide angle" lens. Use of a wide-angle lens setting would result in emphasis upon foreground detail and make the size of more distant details (i.e., structures) appear to be more distant than they would normally appear to the human eye.

Although the facility would be operated for a 24-hour period and extensive lighting would be installed at the site, no evening/early morning photosimulations were prepared as part of the analysis (see further discussion below under Impact 4.13-3.

Impact 4.13-2 Substantial Degradation of the Visual Character or Quality of the Site and Surroundings. There is determination that a potentially significant impact would occur upon the existing visual character of the site and surroundings and that implementation of mitigation measure 4.13-2 would result in a less than significant impact.

The analysis of the impact is very general for what is intended as a project-level CEQA document. It does not discuss the specific visual changes to the project and correlate them with the various and possibly varying views affected within differing locations in proximity to the site. Mitigation measure 4.13-2 (which should not be treated as a true "mitigation measure" since it's a requirement already mandated by the City) is a summary of measures that may or may not adequately address these possibly differing visual effects from a given view location (e.g., lighting or proximity to activities such as loading dock, truck traffic as discussed in the impact analysis). A preliminary landscaping plan should have been included as part of the proposed project description so that a potential impacts could be disclosed. As indicated in the Project Description comments, above, there are other factors (e.g., fencing, location of lights, color of structures) that may have implications associated with effects upon visual resources and have not been considered as part of either the proposed project or mitigation measure 4.13-2. Therefore, implementation mitigation measure 4.13-2 may result in a significant impact.

Impact 4.13-3 Create Substantial Light or Glare That would Affect Nighttime Views. Previously discussed in the Project Description comments, above, insufficient detail has been included to conduct an adequate analysis of the potential effects of light and glare that would affect nighttime/early evening views. As stated in the Draft EIR (page 4.13-14), "....except as noted above [very general description of height and light type], the project applicant has not provided any specific information that addresses potential lighting issues...."[underlined for emphasis]. Although the document concludes that outdoor lighting would result in a potentially significant impact, it does not identify the specific impacts nor does it discuss them as they may affect viewers within proximity to the site. Such specificity would affect the type/detail of mitigation measures that would be recommended to address the potential visual effects.

Examples of possible impacts from lighting could include reflectance off structural surfaces (walls and roofing since the lights are higher than the maximum 40-foot height of the buildings) and paving, lighting through gaps in landscaping (landscaping plan nothwithstanding given the interval between planted trees), glare and lights from trucks entering and exiting the facilities, and light from loading bays. Furthermore, while the effects of "sky glow" (identified as a significant impact) is briefly mentioned in

the "Cumulative and Growth-inducing Effects" chapter of the Draft EIR, the possible impact (and possible mitigation) was not identified or discussed as part of the Visual Resources section.

The preparation and submittal of a lighting plan (mitigation measure 4.13-3) is, in effect, "putting the cart before the horse." Such a plan (conceptual or preliminary) should have been included as part of the proposed project description so that its features and effectiveness could be disclosed and reasonably evaluated. Without at least some general information about the number of lights, range of illumination, orientation, location, and surrounding landscaping, any specific effects upon sensitive viewers cannot be addressed and applicable mitigation measures identified. The conclusion that impact 4.13-3 can be reduced to a less than significant impact by mitigation measure 4.13-3 is conclusory and not supported by any evidence.

CUMULATIVE IMPACTS

The cumulative impacts discussion includes a list of projects within the area that will lead to significant and unavoidable impacts. Although a list of projects current and future projects has been included, there is no direct discussion of the proposed project and its specific addition to the cumulative impacts that would occur in the area. In addition, there is no mention of the future Campus Parkway and other roads within the area and the additional light and glare that would be added as part of cumulative effects. Furthermore, sky glow is specifically identified as a significant cumulative impact. With the 230-acre size of the site, no evaluation of what could be high amounts of added sky glow in an otherwise relatively dark area has been included nor have any mitigation measures been identified to reduce the amount of cumulative sky glow contributed by the proposed project.

Sincerely,



Digitally signed by Harry Benke
DN: cn=Harry Benke, o=Visual Impact Analysis LLC, ou, email=hbenke@visualimpactanalysis.com, c=US
Date: 2009.04.27 13:08:28 -07'00'

Harry Benke
Visual Impact Analysis LLC

EXHIBIT 4A

Visual Impact Analysis LLC

P.O.Box 1926
Novato, CA 94948

Tel: 415 897 5505
Fax: 415 897 3373

Qualifications/CV

Harry Benke
Partner, Visual Impact Analysis LLC

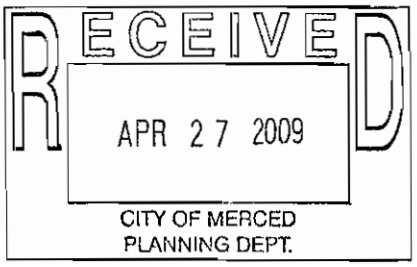
Instructor - Three-Dimensional Computer Modeling, Computer Arts Institute, San Francisco
Applied Mathematics - Drexel University, Philadelphia Pa.
Sculpture - California College of Arts and Crafts, Oakland, Ca

Harry Benke is the Project Director for the photosimulation services provided by VIA. Mr. Benke personally executes, or oversees the execution of, all photosimulations. He is available as necessary to attend public hearings, council meetings, and to provide consultation regarding VIA's techniques and conclusions.

Mr. Benke has extensive experience in the general issues of project development, and in the specific issues of visual impact. His years of computer programming experience, including consulting, and work as an instructor in 3-D computer modelling at the Computer Arts Institute of San Francisco combine with his twenty years of experience in commercial and residential development to make him uniquely qualified to understand, address, and accurately simulate, matters of visual impact significance.

Mr. Benke has participated in many EIR's, Environmental Assessments, Design Reviews, and Specific Plans regarding visual impacts. From consulting at the IMF on digital photography , security and networking, to helping develop the design of the Old Navy brand for the Gap, Inc., to producing environmental visual simulation for I.M. Pei , (Pei, Cobb, Freed Partners) and for George Lucas, Mr. Benke has a proven track record.

EXHIBIT 5



4/27/09
Tom Lippe
Lippe Gaffney Wagner LLP
329 Bryant Street, Suite 3D
San Francisco, CA 94107

Dear Mr. Lippe:

My team (including Dan Matross and Michel Gelobter – I have attached their CVs) has reviewed the Draft Environmental Impact Report (DEIR) for the proposed Merced Wal-Mart Regional Distribution Center with respect to the impact analysis and mitigation measures for greenhouse gasses. Overall, there are remain four major areas of concern with respect to the DEIR's treatment of the global warming impacts of the proposed facility:

1. Comprehensiveness: did the DEIR adequately account for and quantify all sources of carbon emissions associated with this project?

2. Quantification: Are the mitigations quantifiable and, if so, how?

3. Offsets: Are the offsetting strategies contained in the DEIR valid?

4. Other Mitigations: What is the interaction between greenhouse gas mitigation and the mitigation of other air pollutants?

The remainder of this letter addresses each of these concerns.

1. Comprehensiveness: did the DEIR adequately account for and quantify all sources of carbon emissions associated with this project?

Tables 4.2-9 and 4.2-10 represent the present DEIR's summary of the emissions related to construction and operation of the distribution center. These tables are missing two major emissions components:

A significant fraction of the global warming impact of construction comes from the greenhouse gasses embedded in the construction materials themselves. The cement, metals, accessories of the warehouse itself take energy, and therefore greenhouse gasses, to make. The Energy Information Administration[1] estimates that the embedded energy in retail and warehouse building construction amounts to approximately 293 kilowatt-hours per square foot. Assuming US average emissions per kilowatt-hour, each square foot of a constructed warehouse would generate approximately 0.25 tons of CO2 per square foot of construction, in addition to the generation quantified in table 4.2-9.

[1] Energy Information Administration (October, 1998). "A Look at Commercial Buildings in 1995: Characteristics, Energy Consumption, and Energy Expenditures." Report for the Department of Energy.

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An overwhelming amount of the operating footprint of the distribution center is contributed by the greenhouse gasses embedded in the goods being distributed through the center.

Like construction materials, goods and services embed a significant amount of greenhouse gas emissions as well. The average durable good in the U.S. economy embeds between 500 and 600 grams of CO2-equivalent per dollar of retail cost.

The DEIR does not contain information on the estimated contribution of the Wal-Mart distribution center to regional retail sales. However Wal-Mart's 3,550 domestic stores generated $239.5 billion of the company's revenue during fiscal year 2008 (Wal-Mart 10-K filing[2]), or an average of almost $700 million/year in sales per store. The DEIR states that the distribution center will serve 49 stores. The greenhouse gasses embedded in inventory flowing through this facility may be upwards of 18 million metric tons of CO2 – over 1,500 times more than projected in table 4.2-10 from the operation of the facility.

As part of planning for the placement of new stores, Wal-Mart considers opportunities for growth in retail purchasing. The assessment of the global warming impacts of the distribution center can determine how much growth in demand for retail goods will be stimulated by the new facility and the stores it serves. That assessment can be used to determine how much of the total goods-related emissions is incremental to existing goods-related emissions.

One additional sources of emissions is omitted – hydro-fluoro carbon releases from air conditioning and other transportation cooling sources. These typicall contribute approximately 2% to transportation-related emissions[3]. HFC releases in cooling transportations are not included. These emissions have a small share in the total greenhouse gas emissions, to have a full picture of the greenhouse gas emissions related to transport, these emissions could be included.

Finally, it will be important in estimating emissions to use the latest models to ensure that fuel-related emissions include well-to-pump emissions as well. Best practices here would involve use of the GREET model for both truck and passenger transport.

2. Quantification: Are the mitigations quantifiable and, if so, how?

The DEIR claims that "the size of the associated GHG reduction [from mitigation measures] cannot be quantified at the time of writing this EIR." This is not correct. For each mitigation listed, we have suggested ways of calculating the net impacts on greenhouse gas emissions. Some of the proposed mitigations reference mitigations for reactive organic gasses (ROG) and nitrogen oxide (NOX) emissions. These are reviewed under section 4 below.

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[2] http://www.sec.gov/Archives/edgar/data/104169/000119312508071085/dex13.htm

[3] 'Greenhouse Gas Emissions from the US transportation sector 1990-2003' (:http://www.epa.gov/otaq/climate/420r06003.pdf).

- Mitigation Measure 4.2-6a references Mitigation Measures 4.2-1a and 4.2-1b.

  See discussion under section 4 below.

- Mitigation Measure 4.2-6b: *Ensure On-Site Yard Trucks are Maintained and Meet On-Road Truck Emissions Standards. The applicant shall ensure that all on-site "yard trucks" have ARB-approved on-road truck engines that meet onroad truck emissions standards and are maintained in proper working condition according to manufacturer specifications.*

  Greenhouse gas emissions from truck operations are almost wholly dependent on the fuel efficiency of operations. In turn, the role of maintenance in determining truck fuel efficiency is well understood. The DEIR can quantify this mitigation by comparing the fuel efficiency and GHG emissions in maintained vs. non-maintained truck fleets. The difference represents the potential magnitude of the mitigation.

- Mitigation Measure 4.2-6c: Implement Mitigation Measures 4.2-2a, 4.2-2b, 4.2-2c, and 4.2-2d.

  See discussion under section 4 below.

- Mitigation Measure 4.2-6d: Implement Effective Mitigation Measures. The DEIR proposes the following additional measures:

  - *Install solar panels in all available areas of the project site, including the roof of the warehouse building, the buffer areas surrounding the paved truck yards and employee parking lot, and covered parking areas, walkways and outdoor areas, to supply electricity for on-site use.*

    This impact is easily quantifiable. The DEIR should project how much utility-purchased electricity will be avoided by the proposed solar installations and calculate the GHG emissions embedded in that avoided electricity.

  - *Determine which local electricity provider, Pacific Gas and Electric Company or Merced Irrigation District, produces electricity with the lowest CO2-equivalent output emission rate (lb/MWh) and select this provider to meet remaining electricity demand of on-site operations.*

    These utilities today produce reports on the GHG-intensity of the electricity they sell. The DEIR should perform this comparison so as to quantify the scale of this potential mitigation.

In addition, PG&E sells "Climate Smart" energy to commercial customers. This energy is carbon-neutral thanks to a combination of renewable energy sources and high-quality carbon offsets. So Wal-Mart has the choice to buy carbon-neutral electricity, an impact that is easily quantified as a total avoidance of electricity-consumption-related emissions.

- *Retain the portion of the existing almond orchard located between the proposed truck gate and future Campus Parkway.*

  In order to quantify the effects of the proposed greenhouse gas mitigation measures related to the existing almond tree orchard, a stock-change approach can be used. A stock change approach assumes that any change in the carbon contained by the biomass of the orchard (the "stock") is an emission. To use this approach, an orchard-specific baseline must first be established. An orchard-specific baseline consists of an accounting of the current carbon stored within the biomass of the orchard, both above and below ground. In this context, a projection of carbon sequestration associated with future growth of the trees in orchard in absence of the proposed facility can also be considered part of the baseline because it represents the change in stock in absence of the facility. Net greenhouse gas emissions associated with partial harvest and potential mitigation from continued growth can then be determined from comparison from the orchard-specific baseline.

  Although the California Climate Action Registry (CCAR) has published neither the California Urban Forestry Greenhouse Gas Reporting Protocol nor any agricultural forestry protocols as of April 2009, the CCAR Forest Sector Protocol version 2.1 can be adapted to calculate an orchard-specific baseline. For the purposes here, the operational boundaries of the orchard are defined as those outlined in the EIR. Per the Forest Sector Protocol, the required carbon pools for the baseline include (page 16) 1) Tree biomass 2) Standing dead biomass and 3) Lying dead wood. Because this is a working orchard, it can be assumed pending a visual inspection that standing dead biomass and lying dead wood are negligible and quantification need only focus on tree biomass, both above and below ground. The CCAR Forest Sector Protocol calls for measurements of tree diameter at breast height (DBH) for a representative sample of trees. These results can be used with a set of allometric equations to determine an estimate of standing live biomass in the trees[4]. For purposes here, the allometric equations in the protocol for Tanoak (Class *Magnoliopsida* Order *Fagales*) are closest to those for the Almond tree (Class

[4] It should be noted that allometric equations are species specific. A more accurate sampling method would be to dry and weigh a harvested tree in its entirety and multiply by the number of trees in the orchard.

Magnoliopsida Order *Rosales*) by taxonomy and tree form. The protocol allows such substitutions. The uniformity of an orchard by nature allows for a relatively small sample plot to be used (10-20 trees) with acceptable precision.

Projected growth and sequestration can be determined by doing a cross-orchard survey of the impacted orchard or a similar one based on stand age. The DBH from young, middle-aged, and mature trees can be used to create a growth curve based on input into the allometric equations. In turn, this can be used to determine the amount of carbon a given tree would have sequestered over its life if it had not been harvested –OR—the potential mitigation of a given tree if it is allowed to remain. This scenario assumes that almond production results in net-zero greenhouse gas emissions because almonds are nearly completely consumed within a few years of production. If fertilizer is used, that represents a potential N_2O emission associated with almond production, which can be quantified based on a rough estimate of amount and type of fertilizer applied.

Overall mitigation can then be determined. Carbon associated with trees harvested can be treated as an emission if it is disposed of directly and that emission can be discounted, per the rates outlined in the CCAR Forest Sector Protocol, if it is used for furniture, cabinets etc. The equivalent number of trees needed to be planted in order to mitigate greenhouse gas emission associated with harvesting the almond orchard can be determined either from methods contained in the new draft general Forest Sector Protocol (v 3.0) from CCAR or less formal general calculations from the U.S. EPA for sequestration associated with planting a medium growth coniferous tree raised in a nursery, then planted an urban/suburban setting and modified by expected survival over 10 years.

- *The applicant shall inventory all emissions of GHGs associated with operation of the project according to the most recently established methodologies of the CCAR or ARB.*

  The DEIR is correct in stating that the effect of this mitigation cannot be estimated a priori. The impact of inventorying can however be quantified post facto and the DEIR should proposal a monitoring protocol.

- Implementation of Mitigation Measure 4.2-1c and Mitigation Measure 4.2-2e.

  See discussion under section 4 below.

3. Offsets: Are the offsetting strategies contained in the DEIR valid?

The DEIR refers to offsets as part of mitigation, but does so without specifying where offsets will be used and how they will be qualified and quantified. Offsets can indeed be part of an integrated mitigation strategy, but to be valid the DEIR should specify the standards that will guide their development and/or procurement.

A number of potential offsetting standards could apply and the DEIR should review those and propose one or more that will be used. This choice in turn will allow reviewers to evaluate whether the offset strategy is appropriate as mitigation.

The key criteria for offsets for this facility would be enumerated in the standards chosen for the DEIR, but would necessarily include:

- Additionality – the extent to which the offsets go beyond "business-as-usual" and represent an incremental investment in emissions reductions (UNFCCC, 2008[5])

- Offset purchases must be verified as real and assured to be permanent. All offsets must be calculated using scientifically rigorous methodologies, must be verified and validated by independent third parties, have clear ownership, be registered, and be tracked. The emission reductions must have a permanent impact and cannot simply be moving emissions elsewhere. In short, they must be real.

A number of national and international standards for offsets exist that meet these standards, including the California Climate Action Registry, the Voluntary Carbon Standard, The Gold Standard, and the Clean Development Mechanism. Additional criteria and standards are emerging as part of the process of implementing the California Global Warming Solutions Act as well.

4. Other Mitigations: What is the interaction between greenhouse gas mitigation and the mitigation of other air pollutants?

As mentioned above, the DEIR relies on mitigations being used for ROG and NOX to achieve some mitigation for greenhouse gasses. Specifically, the DEIR cites mitigations 4.2-1a-c, and 4.2-2 a-e as achieving some measure of mitigation for GHGs as well. For each of these, this section will address two additional questions:

i. Can the impact of these ROG and NOX mitigations on GHGs be quantified?

ii. Are the ROG and NOX mitigations likely to be mitigatory for GHGs?

a. Mitigation Measures 4.2-1a & 4.2-2a: Comply with SJVAPCD's Indirect Source Review Rule (Rule 9510).

[5] United Nations Framework Convention on Climate Change, "Tool for the demonstration and assessment of additionality" August 2008

This mitigation involves measures that include

- *" Exhaust emissions for construction equipment greater than 50 horsepower used or associated with the development project shall be reduced by 20% of the total NOX and by 45% of the total PM10 emissions from the statewide average as estimated by ARB.*

- *Methods employed by the applicant to reduce construction emissions to the degree noted above include using less polluting construction equipment, including the use of add-on controls, cleaner fuels, or newer lower emitting equipment"*

  i. Each of these measures can be quantified by measuring their relative impact on the use of fossil fuels like gasoline and diesel fuel in direct proportion to fuel efficiency gains or losses.. Measures that increase the fuel-efficiency of the relevant equipment will in fact be mitigatory of GHG emissions. Measures that decrease fuel-efficiency will not be mitigatory and will, in fact, aggravate GHG emissions.

  ii. Most of the measures that will be used under this mitigation are not likely to reduce GHG emissions. Present technology for reducing ROG, NOX and particulate fractions of emissions use techniques like engine gas regeneration (EGR) and particulate filters, each of which decreases vehicle and equipment fuel efficiency. These efficiency losses are well understood and can be quantified as part of the DEIR.

b. Mitigation Measure 4.2-1b: Implement Measures to Reduce Construction-Related Diesel Equipment Exhaust.

   The table below answers the two key questions for each of the measures mentioned under 4.2-1b in the DEIR.

Mitigation components	Measurable?	Mitigatory?
Cease construction activity on forecasted Spare the Air Days.	Yes, as fuel unused on average number of Spare the Air Days per year	Definitely
Staging areas for heavy-duty construction equipment shall be located as far as possible from sensitive receptors. They shall be located on site and not be within 1,000 feet of the project boundary.	Not relevant as no emissions reductions are achieved	No

Mitigation components	Measurable?	Mitigatory?
Before construction contracts are issued, the project applicant shall perform a review of new technology in consultation with SJVAPCD, as it relates to heavy-duty diesel equipment, to determine what (if any) advances in emissions reductions are available for use and are economically feasible. Construction contract and bid specifications shall require contractors to utilize the available and economically feasible technology on a percentage of the equipment fleet, as determined by SJVAPCD.	Not as part of the EIR process, but during construction procurement	Depends on whether new technology saves fuel too.
When not in use, idling of on-site equipment shall be minimized. Under no conditions shall on-site equipment be left idling for more than 5 minutes.	Yes, as idling-related emissions avoided	Definitely
Prohibit the use of trucks with off-road engines to haul materials on-site. Use trucks with on-road engines instead	Yes, as the difference in fuel-efficiency between the 2 types of trucks	Depends on relative fuel-efficiency of different vehicles
Use alternate fuels and emission controls to further reduce NOX and PM10 exhaust emissions above the minimum requirements set forth in the ISR rule.	Yes, see section a immediately above	See section a. immediately above
Replace/substitute fossil-fueled (e.g., diesel) equipment with electrically driven equivalents (provided they are not run via a portable generator set).	Yes	Yes, because grid-derived electricity is more efficient than on-site fossil fuel based engines
Use ARB-certified alternative fueled engines in construction equipment. Alternative fueled equipment may be powered by compressed natural gas, liquid propane gas, electric motors, or other ARB-certified off-road technologies.	Yes	Definitely, these alternative fuels emit less GHGs
Provide commercial electric power to the project site in adequate capacity to avoid or minimize the use of portable electric generators and equipment.	Yes	Definitely (see 2 boxes above)
Limit the hours of operation of heavy duty diesel equipment and/or the amount of equipment in use at any one time.	Yes	No, the total use will not vary hence the GHG emissions will be the same.

c. Mitigation Measure 4.2-1c & 4.2-2e: Implement an Emissions Reduction Agreement with SJVAPCD to Reduce Construction Emissions of ROG and NOX & Implement an Emissions Reduction Agreement with SJVAPCD to Reduce Operational Emissions of ROG and NOX.

This mitigation involves measures that include

- *"an emission reduction program,whereby the Applicant funds projects in the SJVAB, such as replacement and destruction of old engines with new more efficient engines. The agreement requires the Applicant to identify and propose opportunities for the reduction of emissions to fully mitigate the project's construction emissions to less than significant, and includes opportunities for removal or retrofication of stationary, transportation, indirect, and/or mobile-source equipment... To the extent feasible, preference shall be given to off-site emission reduction projects that are located in or in close proximity to the City of Merced."*

These measures are functionally the equivalent of offset programs, whereby on-site emissions are reduced by funding projects offsite. To estimate the validity of such offsets, the DEIR should also address the concerns raised in section 3 above.

i. Each of these measures can be quantified by measuring their relative impact on the use of fossil fuels like gasoline and diesel fuel in direct proportion to fuel efficiency gains or losses from the equipment replacement. An additional dimension must also be addressed – the GHGs embedded in the equipment to be replaced. When an old engine is destroyed and a new one bought the net effect on GHG emissions is an immediate increase due to the emissions associated with making the engine. Only after a significant time in use does the relative efficiency (if there is any) overtake the impact of the production of a new engine.

ii. Most of the measures that will be used under this mitigation are not likely to reduce GHG emissions because the embedded emissions associated with new equipment likely outweigh the efficiency gains with respect to fossil fuel use in operations.

d. Mitigation Measure 4.2-2b, 4.2-2c, & 4.2-2d: Develop and Implement an Employee Trip Reduction Program to Reduce Operational Emissions; Implement Recommended Mitigation Measures to Reduce Operational Emissions; and Implement Additional Operational On-Site Emission Reduction Measures.

i. This mitigation can be quantified by estimating the total reduction in vehicle-miles-traveled (VMT) that each specific sub-measure will induce and multiplying that by the county's average GHG emissions per VMT.

ii. These measures are likely to be excellent mitigation of GHGs as they can significantly increase the county's fuel efficiency.

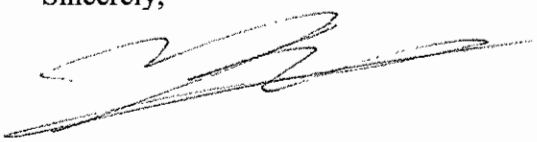
e. Mitigation Measure 4.2-2c, & 4.2-2d: Implement Recommended Mitigation Measures to Reduce Operational Emissions & Implement Additional Operational On-Site Emission Reduction Measures.

   i. Each of these measures can be quantified by measuring their relative impact on the use of fossil fuels like gasoline and diesel fuel.

   ii. In almost all cases for these measures they do not involve replacement of old equipment but good design of the physical plant, increased efficiency in the provision of employee services, and good choice in new equipment purchases. As a result they are likely to be effective at reducing GHG emissions.

Please do not hesitate to contact me with any further questions.

Sincerely,



Dr. Klaas Kramer

Resume Klaas Jan Kramer

Qualifications

Skilled scientist with more than 15 years experience in energy and environmental research. Qualified project leader as well as a good team player when carrying out research in interdisciplinary projects. Strong analytical skills. Consistently exhibits leadership while enhancing teamwork to achieve stated goals. Expert in using Life Cycle Assessment tools and Energy and Greenhouse gas emissions modeling.

Professional experience

Current: guest researcher/subcontractor at Lawrence Berkeley National Laboratory:

- Energy efficiency in industries, among others pulp and paper and dairy processing industry
- Cost-Supply curves
- International Experiences with Energy-Target Setting Programs in industry.
- Greenhouse gas emissions of Californian Residents (PIER-project).

Current: Consultant at KJKramer Consulting

Contribution to projects for ClimateCooler (Oakland):

- CO_2 reductions of 101 household activities and purchases.
- Carbon Footprint assessment of magazines/Climate neutral magazines
- Low carbon impact sleeping bags
- Director of Life Cycle Services

Senior Environmental Researcher, Agricultural Economic Research Institute (LEI), The Netherlands (May 2000 - June 2006).

Main task was to lead several different (inter)national projects and to do supportive research within other projects. Other activities were guiding students and organizing meetings and seminars.

Accomplishments.

- Acquired funding for projects within the co-innovation program "towards sustainable food production cycles" with a total of $600,000.
- Developed a monitoring system for the Dutch organic sector.
- Acquired funding for EU-concerted action "European Information System for Organic Markets (EISfOM).
- Annual sustainability reporting for the Dutch Horticultural sector.

Project manager, Environmental Quality Label (April 1999 - May 2000).

Developed and organized maintenance of environmental certification programs for agricultural and food products. Food packaging is always a part of these programs. Creating support for the Dutch Environmental Quality Label.

Accomplishments.

- Co-developed a monitoring system for the determination of the environmental effects of certification programs.
- Initiated a project to develop international certification programs for vegetables production.

Environmental researcher, Research Station for Glasshouse Floriculture and Vegetables (May 1998- May 2000).
Life Cycle Assessment of horticultural crop production systems, using the LCA-software tool Simapro. Energy analysis of glasshouse innovations.

Accomplishments.
- Development of a registration system for organic horticultural crop production.
- Initiated lifecycle thinking in research programs.

Scientific researcher, Center for Energy and Environmental Studies (IVEM), University of Groningen (September 1992-May 1998).
Research in the areas of energy use and greenhouse gas emission of households and food consumption. Environmental life cycle evaluation of Selective Catalytic Reduction technique.

Accomplishments.
- I finished my thesis "Food Matters. On reducing energy use and greenhouse gas emissions from household food consumption" in 2000.
- Development of a model to reduce the use of energy and greenhouse gas emission of food consumption.
- Development of a computer model to determine the potentials for household energy use reductions of households.
- Determined of the optimal life span of passenger cars from an environmental perspective.
- Acquisition for participation in the European Concerted Action for Lifecycle Assessments of Foods.

Education

1999-2003. Several successful training's like Food, innovation and marketing in 2002, Professional Client Relationship in 2003.

2000. Received PhD in Natural Sciences for thesis: Food Matters. On reducing energy use and greenhouse gas emissions from household food consumption.

1986-1992.
- Bachelor in Chemistry in 1988 at the Chemistry Faculty of the University of Groningen.
- Master in Energy and Environmental Science in 1992 at the Center for Energy and Environmental Sciences of the University of Groningen.
- 1980-1986. Secondary Modern School, graduated in 1986.

Languages

Dutch: native speaker.
English: good in writing, speaking and understanding.
German: good in writing, speaking and understanding.
French and Spanish: the first basics.

Relevant publications:

Thesis:
Kramer, K.J., 2000. Food Matters. On reducing energy use and greenhouse gas emissions from household food consumption.

Articles:
Kramer, K.J., H.C. Moll, S. Nonhebel, H.C. Wilting, 1999 Greenhouse gas emissions related to Dutch food consumption. Energy Policy, 27 (1999) 203-216.

Kramer, K.J., H.C. Moll, S. Nonhebel, 1999. Total Greenhouse Gas Emissions related to Dutch Crop Production System. Agriculture, Ecosystems and Environment, 72 (1999) 9-16.

Dutilh, C.E and Kramer K.J. Energy consumption in the food-chain, 2000. Comparing alternative options in food production and consumption.
Ambio Vol. XXIX No.2 pp 98-101

Benders, R.M.J., Wilting, H.C., Kramer K.J. and Moll, H.C., 2001. Description and application of the EAP computer program for calculating life-cycle energy use and greenhouse gas emissions of household consumption items. International Journal of Environment and Pollution, Vol. 15 (2), pp. 171-182.

Kramer, K.J, Masanet, E.R. and Worrell, E. Energy efficiency Opportunities in the U.S. Pulp and Paper Industry. Accepted for publication in Energy Engineering, 2009

Chapters:
Kramer, K.J, 2003. Life Cycle Assessment of horticultural products. In: Mattson, B (eds). Environmentally-friendly food processing. Woodword Press, 2003

Other, reports and contributions (selection of):

- Price, L., C. Galitsky and K.J. Kramer, 2008. International Experience with Key Program Elements of Industrial Energy Efficiency & GHG Emission Reduction Target-Setting Programs. Lawrence Berkeley National Laboratory
- Kramer, K.J., Hoste, R. and Van Dooren, H.J., 2006. Energy Use in the Pork Chain. AKK report (in Dutch)
- Kramer, K.J. and Sengers, H. 2006. Sustainability of Green Feedstock. LEI report.

- Zimmermann, K.L., K.J. Kramer, G. Klein Essink, K. Koelemeijer, M. Londo and J. Guinée, 2006. Chain project for the substitution of meat products with vegetable-based protein products n company canteens. LEI-report 5.06.07 (in Dutch)
- Kramer, K.J., Boone, K., Splinter, G., 2004. Sustainability has to mature. In: Silvis, H. (eds). Look at the future of agriculture, food and nature. LEI, Report PR.04.06; Den Haag (in Dutch).
- Splinter, G.M., K.J. Kramer, T.A. Vogelzang, A.D. Westerman, 2004. Tell it (... and be good)!; Corporate Social Responsibility in the glasshouse horticulture. LEI-report 2.04.06 (in Dutch).
- Wolfert, S., Kramer, K.J., Richter, T., Hempfling, G., Lux, S. and Recke, G. 2004 European Information System for Organic Markets (EISFOM QLK5-2002-02400): WP 2: "Data collection and processing systems (DCPS) for the conventional markets" and WP 3: "Data collection and processing systems for organic markets".
- Kramer, K.J. (eds), 2003. Sustainable vegetables chain. Agricultural Economic Research Institute (LEI), Den Haag, The Netherlands (in Dutch).
- Kramer, K.J., 2003. Sustainability in European vegetables and potatoes production chains. Agricultural Economic Research Institute (LEI), Den Haag, The Netherlands (in Dutch).
- Kramer, K.J. and M. Meeusen, 2003. Sustainability in the Agrofood sector. In. Halberg, N (eds). Life Cycle Assessment in the Agri-food sector. Proceedings from the 4th International Conference, October 6-8, 2003, Bygholm, Denmark. DIAS report, October 2004.

Furthermore, several other reports and presentations at scientific congresses. For example presentations about household energy use, food consumption and energy use and about sustainability in agricultural chains at for example:

- Symposium on Energy LCA in Food Systems. Agricultural Sustainability Institute, UC Davis, October 2007.
- The International Conference about Life Cycle Assessment in the Agri-food sector. Bygholm, Denmark, 2004.
- The International Con International Horticultural Congress: Sustainability of Horticultural Systems in the 21st Century. Toronto, Canada, 2003.
- IFOAM Organic World Congress, Victoria, Canada, 2003.
- Society for Environmental Toxicology and Chemistry (SETAC), LCA-work
- For the Environmental Quality Label giving presentations were part of my activities to inform citizens and companies, in order to create social support for the label.

Michel Gelobter

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Richmond, CA 94804
Tel.: (510) 439-5006
e-mail:gelobter@gmail.com

Founder & CEO

Cooler, Inc. For-profit social venture whose mission is to connect every purchase to a solution to global warming (see www.climatecooler.com for details). Cooler builds cutting edge global warming software that automates the calculation of carbon footprints and provides energy- & money-saving alternatives to businesses and consumers. Clients include eBay, Intuit, Citizens Bank. Present

President/CEO

Redefining Progress, Oakland, California. Responsible for fundraising ($1.5-2.4 million/yr), communications, strategic program direction and alliances for the only U.S.-focused sustainability policy institute. In this capacity initiated, with CA Assembly the California Global Warming Solutions Act. Transformed organizational mission from pure research to strategic change and communications focus with extensive partnerships, targeted messaging, and product offerings to media, government, business and the public. RP's efforts include the Congressional Black Caucus study on climate change, the Genuine Progress Indicator and the Ecological Footprint. 2001- 2007

Professor

Graduate Department of Public Administration, Rutgers University, Newark (1995-2000) Director and founder, Program on Environmental Policy, School of International and Public Affairs, Columbia University (1992-1995). At Columbia, responsible for starting and running a new program (Environmental Policy) serving both international and affairs and public administration students. At Rutgers, also Founder Director of the Community/University Consortium for Regional Environmental Justice (CUCREJ), a NJ/NY/PR consortium of community-based organizations and universities with an annual budget of $450,000. 1992-2001

Director of Environmental Quality/ Assistant Commissioner

New York City Department of Environmental Protection. Responsible for coordinating and overseeing environmental policy, strategic capital planning ($1.5billion/yr), cost/benefit analysis, and health and risk assessment agency-wide; developing environmental management indices; initiating and launching new agency initiatives, including the City's alternative fuels programs, cumulative environmental assessment and renewal programs for heavily impacted communities, and private-public partnerships for environmental protection and pollution prevention. 1990-1992

Environment and Health Issues Director

David Dinkins' New York City Mayoral Campaign. Coordinated media events to highlight Mr. Dinkins' positions; managed health and environment issues including AIDS, drugs abuse, prenatal care, solid waste, air pollution, and water conservation and pollution; wrote and/or edited his environment and health speeches, policy statements, press releases, position papers and debate briefing materials; briefed the candidate on environment and health issues. 1989

Congressional Black Caucus Fellow

Energy and Commerce Committee, U.S. House of Representatives. Drafted legislation on lead in drinking water and on long-term environmental problems at the Department of Energy's nuclear weapons facilities; organized a global warming working group of high-level Capitol Hill and Executive Branch staff, leading environmental organizations, and industry trade organizations; helped develop guidelines for environmental energy planning to be adopted by the Secretary of Energy and Congressional leadership; investigated the safety and regulation of tanning booths; investigated the environmental compliance records of federal facilities in over 14 states in support of successful legislation closing loopholes for the Federal Government (particularly Departments of Defense and Energy) in the Resource Conservation and Recovery Act. 1988-89

Adjunct Assistant Professor/Instructor

U.C. Berkeley (Energy and Resources Group & School of Public Health)/Columbia University, School of International and Public Affairs. Taught Masters and Ph.D. classes on environmental policy, science, and the sociology of the environmental movement and environmental concern, on health and exposure aspects of environmental hazards, and on public policy analysis geared towards distributional policies. 1988 to present

Assistant Producer

Cable News Network Science News, Atlanta, Georgia. Produced segments for a daily science news show; wrote scripts; field produced segments on science education and zoology. 1986

Researcher

Sustainable Development of the Biosphere Program, International Institute for Applied Systems Analysis (IIASA), Laxemburg, Austria. Developed strategies for using energy modeling in global warming and environmental policy development; performed in-depth comparison of all major long-term energy models; developed scenarios for use in policy exercises. 1985

EDUCATION.

Ph.D.

Energy and Resources Group, U.C. Berkeley, 1993.

Master of Science

Energy and Resources Group, U.C. Berkeley, May, 1986. Emphasis: environment and the poor in industrialized countries.

Bachelor of Science

Conservation and Resource Studies, 1984, U.C. Berkeley.
Deep Springs College, Deep Springs, CA, 1978-1980.

Languages: Bilingual French/English, can speak and read Spanish and Portuguese, slight knowledge of German and Russian.

Honors/Fellowships.
2009, Green Revolution-ary, featured in the Chicago Museum of Science and Industry Exhibit
2009 SNEWS Power Player (outdoor and fitness industry leader)
2nd Annual Alliance for Sustainability Award, 2006
Art of Leadership Yearlong Fellowship, 2005.
College of Preachers, National Cathedral Preaching Intensive, 2005.
Communications Leadership Institute, 2004.
University of California President's Dissertation Year Fellowship, 1989-1990.
Congressional Black Caucus Foundation Fellowship, 1988-89.
National Audubon Society Graduate Student Research Award, 1988-89.
U.C. Berkeley Minority Research Mentorship, 1987-88.
National Science Foundation Fellowship, 1984-87.
American Association for the Advancement of Science (AAAS) Mass Media Fellowship, 1986.
California State Graduate Fellowship, 1984-85.
U.C. Berkeley Honors Scholarship, 1982-83.

Additional Experience.
Present Positions: **Alliance for Climate Protection ("We Campaign"),** Board of Advisors; **Natural Resources Defense Council,** Board Member; **Coalition for Environmentally Responsible Economies (CERES),** Board Member; **Center for Race, Poverty, and the Environment**, Board Member; **African-American Adoption Advisory Committee, Spence-Chapin Adoption Agency**, Member.

Past Appointments: **National Environmental Justice Advisory Council (NEJAC),** Founding Chair, Air and Water Subcommittee; **Clean Air Act Federal Advisory Committee**, U.S. EPA; **Redefining Progress,** Board Member; Member, Editorial Board, **Public Administration Review**; Environment Sub-Committee, **Rutgers University-wide Strategic Planning** ; **New Jersey/New York Hazardous Materials Worker Training Center Advisory Committee, Environmental and Occupational Health Sciences Institute**, Member and Chair of Labor Market Projections Subcommittee; **Expert Consultant**, Office of the Administrator, U.S. Environmental Protection Agency (EPA); **Faculty Advisory Board**, Columbia University Institute for African-American Studies; **Faculty Advisory Board**, Columbia University Institute for African-American Studies; **Harlem Empowerment Zone Application Team,** Director of environmental component; **National Advisory Committee on Environmental Policy and Technology (NACEPT), U.S. Environmental Protection Agency**, Superfund Reauthorization Committee; **New York City Environmental Control Board**, Commissioner; **National Religious Partnership for the Environment**, Policy Advisor; **Youth Lead Poisoning Prevention Program,** Founding Co-director; **Northeast Network for Economic and Environmental Justice,** Founding Board Member; **New York City Council on Environment**, Member; **U.S. Department of Energy**, Expert Panel on Weapons Facility Cleanup; **Facilitator**, Pan-Africanist Congress Senior Leadership Retreat on Electoral Strategy (Johannesburg, South Africa); **Advisory Board**, 25th Anniversary Study of the New York State Department of Environmental Conservation (Rockefeller Institute); **State Parks Advisory Council**, New York State Parks Dept.; **Environmental Justice Leaders Group,** advised EPA Administrator; **Advisory Committee and Panel Moderator,** First National People of Color Environmental Leadership Summit; **William C.C. Chen Tai-Chi,** Instructor; New **York Environmental Justice Alliance**, Founding Member; **Operation Crossroads Africa**, Project Leader (Haiti and Belize); **Sierra Club**, National Outings Leader; **Bishop Pack Station**, Mule Packer/Cowboy.

Selected Publications, Seminars, and Research.
Gelobter, Michel, et al. "The Impact of Global Warming on the African-American Community," Joint Center for Political and Economic Studies, 2008.

Lerza, Catherine, "Changing the Social Climate – in-depth interview with Michel Gelobter", Tides Foundation, 2006

Gelobter, Michel, et al. "The Soul of Environmentalism", Redefining Progress, 2005.

Gelobter, Michel, et al. "Global Warming and African-Americans," Redefining Progress, 2004.

Gelobter, Michel, "Economics" in The ECO Guide to Careers That Make a Difference, Island Press, 2005.

Gelobter, Michel, AIntegrating Scale and Social Justice in the Commons@ in Burger et al. Protecting the Commons: A Framework for Resource Management in the Americas. Washington, D.C.: Island Press (2000).

"Principles of Community-University Partnership", Calver Award Lecture of the Environmental Section, American Public Health Association, November, 1996, New York.

"Environmental Justice at the End of the Public Health Century", American Public Health Association Socialist Caucus/Physician=s Forum Special Sessions, New York City, 1996

Gelobter, Michel, 1996, "Key Urban Environmental Justice Problems," in Theology for Earth Community: A Field Guide, Edited by Dieter T. Hessel, New York: Orbis Books, 158-165

Daniel M. Matross, Ph.D.

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Education

Harvard University — Cambridge, MA
Ph.D., Earth and Planetary Sciences — November 2006

- Thesis title: "Regional scale land-atmosphere carbon dioxide exchange: Data design and inversion within a receptor oriented modeling framework."

Stanford University — Palo Alto, CA

B.S., Chemistry — June 2000

Scientific Research and Management Experience

Scientific Director, *Cooler Inc.,* Oakland, CA 2008-present

- Led scientific programs for company creating tools for consumers and small businesses to understand their climate impact and reduce it.
- Supervised staff of four.
- Managed technical portions of engagements with eBay, Intuit, Citizen's Bank, and Backpacker magazine.
  - Delivered series of four 30-page white papers explaining and quantifying the climate impacts of eBay. Presented work to executives.
  - Developed all scientific components of the QuickBooks "Green" module, now in beta phase release.
- Guided branding and marketing firms in use of scientific results in major media campaigns.
- Translated academic research into company's core product offering.
- Located, negotiated, and procured $100K portfolio of high quality carbon offsets; established practices to enlarge portfolio with additional $500K worth of carbon offsets.

Atmospheric Scientist, *University of California Berkeley,* Berkeley, CA 2006-2008

- Managed individual research programs, including coordinating collaborating researchers, strategizing measurements, and conceptualizing new research.
- Studied biogenic emissions as precursors to air pollution, including particulates and ground-level ozone.
- Developed and wrote proposals.
- Collected, analyzed, and interpreted atmospheric measurements of greenhouse gases and air pollutants.
- Prepared manuscripts for primary scientific literature.
- Presented scientific results to technical and non-technical audiences ranging from 10 to 200 people.
- Advised California policy makers on atmospheric research needs.

Research Mentor, *Harvard University and University of California Berkeley* 2005-2008

- Mentored undergraduate and graduate students in research methodology and writing.

Research Assistant, *Harvard University,* Cambridge, MA, 2000-2006

- Collected atmospheric field data, analyzed results, and published in the primary scientific literature.

Teaching Fellow, "The Atmosphere" – Core Curriculum, *Harvard University*, 2002-2004
- Three terms assistant teaching basic weather and climate to a section of non-science students.

Freelance Science Writer, *Harvard University Gazette*, 2001

Research Intern, *NASA Goddard Spaceflight Center*, Greenbelt, MD, 1998

Undergraduate Research Fellow, *Scripps Institution of Oceanography*, La Jolla, CA, 1998

Field Campaign Experience

- CO_2 Budget and Rectification Airborne Campaign- North America, U.S. and Canada, Summer, 2003.
- CO_2 Budget and Rectification Airborne Campaign- Maine, Bangor, ME, Summer 2004.
- NASA Aura Validation Experiment Airborne Mission, Houston, TX, January 2004.
- Tropical Warm Pool International Cloud Experiment, Darwin, NT, Australia, February 2006.
- Biosphere Effects on Aerosols and Photochemistry Experiment, Blodgett Forest, CA, Summer 2007.

Grants and Fellowships

- Co-Investigator, NASA North American Carbon Program NNH05ZDA001N, "Integrated Analysis of Regional and Continental Carbon Budgets for CO_2 and CO in North America, Using Data from Remote Sensing, from Stations Measuring Concentrations and Fluxes, and Other Sources." Harvard University (2006), $215,000.
- Participant, NSF Biocomplexity Initiative ATM-0221850, "Continental, Landscape, and Ecosystem Scale Fluxes of Atmospheric Carbon Dioxide and Carbon Monoxide gases." Harvard University (2003), $1,610,000.
- Recipient, NASA Earth System Science Fellowship, "Carbon Dioxide Fluxes Across the Amazon Basin." Harvard University (2003), $72,000.
- Recipient, American Meteorological Society Government/Industry Graduate Fellowship, "Studies in Atmospheric Chemistry." Harvard University (2001), $21,000.

Recent Presentations

- Matross, D. M. and A.H. Goldstein. "Monitoring greenhouse gases for regional budgets" U.S. EPA/U.C. Berkeley Climate Change and Air Pollution Roundtable, May 2008.
- "Integrated multi-instrument assessment of gas and particle phase very reactive biogenic compounds in and above a forest canopy during the BEARPEX 2007 campaign." European Geophysical Union Annual Meeting, Vienna, Austria, April 2008.
- "Top down approaches to the North American Carbon Program: An overview." North American Carbon Program Investigators Meeting, Colorado Springs, CO 2007.

Publications

- **Matross, D. M.**, S. C. Wofsy, S. Miller, M. Longo, J. Eluskiewicz, and T. Nehrkorn (2009). Evolving constraints for optimal regional-scale CO_2 fluxes from atmospheric concentration data. *Manuscript in preparation*.

- Eluszkiewicz, J., T. Nehrkorn, S. C. Wofsy, **D. Matross**, C. Gerbig, J. C. Lin, S. Freitas, M. Longo, A. E. Andrews, W. Peters, and B. C. Daube (2009). Regional simulations of tower-based and airborne CO_2 measurements with the coupled Weather Research and Forecasting/Stochastic Time-Inverted Lagrangian Transport/Vegetation Photosynthesis and Respiration Models.. *J. Geophys. Res., in press*.
- Graven, H. D., B. B. Stephens, J. B. Miller, **D. M. Matross**, C. Gerbig, S. C. Wofsy, and R. F. Keeling (2009). Causes of observed summertime variability in tropospheric O_2/N_2 above North America. *J. Geophys. Res., in press*.
- Bouvier-Brown, N.C., A. H. Goldstein, D. R. Worton, **D. M. Matross**, J. Gilman, W. Kuster, D. Welsh-Bon, C. Warneke, J. deGouw, T. Cahill, and R. Holzinger (2008). Methyl chavicol: Characterization of its biogenic emission rate, abundance, and oxidation products in the atmosphere, *Atmos. Chem. Phys. Disc.*, 8, 19707-19741.
- Miller, S. M., **D. M. Matross**, A. E. Andrews, D. B. Millet, M. Longo, A. Hirsch, C. Gerbig, J. C. Lin, B. C. Daube, R. Hudman, P. L. S. Dias, V. Y. Chow and S. C. Wofsy (2008). Sources of carbon monoxide and formaldehyde in North America determined from high-resolution atmospheric data, *Atmos. Chem. Phys.*, 8, 7673-7696.
- Mahadevan P., S. C. Wofsy, **D. M. Matross**, X. Xiao, A. L. Dunn, J. C. Lin, C. Gerbig, J. W. Munger, V. Y. Chow, and E. Gottlieb (2008). A satellite-based biosphere parameterization for net ecosystem CO_2 exchange: Vegetation photosynthesis and respiration model (VPRM). *Global Biogeochemical Cycles*, 22, GB2005, doi:10.1029/2006GB002735.
- Park, S., R. Jimenez, B. C. Daube, L. Pfister, T. J. Conway, E. W. Gottlieb, V. Y. Chow, D. J. Curran, **D. M. Matross**, A. Bright, E. L. Atlas, T. P. Bui, R.-S. Gao, C. H. Twohy, and S. C. Wofsy (2007). The CO_2 tracer clock for the tropical tropopause layer and lower stratosphere. *Atmos. Chem. Phys., 7*, 3989-4000.
- Lin, J. C., C. Gerbig, S. C. Wofsy, V. Y. Chow, E. Gottlieb, B. C. Daube, and **D. M. Matross** (2007). Designing Lagrangian experiments to measure regional-scale trace gas fluxes. *J. Geophys. Res., 112 (D13)*, D13312 doi:10.1029/2006JD008077.
- Emmons, L. K., G. G. Pfister, D. P. Edwards, J. C. Gille, G. Sachse, D. Blake, S. Wofsy, C. Gerbig, **D. Matross**, and P. Nedelec (2007). MOPITT validation exercises during Summer 2004 field campaigns over North America. *J. Geophys. Res. 112*, D12S02, doi:10.1029/2006JD007833.
- **Matross, D. M.**, A. Andrews. M. Pathmathevan, C. Gerbig, J. C. Lin, S.C. Wofsy, B. C. Daube, E. W. Gottlieb, V. Y. Chow, J. T. Lee, C. Zhao, P .S. Bakwin, J. W. Munger, and D. Y. Hollinger (2006). Estimating regional carbon exchange in New England and Quebec by combining atmospheric, ground-based and satellite data, *Tellus, 58B*, 344-358.
- Lin, J. C., C. Gerbig, S. C. Wofsy, B. C. Daube, **D. M. Matross**, V. Y. Chow, E. Gottlieb, A. E. Andrews, M. Pathmathevan, and J. W. Munger. (2006). What have we learned from intensive atmospheric sampling field programmes of CO_2? *Tellus, 58B*, 331-343.
- Washenfelder, R. A., G. C. Toon, J.-F. Blavier, Z. Yang, N. T. Allen, P. O. Wennberg, S. A. Vay, **D. M. Matross**, and B. C. Daube (2006). Carbon dioxide column abundances at the Wisconsin Tall Tower site. *J. Geophys. Res. 111*, D22305, doi: 10.1029/2006JD007154.
- Hurst, D. F., J. C., Lin, P. A. Romashkin, B. C. Daube, C. Gerbig, **D. M. Matross**, S. C. Wofsy, B. D. Hall, and J. W. Elkins (2006). Continuing global significance of emissions of Montreal Protocol-restricted halocarbons in the United States and Canada. *J. Geophys. Res., 111*, D15302, doi: 10.1029/2005JD006785.
- Martens, C. S., T. J. Shay, H. P. Mendlovitz, **D. M. Matross**, S. R. Saleska, S. C. Wofsy, W. S. Woodward, M. C. Menton, J. M. S. De Moura, P. M. Crill, O. L. L. De Moraes, and R. L. Lima (2004). Radon fluxes in tropical forest ecosystems of Brazilian Amazonia: night-time CO_2 net ecosystem exchange derived from radon and eddy covariance methods. *Global Change Biology, 10*, 618-629, 10.1111/j.1529-8817.2003.00764.x.
- Saleska, S. R., S. D. Miller, **D. M. Matross**, M. L. Goulden, S. C. Wofsy, H. R. da Rocha, P. B. Camargo, P. M. Crill, B. C. Daube, H. C. de Freitas, L. Hutyra, M. Keller, V. Kirchhoff, M. Menton, J. W. Munger, E. H. Pyle, A. H. Rice, and H. Silva (2003). Carbon in Amazon forests:

Unexpected seasonal fluxes and disturbance-induced losses. *Science*, *302*, 1554-1557, doi: 10.1126/science.1091165.

Professional References

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- **Allen Goldstein**
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5-1 The commenter questions the manner in which the No Project Alternative is defined in the Draft EIR. Refer to Master Response 12: Alternatives.

5-2 The commenter suggests that the DEIR is deficient with respect to storm water runoff and groundwater impacts and indicates that sufficient detail is not given for the drainage plan, stormwater treatment system, and aboveground and underground storage tank spill prevention. For drainage plan information see Master Response 7: Detention Basins and Drainage. For stormwater treatment system information see Master Response 8: Runoff Water Quality. For storage tank spill prevention see Master Response 8: Runoff Water Quality regarding source control. Also see Comment 3-1. Source control measures are required under NPDES Industrial General Permit requirements. As a general note, the level of detail requested in the letter by Mr. Jackson attached to the comment letter is not necessary to evaluate and understand the scope of the project's environmental impacts. The discussion following Section 15146 "Degree of Specificity" indicates that "[t]he analysis must be specific enough to permit informed decisions making and public participation. The need for thorough discussion and analysis is not to be construed unreasonably, however, to serve as an easy way of defeating projects. What is required is the production of information sufficient to understand the environmental impacts of the proposed project and to permit a reasonable choice of alternatives so far as environmental aspects are concerned." The Draft EIR includes the necessary level of detail to inform the decision makers and the general public of the environmental impacts resulting from the proposed project and to reasonably compare those impacts against those resulting from a list of feasible alternatives. Including additional level of detail suggested by the author of the letter attached to the comment would not provide any additional clarity to the analysis and would not alter any conclusions. No changes to the Draft EIR are necessary.

5-3 The commenter indicates that the DEIR is lacking information on traffic impacts and references an April 24, 2009 letter prepared by Daniel Smith. The letter raises several concerns, and states that the DEIR fails to disclose impacts by comparing a projected existing plus project scenario to existing traffic conditions, the 2010 cumulative analysis assumes an unrealistic level of development, the analysis underestimates the project's trip generation, the DEIR fails to analyze residential traffic impacts, the analysis of truck traffic appears flawed, there is no connection between the DEIR's traffic study and air quality analysis, and project site access is not evaluated in the DEIR. The following discussion responds to the commenters concerns and also provides response to the April 24th letter by Daniel Smith.

The traffic analysis was prepared using industry standard methodologies and the impact analysis guidelines of the City of Merced. Known approved projects were included in the 2010 Background Condition, and the traffic analysis was based on the information and appropriate assumptions at the time of the analysis. While economic conditions are cyclical and will change over time, traffic impact studies follow this procedure in order to provide a common methodology for comparison of projects.

The TIS used a valid starting point for the analysis, one that is consistent with the lead agency's methodology for analyzing traffic impacts. It is also consistent with the methodology used by the EIR consultant to prepare many other traffic impact studies in jurisdictions throughout California. The commenter's statement regarding a higher threshold of significance is speculative and cannot be affirmed without conducting an analysis to test the hypothesis; however, it should be noted

that many of the study intersections and roadway segments are operating at LOS A, B or C under the Existing and Background Conditions, which may require a greater amount of traffic rather than less as implied by the commenter, to trigger an impact.

The comment regarding "a false impression that there will be many fair share payers towards area traffic mitigations" is incorrect. The traffic analysis makes no assumption regarding other fair share payers. The improvements to Campus Parkway and the Mission interchange are assumed to be fully funded and programmed improvements, and hence were included in the future roadway network assumptions.

The trip generation forecast that was used in the traffic analysis was based on a survey of a similar facility in Apple Valley, California, and was conducted in a manner and during a timeframe that was considered representative of average conditions and appropriate for analysis. The number of trips from the trip generation survey at the Apple Valley site included all trip purposes (e.g., trucks, automobiles, deliveries, staff, and other trips associated with the facility). The surveys reflect the shift patterns of workers, the arrivals and departures during the morning and afternoon peak hours, and the average vehicle occupancy. The statements about using a "realistic 1.10 persons per vehicle" vehicle occupancy is noted as assumed by the commenter and speculative. The survey data was peer reviewed by an independent consultant and considered appropriate for use in the DEIR.

It is industry standard practice that traffic analyses and trip generation surveys are based on average typical conditions, and not peak conditions. For example, shopping malls are not surveyed at Christmas for their trip generation and parking characteristics as this represents the peak and not typical condition. Using peak conditions would overstate the potential impacts and their frequency of occurrence.

The comment notes that many of the streets that would carry project traffic are residential in character. This comment is not consistent with the DEIR analysis, however. As noted on page 4.11-21 of the DEIR, 90% of the truck traffic is assumed to access the site via the SR 99/Mission Avenue interchange and Campus Parkway. Mission Avenue is designated as a divided arterial in the Merced General Plan, which means it is not addressed in the Merced Neighborhood Traffic Calming Guidelines and it is not eligible for construction of any traffic calming measures (page 6 of City of Merced Neighborhood Traffic Calming Guidelines). Arterial roadways serve a different function than residential or collector streets. With respect to the Goals and Policies of the City of Merced Neighborhood Traffic Calming Guidelines (page 5 of the Guidelines), a review of the DEIR analysis would not indicate that the proposed project would violate any of the seven goals or seven policies. The Merced Neighborhood Traffic Calming Guidelines outlines a procedure for addressing concerns such as pedestrian-bicyclist safety, gaps in traffic flow, speeding and other concerns. The transportation analysis of the proposed project evaluated congestion and service levels at intersections and along roadways that would potentially be used by project vehicles, and nothing in the DEIR analysis would lead to a conclusion that local residential or collector streets would be adversely impacted.

The trip distribution patterns have been reviewed and confirmed as appropriate for use in this analysis. This is discussed in detail in the Master Response on truck trips.

The study intersections identified for analysis were developed in cooperation with City staff, and include those most likely to be impacted by the proposed project. Generally, access point intersections are often design issues that are managed through the design review process, as they are not city street intersections but rather mid-block driveways on Gerard Avenue.

The issue of trucks parking on the side of the road and idling was considered in the analysis and addressed in Mitigation Measure 4.11-2a.

Please refer Master Response 6: Trucks and the Transportation Analysis for information regarding potential truck impacts and mitigation measures.

5-4 The comment primarily indicates that the Draft EIR did not appropriately analyze the project's potential to cause urban decay impacts through the development of new retail stores throughout the region. Please refer to Master Response 1: Growth Inducement and Expansion, which explains that the Draft EIR does disclose the possibility for the project increasing viability of retail stores due the increased shipping accessibility, but also that it is impossible to analyze such impacts, such as urban decay, without gross speculation. For more specific discussion of urban decay, please see Master Response 11: Economics and Urban Decay.

5-5 The commenter indicates that the DEIR is deficient with respect to visual impact information. The commenter suggests that, despite the DEIR's conclusion that impacts would be significant, the DEIR lacks quantification of the visual impacts. Further specificity by the commenter is deferred to an attached letter provided by Harry Benke of Visual Impact Analysis LLC. However, regarding the claim that the DEIR lacks quantification in the analysis, it must be recognized that the analysis of visual impacts is not, nor should it be, an exact science and of all the environmental issue areas, aesthetics is arguably the most subjective. This is because the "impact" is based entirely on the human perception of beauty (aesthetics). Miriam Webster defines "aesthetics" as "a branch of philosophy dealing with the nature of beauty, art, and taste and with the creation and appreciation of beauty." The issue of aesthetics has been argued by Plato and Aristotle and by many great philosophers through history even to the present day. It is not possible to reduce such a subjective issue down to a quantifiable science based on logarithms and equations. To analyze visual impacts it is most important to show, using pictures and description, the physical change to the environment resulting from the project (as required by CEQA). The DEIR includes photosimulations and descriptions to provide the decision makers and the public with an idea of the impacts of the project. The DEIR does not attempt to overcomplicate (and subsequently muddle) this highly subjective issue using measurements and calculations; rather the DEIR clearly describes the physical change to the environment that would result from the proposed project.

Specific comments on the DEIR's analysis are provided in the aforementioned letter written by Mr. Benke, which indicate that the project description does not appear to provide sufficient information to conduct an adequate visual analysis, the visual resources section lacks clarity and detail, and the cumulative impacts discussion is not complete. In addition, Mr. Benke states that the discussion of cumulative visual impacts does not quantify or document the magnitude of the impact. These concerns are addressed below in turn.

Project Description

On page one of the April 27, 2009 letter from Harry Benke, the commenter states that the project description does not appear to provide sufficient information to conduct an adequate visual analysis and to determine the level of environmental effects from the proposed development, and references CEQA Guidelines Section 15124. Specifically, Mr. Benke states that important details and components have been omitted or are unclear, including site lighting details; the number, location, and operation of lights; the color of the warehouse and distribution structures; paving color; fencing; and landscaping.

The project description for the proposed project was prepared consistent with the requirements of CEQA in Chapter 3, "Project Description," of the DEIR. As stated in Section 15124 of the CEQA Guidelines, "the description of the project shall contain the following information but *should not supply extensive detail beyond that needed for evaluation and review of the environmental impact*." Furthermore, the project description shall contain "a general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities (CEQA Guidelines Section 15124 [c]). In accordance with CEQA, the project description includes a description of site lighting, buildings and structures, roadways and parking, fencing, and landscaping at a level that is detailed enough for an adequate evaluation and review of visual resources impacts. Available project design information (including site lighting and other project features) was included in the project description for analysis (see pages 3-5, 3-12, and 3-13 of the DEIR).

As described in Section 4.13, "Visual Resources," of the DEIR, the proposed project would result in a significant visual resources impact if it would have a substantial adverse effect on a scenic vista; substantially damage scenic resources within a state scenic highway; substantially degrade the existing visual character or quality of the site and its surroundings; create a new source of substantial light and glare that would adversely affect day and nighttime views in the area; or substantially conflict with the goals or policies in the City General Plan related to visual resources and/or aesthetics (see page 4.13-6). As described in Section 4.13, the project would result in potentially significant visual character and light and glare impacts, and mitigation is recommended to reduce these impacts to less-than-significant levels. Mr. Benke does not provide any specific disagreements with the analysis provided in the DEIR, and does not offer any evidence that demonstrates how project-related visual resources impacts would remain significant after implementation of mitigation measures 4.13-2 and 4.13-3.

As demonstrated by the analysis contained in Section 4.13, the detailed information identified by Mr. Benke is not necessary to thoroughly and adequately analyze proposed project visual resources impacts. Furthermore, highly detailed information, such as the type of light poles, loading bay lighting, the exact location of the lights, the color of project structures, paving color, fencing characteristics, and a detailed landscaping plan would not alter any of the DEIR's visual resources impact conclusions (see Section 4.13, "Visual Resources"). Such detailed information is not necessary for the adequate evaluation of visual resources impacts in the DEIR. The Discussion following Section 15146 "Degree of Specificity" indicates that "[t]he analysis must be specific enough to permit informed decisions making and public participation. The need for thorough discussion and analysis is not to be construed unreasonably, however, to serve as an easy way of defeating projects. What is required is the production of information sufficient to understand the environmental impacts of the proposed project and to permit a reasonable choice of alternatives so far as environmental aspects are concerned." The Draft EIR includes the necessary level of detail to inform the decision makers and the general public of the environmental impacts resulting from the proposed project and to reasonably compare those impacts against those resulting from a list of feasible alternatives. Including additional level of detail suggested by the author of the letter attached to the comment would not provide any additional clarity to the analysis and would not alter any of the DEIR's conclusions.

Visual Resources

On page two of the April 27, 2009 letter, Harry Benke states that the visual resources section of the DEIR has a number of shortcomings, resulting from the lack of detail and clarity, to adequately and fully disclose the potential impacts resulting from implementation of the proposed project. This lack of disclosure precludes the identification of adequate mitigation measures and

opportunity for public comment. In general, the project description response provided above addresses these concerns. These comments are addressed more specifically below.

Mr. Benke states that the extent of sensitive viewers and their location lacks clarity and detail, and makes it difficult to evaluate light and glare impacts. As described above, the project description includes information at a level that is detailed enough for an adequate evaluation and review of visual resources impacts, and more detailed information is not necessary to thoroughly and adequately analyze proposed project visual resources impacts. The analysis of project visual character and lighting impacts is provided on pages 4.13-7 and 4.13-14 of the DEIR (see Impacts 4.13-2 and 4.13-3). As described therein, the project would result in potentially significant visual character and light and glare impacts, and mitigation is recommended to reduce these impacts to less-than-significant levels. As described in response to comment 12-22, impacts associated with illumination and light spillage on adjoining properties (including residences) are presented and analyzed. Detailed information on the density, location, or approximate number of residences is not necessary, and would not alter the impact conclusion for Impact 4.13-2 concerning visual character or Impact 4.13-3 concerning lighting and glare. Mr. Benke does not provide any specific disagreements with the analysis provided in the DEIR, and does not offer any evidence that demonstrates how project visual resources impacts would remain significant after implementation of mitigation measures 4.13-2 and 4.13-3.

Mr. Benke raises concerns about the photosimulations, key viewpoints, depicted features, the type of camera lens used to take photos, and nighttime photosimulations. As described in the last paragraph on page 4.13-7 of the DEIR, the photo vantage points selected are considered by the EIR author (EDAW) to be representative views of and through the project site, and provide an appropriate, scaled visual representation of what the proposed project would look like. View locations were selected based on a site visit by EDAW staff, and were determined – in collaboration with City staff - to be adequate for environmental impact analysis purposes based on the specific visual characteristics of the project area. Detailed information on the density, location, or approximate number of residences is not necessary, and would not alter the impact conclusion for Impact 4.13-2 concerning visual character or Impact 4.13-3 concerning lighting and glare. The information provided in the project description and photosimulations are considered detailed enough for an adequate evaluation of visual resources impacts. It should be noted that the nearest residential subdivision is nearly ¼-mile east of the project site.

Regarding potential nighttime light and glare impacts, these impacts are adequately considered in Impact 4.13-3. Mitigation measure 4.13-3, “Prepare and Submit a Lighting Plan,” would reduce impacts to a less-than-significant level and require that the City review and approve a lighting plan for the site. The commenter does not provide any specific disagreements with the analysis provided in the DEIR, and does not offer any evidence that demonstrates how project visual resources impacts would remain significant after implementation of mitigation measures 4.13-2 and 4.13-3; therefore, no further response can be provided.

Mr. Benke summarizes Impact 4.13-2, stating that the analysis of the impact is very general and that a preliminary landscaping plan should have been included as part of the project description. As described in response to comment 22-18, specific visual changes of the project are illustrated by Exhibits 4.13-8 through 4.13-11, and compares these changes to the representative views of the project site (as described above). As described on page 4.13-13 of the DEIR, implementation of mitigation measure 4.13-2 would reduce the potentially significant impact to a less-than-significant level. See response to comment 121C-1 regarding the landscaping plan. As described above, detailed information concerning fencing, location of lights, and color of structures is not necessary to adequately evaluate visual resources impacts, and would not alter the impact conclusion for Impact 4.13-2 concerning visual character. Mr. Benke does not offer any evidence

that demonstrates how project visual resources impacts would remain significant after implementation of mitigation measure 4.13-2; therefore, no further response can be provided. As described in Section 4.13 of the DEIR, implementation of mitigation measure 4.13-2 would reduce the impact to a less-than-significant level, and would not itself result in a significant impact.

Mr. Benke raises concerns about Impact 4.13-3, including insufficient project description detail, impacts to nearby viewers within proximity to the site, mitigation measures, and examples of possible lighting impacts. These concerns are addressed above in this response. The commenter does not offer any evidence that demonstrates how project visual resources impacts would remain significant after implementation of mitigation measure 4.13-3; therefore, no further response can be provided.

As noted by Mr. Benke, cumulative sky glow impacts are considered in Chapter 6, "Cumulative and Growth-Inducing Impacts," of the DEIR. No further response is necessary because no issues related to the adequacy of the environmental impact analysis were raised.

Mr. Benke states that preparation of a lighting plan is "putting the cart before the horse," and the conclusion that Impact 4.13-3 can be reduced to less than significant by mitigation measure 4.13-3 is conclusory and not supported by evidence. Please refer to responses to comments 22-19 and 12-22 regarding mitigation measure 4.13-3 and Impact 4.13-3. Mr. Benke does not offer any evidence that demonstrates how project light and glare impacts would remain significant after implementation of mitigation measure 4.13-3; therefore, no further response can be provided. As described above, detailed information such as the number of lights, range of illumination, landscaping, and effects on sensitive viewers is not necessary to adequately evaluate visual resources impacts, and would not alter the impact conclusion for Impact 4.13-3 concerning light and glare.

Cumulative Impacts

The project's cumulative visual resources impact were evaluated consistent with the requirements of CEQA in Chapter 6, "Cumulative and Growth-Inducing Impacts" of the DEIR. The *State CEQA Guidelines* state that the cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-only impacts, and should be guided by the standards of practicality and reasonableness (Guidelines Section 15130[b]). Specifically, cumulative visual resources impacts are evaluated and discussed on page 6-33 of the DEIR. As stated in the third paragraph of the cumulative visual impact discussion, the project's incremental contribution to cumulative impacts is cumulatively considerable, and the project's cumulative impact is therefore considered significant.

Regarding sky glow, although implementation of mitigation measure 4.13-3 would reduce the severity of this cumulative impact, the impact cannot be fully mitigated (see pages 6-33 and 6-41). The commenter does not provide any specific disagreements with the analysis and impact conclusions provided in the DEIR; therefore, no further response can be provided.

5-6 **Letter by Dr. Klaas Kramer**

Response to Kramer Comment 1

The comment argues that the DEIR does not adequately account for and quantify all sources of carbon emissions associated with the project. In particular, the commenter states that the DEIR should account for greenhouse gases (GHGs) embedded in construction materials and in the goods being distributed through the center.

The comment suggests that the analysis should have included emissions from the production of building materials such as cement, metal, and other accessories, or what might be called the full life cycle of the project (e.g., the milling of trees for wood for framing materials to be used in the construction of the proposed facilities). To date, most of this information is simply not available for this project or indeed for any project subject to CEQA. Thus, any attempt to quantify emissions to the extent suggested by the commenter would include a great deal of speculation, and would be of little or no practical value. (See CEQA Guidelines, Section 15145.) More to the point; however, common CEQA practice has never included attempts to generate some of the kinds of information demanded, for air quality, greenhouse gases, biological resources, or any other resource; it is neither feasible nor practical in providing informed decision making. For example, the request for quantification of the emissions "embedded in the construction materials" assumes that the applicant and their consultants have knowledge of, or could obtain knowledge of, all of the following: (i) the specific wholesale or retail suppliers of all of the building materials that construction companies would use during the build-out period for the project; and (ii) the quantities of building materials of various kinds that would be used during the build-out period. At present, the applicant has no way of knowing whether the lumber products to be used would be produced in Canada, the Pacific Northwest, the Southeastern United States, or somewhere else (e.g., Siberia or Southeast Asia). Nor can the applicant reasonably ascertain the locations of the mills where the raw lumber would be turned into building materials, and the sources of energy of those mills. Furthermore, the applicant lacks any power to address many of the emissions of concern to the commenter, occurring, as they do, in other states or countries, and involving manufacturing and milling activities outside of the project area. Taken to a similar level, the EIR does not address the biological impacts of tree removal in forests, but it is a similar "life-cycle" issue that is impractical to consider in an EIR.

The comment cites the Energy Information Administration's (EIA's) estimate of the embedded energy in retail and warehouse building construction and suggests that this estimate be used to quantify the embedded GHG emissions. It is not clear if the EIA's estimate is a national average or a value specific to California or to the proposed project. Besides, the embedded energy in building materials would be unique for each construction project depending upon the location and quantity of building materials used. Thus, it may not appropriate to use the EIA's estimate of embedded energy since the actual amount could vary considerably depending upon the factors identified above. More importantly, where the analysis could plausibly produce quantitative information in support of its analysis, the analysis has done so. The analysis includes an attempt to quantitatively include the non-speculative (direct) sources of emissions by using conservative assumptions and the best available emission factors and methods to report the direct GHG emissions that would occur from the project. The analysis in Chapter 4 of the DEIR represents a sophisticated, good faith attempt to quantify and disclose emissions using the information that is reasonably available. The analysis is in accordance with the Governor's Office of Planning and Research (OPR's) Technical Advisory on CEQA and Climate Change, which states that "Lead agencies should make a good-faith effort, based on available information, to calculate, model, or estimate the amount of carbon dioxide (CO2) and other GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities."

In addition, the commenter makes a similar comment about the embedded emissions in the products and goods distributed through the proposed center. The same rationale applied above for embedded emissions in construction materials applies to emissions embedded in goods distributed through the proposed center. The commenter supplies a national average factor for CO2 equivalent per dollar of retail cost, and proceeds to make some assumptions about the applicability of this factor to the proposed project. There are no means of knowing the source of this factor, or whether this factor is representative of the goods distributed through the center.

More importantly, the commenter's analysis of embedded GHG emissions flowing through the proposed center treats these emissions as though they are a net increase in GHG emissions. It must be noted that the project (proposed distribution center) is simply a more efficient process for distributing goods from one point to another; it does not create the demand for the goods distributed through the proposed center. The project would accommodate goods movement that is a function of the economy external to the proposed project and discretionary action by the City. Without the proposed project, the goods would be shipped through a different distribution center (e.g., Apple Valley or Porterville), and would still exist. (It could be reasonably argued that this distribution center would shorten overall trips and emissions, including GHG emissions, associated with Wal-Mart operations by a more strategic location in proximity to the stores it will serve. Otherwise, those same stores would rely on delivery of goods from the more remote distribution centers. However, this type of consideration was not included in the analysis, which is, therefore, an analysis of worst-case conditions.) The distribution center would serve as a facility to distribute goods to the point of sale, and would have no effect on the embedded emissions in the goods that pass through the project site. Further, any discretionary action taken by the City would have no effect on the embedded emissions in the goods distributed and sold by the retailer. Reporting of embedded GHG emissions in the DEIR would result in a false level of precision in the knowable GHG emissions that would occur associated with the project, and may have the effect of minimizing the importance of the GHG emissions that would occur as a direct result of the project and over which the City has some amount of control. Thus, the analysis places emphasis on the non-speculative portion of GHG emissions that would occur as a direct result of the proposed project.

Response to Kramer Comments 2 and 4

The commenter disagrees with the assertion in the DEIR that the mitigation measures proposed for the purpose of reducing GHG emissions could not be quantified at the time of writing. The commenter references mitigation measures that were proposed with the intent of reducing CAPs (and precursors) and correctly notes that these would also have some effect on GHG emissions reductions from reduced fuel consumption. However, there is no method available to accurately estimate how much fuel would be saved by each measure in order to translate into a quantifiable GHG emission reduction. The commenter does not offer methods to quantify the reductions in GHG emissions associated with each measure.

Regarding mitigation measure 4.2-6d, the commenter believes that the effect of installing an undetermined amount of solar panels is quantifiable. Because the quantity of solar panels to be installed is yet to be determined, based on the availability of surface areas with proper orientation for solar panels, it is not possible to quantify the emissions reduction associated with this measure at this time. In addition, the commenter believes that the DEIR should quantify the emissions reduction associated with purchasing electricity from a utility provider yet to be determined. This is also not possible at the time of writing. (Please refer to response to comment 22-7 regarding some text changes that will be made to Mitigation measure 4.2-6d.)

The commenter believes the effect of the measure that requires that the applicant "retain the portion of the existing almond orchard located between the proposed truck gate and future Campus Parkway" should be quantified. The baseline for this measure is the existing condition at the time of the Notice of Preparation (i.e., existing almond orchard). The measure involves preserving the almond orchard, and thus, would not cause a change to the baseline. Therefore, no emissions quantification would be involved with this measure in the context of an analysis performed pursuant to CEQA

The commenter states that the impact of inventorying GHG emissions can be quantified, but does not provide any method for quantification of the effect of inventorying GHG emissions. To date, there are not any agencies (e.g., SJVAPCD, OPR, California Air Resources Board [ARB]) that have recommended or adopted methods for quantifying the effectiveness of this mitigation measure. In fact, the California Air Pollution Control Officers Association (CAPCOA) and the Bay Area Air Quality Management District (BAAQMD) are currently in the process of developing such guidance.

Even if the magnitude of GHG emission reductions could be estimated with any level of reasonable precision, the impact conclusion 4.2-6 would remain significant and unavoidable.

The commenter also states that "the DEIR relies on mitigation being used for ROG and NOx to achieve some mitigation for greenhouse gasses." This is correct; however, the DEIR also includes Mitigation Measure 4.2-6d, which specifically requires reductions in GHGs associated with energy consumption, proper management of the site's almond orchard that consists of sequestered carbon, and an inventory of operational GHGs. The commenter expresses specific concern that "present technology for reducing ROG, NOx, and particulate fractions of emission use techniques like engine gas regeneration (EGR) and particulate filters, each of which decreases vehicle equipment fuel efficiency." This statement is correct for many technologically-based methods of reducing ROG, NOx, and particulate emissions. However, the DEIR includes multiple mitigation measures that reduce ROG, NOx, and particulate emissions by reducing the amount of activity that generates these emissions, particular the operation of motor vehicles. Please refer to Mitigation Measure 4.2-2b, Mitigation Measure 4.2-2c, Mitigation Measure 4.2-2d, and Mitigation Measure 4.2-6d.

Response to Kramer Comment 3

With respect to the GHG emissions associated with the proposed project, the commenter questions whether the "offsetting strategies contained in the DEIR" are valid. It is assumed that this comment pertains specifically to Mitigation Measures 4.2-6a and 4.2-6c, which in turn, require implementation of the Mitigation Measures 4.2-1a and 4.2-2a, which require the project to comply with SJVAPCD's Indirect Source Review Rule (Rule 9510). The discussion of Mitigation Measures 4.2-6a and 4.2-6c on page 4.2-49 states that compliance with Rule 9510 would have the added benefit of reducing construction- and operation-related emissions of CO2 and on page 4.2-50 the DEIR states that "these reductions cannot be fully quantified." This is the reason that the DEIR concludes that "because the project would potentially still result in a net increase in CO2 emission levels and conflict with the state's AB 32 goals, this impact would be remain significant and unavoidable."

The commenter then outlines criteria and standards that should be used to substantiate a GHG offset and the City generally agrees with these criteria. In addition, the commenter acknowledges that "additional criteria and standards are emerging [for offsets] as part of the process of implementing the California Global Warming Solutions Act. The commenter, however, does not recommend any particular offset opportunities. The City and its consultants believe that GHG offsets cannot be fully substantiated until these criteria are fully established.

5-7 The commenter suggests that the DEIR erroneously and "uncritically" applies the SJVAPCD's thresholds of significance for ROG and NO_X in determining the significance of project-level impacts. As stated in Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to determine the level of significance of a project's impact. SJVAPCD has recommended a threshold of 10 TPY for a project's operational ROG and NO_X emissions in its *Guide for*

Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI also includes a discussion of the basis for ozone precursor thresholds. While the commenter may disagree with the agency responsible for managing the air basin, the comment offers no evidence to suggest that, contrary to the SJVAPCD's thresholds of significance, the project's contributions should be considered significant. Because the project's mitigated operational emissions fall below SJVAPCD's significance thresholds, SJVAPCD considers that the project's ROG and NO_X emissions would be less than significant.

The comment goes on to state that the DEIR's assessment of cumulative ozone impacts is inconsistent with CEQA's definition of cumulative impacts because of the assumption that a less-than-significant project-level impact implies that the contribution to a cumulative impact is less than considerable. In Section 5.9, the GAMAQI provides the following guidance for determining whether a project would result in a considerable contribution to a cumulative impact: "Lead Agencies should use the quantification methods described in Section 4.2 [for analyzing project-specific impacts] to determine if ROG or NO_X emissions exceed SJVAPCD thresholds" (p. 53). Therefore, the SJVAPCD recommends that the determination of whether a project would contribute considerably to a cumulative impact should be based on the project's individual impact. In effect, the project threshold is the cumulative threshold. Given that these impacts are inherently cumulative (a single project would not, by itself, generate emissions that would cause the air basin to reach non-attainment), the interchangeable use of the cumulative/project threshold is logical. The project's air quality cumulative impact analysis is consistent with SJVAPCD's guidance.

5-8 The commenter states that DEIR's analysis of toxic air contaminants (TACs) applies SJVAPCD's threshold of significance uncritically, without any factual explanation of why the threshold of an incremental increase in cancer risk of 10 in one million or greater represents an appropriate threshold of significance. The commenter, however, does not provide reasons why this threshold of significance is inappropriate or offer ideas about what threshold of significance should be used in the analysis. Pages 4.2-27 and 4.2-28 explain that the thresholds of significance are recommended by SJVAPCD's *Guide for Assessing and Mitigation Air Quality Impact*. This same threshold level is used by most other air districts in California for evaluating cancer risk. Further, it appears that an enhanced risk based on 10 occurrences in 1 million people (one in 100,000) is a reasonably conservative standard (i.e. threshold) for the protection of people's health.

The commenter also states that the analysis does not provide a "project-plus-baseline" HRA, as required by CEQA Guideline 15125. The threshold used in the analysis is an incremental increase threshold, in other words, it is the level of increased risk associated with the project, which is a reasonable approach and an industry-wide accepted protocol for consideration of health risk affects. The threshold of significance used in the analysis is, and stated on page 4.2-27 of the EIR is stated as follows:

- exposure of sensitive receptors to a substantial incremental increase in emissions of TACs that exceed 10 in 1 million for the carcinogenic risk (i.e., the risk of contracting cancer) and/or a noncarcinogenic Hazard Index (HI) of 1 for the Maximally Exposed Individual (MEI), as recommended in SJVAPCD's Guidance for Air Dispersion Modeling (SJVAPCD 2007c)

5-9 The commenter raises issues related to growth inducement and expansion of operation. These issues are addressed in Master Response 1: Growth Inducement and Expansion.

6

RESOURCE MANAGEMENT AGENCY
PLANNING DEPARTMENT
Jerald C. James, Director

• 2037 W. Cleveland Avenue
• Mail Stop G
• Madera, CA 93637
• (559) 675-7821
• FAX (559) 675-6573
• TDD (559) 675-8970
• mc_planning@madera-county.com

March 13, 2009

RECEIVED
MAR 16 2009
CITY OF MERCED
PLANNING DEPT.

Ms. Kim Espinoza, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

RE: Walmart Distribution Center DEIR
SCH#2006071029

Dear Ms. Espinoza:

Thank you for the opportunity to evaluate the Draft Environmental Impact Report for the Walmart Distribution Center that the City of Merced is proposing at the intersection of Gerard Avenue and Tower Road.

The County's main concern is the amount of traffic generated predominately along State Route's 99 and 152 through the County. While the project in and of itself would not significantly add to the traffic on these State Route's, they will add to the cumulative nature of these routes. We point to the evaluation of the Childs Avenue/SR 99 intersection evaluation as an indication that there will be problems. We would like to have seen a better evaluation of the impacts to the above interchanges, as well as potential impacts on a transportation/circulation level of all traffic through Madera County as a result of this project. 6-1

On Page 1-7, an area of concern mentioned regarding issues to be resolved mentioned traffic and fog, which is prevalent in the Valley particularly during the winter months. However, further evaluation of this as it relates to traffic circulation and safety does not appear to have been evaluated. Additionally, no mention of interface with railroad crossings is made. 6-2

In review of your proposed mitigation measures, we saw no reference to a monitoring program in the sense of who will do the monitoring, how that will be carried out, and acceptable time frames for completion or on-going monitoring. 6-3

If you have any questions, please feel free to contact me at (559) 675-7821, extension 251.

Sincerely,

Jerald C. James
Planning Director

cc: Robert Mansfield, REA, Planner III

6-1 The commenter is concerned about the amount of traffic generated along State Route 99 and State Route 152 in the County. The study intersections and roadway segments identified for analysis were developed by DKS Associates in cooperation with City staff and include those most likely to be impacted by the proposed project. Traffic dissipates as it moves further from the source, and the number of available route choices increases. Therefore, certain intersections and roadway segments (such as SR 152) were considered outside the study area and too far way to accurately forecast project-generated traffic volumes. The analysis in the DEIR is appropriate and no changes to the DEIR are necessary.

6-2 The commenter expresses concern about traffic safety related to weather conditions and railroad crossings. The issue of railroad crossings is noted. Mitigation Measure 6-3 does include consideration of the need to coordinate future traffic signals with existing railroad crossing signals. It should be noted that 10% of the truck trips (64 trips per day) are anticipated to use Tower Road and cross over the railroad, with the remaining 90% accessing the street and freeway network via the Mission interchange and Campus Parkway. Regarding potentially hazardous roadway conditions caused by fog, the commenter notes that this was raised as an issue in the public scoping session, prior to preparation of the Draft EIR, but was not carried forward and analyzed in the EIR. This issue was not specifically studied for a number of reasons, including the fact that dense fog conditions are relatively common throughout most of the Central Valley of California, and roadways are designed to allow for safe driving in all weather conditions. Lastly, no significance threshold has been identified that would allow for a meaningful analysis of the potential effect on fog on roadways associated with this project.

6-3 The comment indicates that mitigation measures included in the DEIR did not identify a monitoring program. It should be noted that the majority of the mitigation measures do identify a specific monitoring agent and the FEIR includes a mitigation monitoring program (Please see Appendix A of this FEIR). However, City staff also identified various measures that required additional specificity. The text of these mitigation measures has been modified to provide clarity. Please see Section 4.2 of this FEIR for the specific text revisions.

7

Espinosa, Kim

From: Walker, Dawn on behalf of city, council

Sent: Monday, March 16, 2009 8:26 AM

To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill

Cc: Davidson, Dana; Conway, Mike; Quintero, Frank; Espinosa, Kim; Schechter, Jeanne

Subject: FW: URGENT

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Julius [mailto:julius@mercedcountychamber.com]
Sent: Saturday, March 14, 2009 3:23 PM
To: undisclosed-recipients
Subject: URGENT

Dear Members & Friends of The Merced County Chamber Of Commerce:

Opponents of the Wal-Mart distribution center have called on the city council to extend the public comment period on the Wal-Mart draft Environmental Impact Report (EIR) so that the document can be translated into Spanish and Hmong. Both the Merced Lao Family Community and the Merced County Hispanic Chamber of Commerce believe this causes an unnecessary delay and is too costly to taxpayers.

Both organizations have offered to work with the city to overcome any language barriers and provide translation services at upcoming public hearings.

7-1

City staff agrees. However, the city council will consider the opposition's request Monday night. Please join the Merced County Chamber, the Greater Merced City Chamber, Hispanic Chamber and our Merced County Jobs Coalition teams Monday, March 16th at 6:30pm at City Hall (meeting starts @ 7pm) to oppose any further delay in what has already been a very lengthy process. We need jobs now! As always, please encourage your friends and family to join us Monday night.

You can obtain a copy of the Agenda @: http://www.cityofmerced.org/civica/filebank/blobdload.asp?BlobID=7162

Thank You

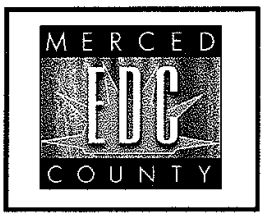
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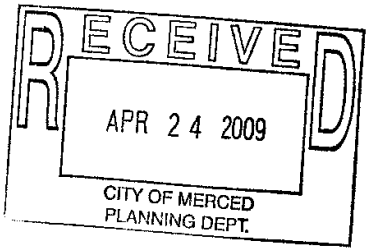
3/16/2009

Merced County Chamber of Commerce
Julius@mercedcountychamber.com
March 14, 2009

7-1 The comment describes the petition to City Council requesting that the comment period be extended for translation of the DEIR into other languages. (For more information related to public review and translation of documents, please refer to Master Response 2: Language Barrier and Public Review Period.) The commenter expresses opposition to these petitions due to the delay that may result. This comment does not raise issues with the adequacy of the DEIR.

8





April 10, 2009

Ms. Kim Espinoza, Planning Manager
City of Merced planning Division
678 W. 18th Street
Merced, CA
95340

RE: Draft Environmental Impact Report (EIR) #06-01: 2006071029 for Walmart Distribution Center

Dear Ms. Espinoza,

On behalf of the Board of Directors of the Merced County Economic Development Corporation (MCEDCO) we are pleased to express our continued support for the above referenced project and urge the City of Merced to approve the EIR. MCEDCO first evaluated this project in 2002 in response to inquiries from the site selection consultants retained by the firm to identify appropriate industrial sites. 8-1

Although the EIR addresses a multitude of topics and environmental issues MCEDCO is primarily concerned with quickly facilitating new investment and employment generated by the project and sustainable economic development that will benefit the City and entire county of Merced. It is unfortunate that the EIR does not address specific economic development resources with particular emphasis on employment and new revenue in an area suffering continued and chronic high unemployment, poverty and declining revenues to fund essential public services. 8-2

The proposed site was and is designated for industrial and business development in the City's general plan. The existing surrounding land uses are compatible and similar to the proposed project. Distribution centers already operate in the area. 8-3

The purported loss of agricultural land is not a function of this project, but rather is a result of the realization of the City's own plans for this area as an employment center. The site is buffered from residential areas by the physical barrier of the Campus Parkway right of way and future commercial and business properties adjacent to the proposed Campus Parkway 8-4

The project was cited and is a major reason that funding was secured for the Mission Avenue interchange and subsequent improved highway access to UC Merced and for the residents of south and western Merced.

The proponent has publicly pledged to incorporate state of the art equipment and vehicles to reduce emissions. The building design and site plan incorporate many features to reduce adverse impacts. 8-5

In addition to direct employment for construction, new business investment induced by the logistics center and as many as 900 new positions are projected. These jobs will be offered wagers in excess of the average income of local residents and help increase the wealth and prosperity of our community. In addition, the economic multiplier effect will induce additional employment 8-6

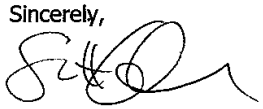
470 West Main Street, Suite 7 * Merced * California * 95340
TEL: 209-723-3889 * FAX: 209-723-4450 * email: sgalbraith@mcedco.com

opportunities throughout the community as well as stimulate new commercial and retail business and consumer services. Property and sales tax revenue from these enterprises will also support local public services.

8-6
Cont'd

Thank you for the opportunity to support this critical economic development project. Please do not hesitate to contact this office if you have any questions or require elaboration.

Sincerely,



Scott Galbraith, CEcD
President/CEO

Copy MCEDCO Executive Committee

470 West Main Street, Suite 7 * Merced * California * 95340
TEL: 209-723-3889 * FAX: 209-723-4450 * email: sgalbraith@mcedco.com

8-1 The comment introduces the letter and addresses the merits of the project and the historic involvement of MEDCO with the project. The comment is noted.

8-2 The commenter indicates that the Draft EIR does not describe the positive economic impacts from the Wal-Mart distribution center, generating direct, indirect, and induced employment to the region. Further, the commenter suggests that it does not describe the available labor and existing poor economic conditions that necessitate additional economic development in Merced. Please refer to Section 3.7.5 of the Draft EIR titled "Employment" for the proposed projected employment at the Wal-Mart distribution center. The Wal-Mart distribution center is expected to employ approximately 1,200 new employees. CEQA does not require an EIR to evaluate the overall economic impacts of a proposed project. In addition, Section 4.9 titled "Population and Housing" describes unemployment, median household income, families below the poverty level, and unemployment. Merced County was ranked fourth of all California counties in unemployment at approximately 10.9 percent in September 10.9 percent. As indicated in the Draft EIR the proposed project is anticipated to draw largely from the local unemployment pool.

8-3 The commenter indicates that the proposed site was designated for industrial and business development in the City's General Plan and is consistent with surrounding land uses. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

8-4 The commenter indicates that loss of agricultural land is not a function of the proposed project, but of the City's urbanization and growth planning. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

8-5 The commenter indicates that sustainability measures have been committed to by the applicant in a public setting. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

8-6 The commenter suggests that other light industrial development in the area may spur further employment generation. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

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9

Merced County Farm Bureau

April 24, 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Kim Espinosa
City of Merced
Planning Department
678 W. 18th Street
Merced, CA 95340

Dear Ms. Espinosa:

Merced County Farm Bureau submits the following comments in regards to the Walmart Distribution Center Draft Environmental Impact Report:

- Ag Land Mitigation – Merced County Farm Bureau requests that the conversion of agricultural land be addressed in the EIR for the proposed Walmart Distribution Center. Merced County has included a 1:1 ag land conversion policy in the Santa Nella, Delhi and Hilmar Community Plans as well as other projects, including conversion of ag land to industrial or commercial development. Merced County Farm Bureau supports in their Land Use Policy a 4:1 mitigation ratio for the conversion of agricultural land. 9-1
- Air Quality Impacts and mitigation – In addressing the impacts on air quality the City of Merced needs to consider the impacts on existing businesses and operations which in our region is agriculture. Impacts on our air quality must be addressed and not put on the backs of agriculture and our support businesses. What guarantees are in place that Walmart will be using the latest energy efficient, technologically advanced trucks and require their contracted trucks to be held to the same truck standards recently passed for the San Joaquin Valley Air Basin? 9-2
- Road Impacts – Currently our local, state and federal highways are not adequately funded in regards to maintenance. Our County and City roads, especially, are in poor condition. Trucks coming to the facility will use other roads besides Highway 99 throughout our county. Those impacts need to be addressed and mitigated. 9-3
- Truck Parking - What rules are in place to control truck parking on rural roads near the proposed facility so as not to impact the movement of agricultural equipment on our rural roads, especially those roads directly east of the facility and along South Healy Road? 9-4
- Hydrology/Water/Storm Water Drainage –
  1. Currently East and South Merced County along Mariposa Creek/Duck Slough is an impacted waterway for the East San Joaquin Water Quality Coalition (ESJWQC). With gravity flow irrigation in that region we need to know that the storm water drainage would not be entering our irrigation system waterways. If they do they need to test the water leaving the retention basin and be held to the same standards that the ESJWQC is currently held to. 9-5
  2. Currently we are in our third year of drought. A comprehensive water plan for our city and region must be in place. The Walmart Distribution Center should not impact the underground aquifers and should be required to use the latest technology for recycling and reuse of water. 9-6
- With the size of the proposed warehouse solar power should be a requirement so as not to impact our already short supplied power grid. 9-7

Thank you for the opportunity to comment.

Sincerely,

Diana Westmoreland Pedrozo
Executive Director

(209) 723-3001 - FAX (209) 722-3814 - 646 South Highway 59 - P.O. Box 1232 - Merced, CA 95341
E-mail: mcfb@pacbell.net

9-1 The comment requests the conversion of agricultural land be addressed in the DEIR. The comment further cites County policies requiring between 1:1 and 4:1 agricultural land conservation for conversions, or loss, of agricultural land. The DEIR addresses conversion of agricultural land in Section 4.1 and indicates that the impact would be significant and unavoidable. Please refer to Master Response 5: Agricultural Resources.

9-2 The commenter suggests that the City needs to consider the proposed project's air quality impacts on existing businesses and operations which are comprised mainly of agriculture. Section 4.2 of the DEIR is focused on the regional and local air quality impacts of the project. The analysis of short-term construction, long-term regional (operational), local mobile-source, odor, and TAC emissions was performed in accordance with the recommendations of SJVAPCD. The commenter does not raise a concern regarding any particular portion of the air quality analysis.

The commenter also expresses concerns about the applicant's use of energy efficient trucks. Mitigation measure 4.2-2c, which would be a required measure, would ensure that the applicant's participation in the U.S. Environmental Protection Agency's (EPA) SmartWay Transport Partnership shall include the portion of its haul truck fleet that is based at or serves the Merced distribution center. The measure would require the applicant to use energy efficient trucks in its haul truck fleet that is based at or serves the Merced distribution center. Additional text has been added to the measure, which explains that this measure would apply to the 40% of truck trips generated by the project that are operated by Wal-Mart trucks. In order to clarify how the measure would be enforced, another sentence has been added requiring that, once each year, the applicant shall provide to the City of Merced a letter from EPA confirming the project's participation in the SmartWay Transport Partnership. Please refer to Section 4.2 for text changes and additions.

9-3 The commenter states that City and County roads are in poor condition, and that impacts to County roads need to be addressed. The potential impacts to the state, county and city roadways and intersections are identified in the DEIR, and mitigation measures have been identified to address project impacts. No changes to the DEIR are necessary.

9-4 The commenter expresses concern about truck parking on rural roadways near the proposed facility. The DEIR analyzes impacts associated with truck traffic in Section 4.11 "Traffic and Transportation." This section of the DEIR includes Mitigation Measure 4.11-2b, which addresses the issue of truck traffic on local streets.

9-5 The commenter raises the concern that improperly treated stormwater drainage would enter the Mariposa River and Duck Slough irrigation systems. For runoff volumes to the irrigation systems, see Master Response 7: Detention Basins and Drainage: discussion of coordination with MID. For stormwater treatment system information see Master Response 8: Runoff Water Quality.

9-6 The commenter states that the proposed project should not be allowed to impact the underground aquifers, and should be required to use the latest technology for recycling and reuse of water. As described on page 4.12-15, the City requires new development to implement water efficient landscaping in project designs. Based on the estimated water demand for the project, available water supply, the WSA, the City's water distribution system facilities, the project's water supply and water distribution facilities impacts would be less than significant.

9-7 The commenter suggests that "solar power should be a requirement." Mitigation Measure 4.2-2d requires that "the project shall include as many clean alternative energy features as possible to promote energy self-sufficiency (e.g., photovoltaic cells, solar thermal electricity systems, small wind turbines)." Solar panels, or other on-site alternative energy sources, are also required by Mitigation measure 4.2-2d. Please also refer to response to comment 22-7 below.

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10

Espinosa, Kim

From: Walker, Dawn on behalf of city, manager
Sent: Monday, March 16, 2009 8:36 AM
To: Bramble, John
Cc: Davidson, Dana; Conway, Mike; Quintero, Frank; Schechter, Jeanne; Espinosa, Kim
Subject: FW: Wal-Mart Distribution Center to be Heard at Monday's City Council Meeting!

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Merced Co. Hispanic Chamber of Commerce [mailto:info@mercedhcc.com]
Sent: Saturday, March 14, 2009 12:41 PM
To: 'A Lujan Recovery Prog'; 'AAA-E. Escobedo'; 'AAA-N. Abarca'; 'ACN Telecom'; 'Aguilar, Margarita'; 'Alvarez, Fabiola'; 'Amado, Jim'; 'American Legal Srvcs'; 'American Legion Post 83'; 'Andaurora Ranch'; 'Atwater Chamber of Commerce'; 'AVIS'; 'Ballico General Store'; 'Better Business Bureau of SJV'; 'Better Business Bureau of SJV-M.Garcia'; 'Bilingual Tax Svrcs'; 'BloodSource-JSuarez'; 'Bright Dart'; 'Bright Dart'; 'Brookfield Land'; 'California Home Care & Hospice-Denise Palsgaard'; 'Cal-Prime Realty & Mortgage'; 'Cal-Prime Realty & Mortgage'; 'Castle Family Health Center-A.Kieffer'; 'Castle Family Health Center-F.Cale'; 'Central Calif Legal Srvcs'; 'Challenger Learning Cntr'; 'Citibank-R.Cruz'; 'Citibank-R.Rodarte'; city, manager; Thomas, Russ; 'Clearwire Broadband'; 'County Bank-E.Amado'; 'County Bank-J.Ramirez'; 'Cricket Communications'; 'Cricket Communications-S.Hearn'; 'Crookham, Kathleen '; 'David Murtos Port of Subs'; 'DeAngelos Restaurant'; 'Documas International Srvcs'; 'Dole Packaged Foods'; 'Dr. Allen Rutledge'; 'Educational Employees CU'; 'Edward Jones Investment'; 'Ernie's Transmissions'; 'Excell Pest Solutions'; 'Farmers Insurance CU - M.Borba'; 'Farmers Insurance CU-S.Medeiros'; 'Farmers Insurance District Office'; 'Fernandez, Vernoica '; 'Fernando's Bistro'; 'Finance & Thrift'; 'Flores Insurance Agency'; 'Fluetsch & Busby Insurance'; 'Gerard Self Storage'; 'Girl Scouts Heart of Cental Cal.'; 'GO Medial Group'; 'Golden 1 CU'; 'Golden Valley Health Center-J.Ayala'; 'Golden Valley Health Center-M.Sullivan'; 'Golden Valley Health Center-P.Henry'; 'Gomes, Steve'; 'Gonzales, Jesse Jr.'; 'Gonzalez, Jesse Jr.'; 'Great Lakes Airlines'; 'Greater Merced Chamber'; 'Greater Merced Chamber'; 'Greater Merced Chamber'; 'Guild Mortgage Company'; 'H&W Family Drive-In'; 'Hanneman's Inside Source/MyMerced.Com'; 'Healing Hearts "One at a Time"'; 'Heitman, Robert & Julia'; 'Hinds Hospice'; 'Hoffmans Elect. Systs-J.Rivera'; 'Homan, Naomi '; 'Indepent Insurance Agents & Brokers'; 'Ingrahams Gifts & Trophies'; 'J. West Group'; 'Joseph Gallo Farms-D.Bradley'; 'Joseph Gallo Farms-G.Thompson'; 'Joseph Gallo Farms-M.Gallo'; 'JPM Developments'; 'KB Homes'; 'Krogh, Carla '; 'Law Office of Carlos Fuentes'; 'Leap-Carpenter-Kemps Insurance'; 'Livingston Community Network'; 'Livingston Medical Group'; 'M&M Events'; 'M.A. Web Solutions'; 'Magana Chiropractic Center '; 'Magana Income Tax'; 'Mantarro, Lisa '; 'Marco's Construction'; 'MCAG-J.Brown'; 'Merced City Portal'; 'Merced Co. Chamber'; 'Merced Co. Dept. Comm. Aviation & Economic Devel. '; 'Merced Co. Dept. of Workforce Investment-ABaker'; 'Merced Co. Dept. of Workforce Investment-AMendoza'; 'Merced Co. Dept. of Workforce Investment-RRedwine'; 'Merced Co. District Fair-DConway'; 'Merced Co. District Fair-General Office'; 'Merced Co. District Fair-Tersa'; 'Merced Co. Hispanic Chamber of Commerce'; 'Merced Co.

3/16/2009

Office of Ed.-Lee Andersen'; 'Merced Co. Office of Ed-TLuna'; 'Merced College'; 'Merced COSTCO'; 'Merced County Arts Council'; 'Merced County Economic Dev.'; 'Merced County Transit-The Bus'; 'Merced Flea Market'; 'Merced Honda'; 'Merced Hyundai'; 'Merced Hyundai'; 'Merced Irrigation District'; 'Merced Mall-KAndrade'; 'Merced Schools Fed. CU-D.Sanders'; 'Merced Travel-A. Baucom'; 'Merced Travel-R. Guerrero'; 'Merced Union High District'; 'MERCO CU-M.Malone'; 'MERCO CU-S.Lopez'; 'Mercy Medical Center-L.Wegley'; 'Mercy Medical Center-R.McLaughlin'; 'Metro PCS, Inc.'; 'Metro PCS, Inc.'; 'Miguel Soto Farmer's Insurance Agency'; 'Mocse Credit Union'; 'Montoya, Ismael '; 'Morford, Virginia '; 'New York Life Insurance'; 'O'Banion, Jerry '; 'On Target Marketing/Image Masters'; 'On Target Marketing/Image Masters'; 'Pacific Cliffs Realty'; 'Parker, Robert '; 'Pazin, Mark '; 'Pedrozo, John '; 'Pete's Auto Body'; 'PG&E-Thomas Smith'; 'PGE'; 'Pimentel, Victor'; 'Playhouse Merced'; 'Playhouse Merced'; 'Projectors, Etc.'; Quintero, Frank; 'Radio Merced-A.Adams'; 'Radio Merced-J.Fuentes'; 'Ramirez & Sons Trucking'; 'Ramirez, Linda '; 'Ramirez, Vicky '; 'Rascal Creek Physical'; 'Razzari Auto Centers'; 'Razzari Auto Centers-TRazzari'; 'Roger Perez Insurance & Financial Srvcs'; 'Ruelas, Deanne '; 'San Joaquin Drug'; 'Service Master'; 'Simplicity of Heart Counseling'; 'Smith, Chrisitie '; 'State of Cal - EDD'; 'State of Cal - EDD-MDuenas'; 'State of Cal -EDD-BBittner'; 'Sunworks Power & Electric'; 'Swiggart, Conchita '; 'Tafoya, Chris '; 'Tioga Florist, Inc.'; 'Toni's Courtyard Cafe'; 'TranCounty Title-M.Byrd'; 'Transcounty Title-D.Kinney'; 'Travis Credit Union'; 'UC Merced-Larry Salinas'; 'Union Bank of Calif-Ramona Rodriguez'; 'Union Bank of Calif-Thomas Tsubota'; 'US Congressman Cardoza-L.Lopez'; 'US Congressman Cardoza-S.Dadds'; 'Valley Techlogic-ABeilanski'; 'Valley Techlogic-MHerrera'; 'Wal-Mart'; 'Wooten, Ellie '; 'Yard Masters'; 'Yosemite National Park'
Subject: Wal-Mart Distribution Center to be Heard at Monday's City Council Meeting!

URGENT - Wal-Mart Distribution Center to be Heard at Monday's City Council Meeting!

Dear Wal-Mart Supporters:

Opponents of the Wal-Mart distribution center have called on the city council to extend the public comment period on the Wal-Mart draft Environmental Impact Report (EIR) so that the document can be translated into Spanish and Hmong. Both the Merced Lao Family Community and the Merced County Hispanic Chamber of Commerce believe this causes an unnecessary delay and is too costly to taxpayers. Both organizations have offered to work with the city to overcome any language barriers and provide translation services at upcoming public hearings.

City staff agree. However, the city council will consider the opposition's request Monday night. Please join us Monday, March 16th at 7:00pm at City Hall to oppose any further delay in what has already been a very lengthy process. We need jobs now! 10-1

Thank you for encouraging your friends and family to join us Monday night.

City Council agenda - http://www.cityofmerced.org/civica/filebank/blobdload.asp?BlobID=7162

Merced County
Hispanic Chamber of Commerce
"Working for you and your community"

Office: 209-384-9537
Fax: 209-723-5051

3/16/2009

Email: info@mercedhcc.com
Website: www.mercedhcc.com

3/16/2009

10-1 The content of this comment letter is nearly identical to comment 7-1. Please refer to Response to Comment 7-1.

11

MERCED COUNTY

DEPARTMENT OF PUBLIC WORKS
Administration Division

Paul A. Fillebrown
Director
Robert E. Smith
Special Programs Director

715 Martin Luther King Jr. Way
Merced, CA 95341
(209) 385-7602
(209) 385-7622 Fax
www.co.merced.ca.us

Equal Opportunity Employer

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

April 24, 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Dear Ms. Espinosa:

The County of Merced (County) has reviewed the Draft Environmental Impact Report (DEIR) for the proposed Wal-Mart Distribution Center (Project) in Merced. The County offers the following comments on the DEIR with regards to transportation and traffic.

The County is in agreement with the assumptions and the methodology of the traffic study that was used to identify the proposed Project's impacts to the local transportation system. The County is concerned, however, that despite the fact that the traffic study shows that there will be an increase in truck traffic on Mission Avenue, west of State Route 99, there appears to be no analysis of the impacts of this increased traffic to the segment of Mission Avenue between State Route 99 and State Route 59.

This segment of Mission Avenue will be critical to serve the proposed Project as it will prove to be a popular route for truck traffic needing to ultimately travel on State Route 152 accessing Pacheco Pass and Interstate 5. It should also be considered in the traffic study and DEIR that it is not possible to travel northbound on State Route 99 from eastbound State Route 152. This traffic must use State Route 59 and likely Mission Avenue to access the Project. 11-1

Mission Avenue is designated as a Major Collector on the Merced County General Plan. The 2007 Regional Transportation Plan (RTP) adopted by the Merced County Association of Governments describes Mission Avenue as a "...future arterial, which will serve heavy inter-regional movements connecting these (Hwy 59 to Hwy 99) highways." In essence, the 2007 RTP shows Mission Avenue as the southern component of the arterial/expressway loop around the City of Merced.

Mission Avenue is therefore an important roadway for both the success of this Project and the future transportation needs of the City and County of Merced. Its current narrow width and poor structural section makes it likely to be significantly impacted by even moderate increases in truck traffic.

The DEIR should include measures to mitigate any increases in truck traffic caused by this Project to Mission Avenue, its intersections, and particularly the intersection of Mission Avenue and State Route 59. 11-1 Cont'd

Thank you very much for the opportunity to provide these comments. Please feel free to contact me should you have any questions concerning this comment letter.

Sincerely,

Robert E. Smith
Director of Special Programs
Merced County

cc: Demitrios Tatum, County Executive Officer
Jesse Brown, Executive Director, Merced County Association of Governments
James N. Fincher, County Counsel
Paul A. Fillebrown, Public Works Director
Robert A. Lewis, Development Services Director
Katie Albertson, Director of Governmental Affairs

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STRIVING FOR EXCELLENCE

11-1 The commenter states that the traffic study does not appear to analyze the impact of increased traffic to the segment of Mission Avenue between State Route 99 and State Route 59, and the DEIR should include measures to mitigate any increases in truck traffic caused by the proposed project. The roadway segment analysis considered those segments most likely to be impacted by the proposed project, based on the total trips and the trip distribution patterns. Exhibit 4.11-2 in the DEIR shows that the project would potentially add 65 a.m. and 48 p.m. passenger-car-equivalent trips traveling on Mission Avenue west of SR 99 (study intersection 14).

Comments regarding SR 152, I-5, SR 99, and Mission Avenue west of SR 99 are noted. The DEIR traffic analysis would not change based on these comments, as the locations noted are outside the study area limits that were identified for this traffic analysis.

The intersection of Mission Avenue and SR 59 was not included in the analysis. Traffic dissipates as it moves farther from the source, and the number of available route choices increases. Therefore, this intersection was considered to be outside the study area and too far away to accurately forecast project-generated traffic volumes. No changes to the DEIR are required.

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RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

12

April 27, 2009

Kim Espinosa,
City of Merced, Planning Dept.

Re: Draft E.I.R. for proposed Wal-Mart Distribution Center

The Merced Group of the Sierra Club welcomes the opportunity to submit comments on the Draft Environmental Report (D.E.I.R.) for the Wal-Mart Distribution Center (W-M D. C.) proposed in the City of Merced. We have concerns about specific areas of the document where mitigations are not fully explored and those that are included are not adequately described. Also lacking throughout many mitigation proposals is a mechanism to monitor compliance and enforcement specifics. We also see some overall areas that are treated too cursorily and explored incompletely. These include the sections on alternatives, air quality, health risks , and urban blight (degradation of the local community). We also have concerns that other environmental impacts such as those on water quality and containment of hazardous wastes are not adequately addressed in this rendition of the E.I.R. We expect that the Final E.I.R. will be more thorough and complete so that the City of Merced can objectively discern whether the proposed Wal-Mart Distribution Center on balance will be a benefit to the community or a liability.

12-1

12-2

The Merced Sierra Club also goes on record as saying that inadequate time was given to the public to properly read and weigh the information contained in the DEIR. The document and its supporting appendices are some voluminous and represent technical analysis and study that was three years in the process. In fact Wal-Mart took an additional year to rework the document once they saw some of the complications and complexities it posed. Despite this, the public was given only 60 days to read the entire document, digest its contents, check its facts, and make informed comment on the issues posed.

The review process has been further complicated by the fact that all documents were presented only in English. The Merced community at large and much of those in the immediate vicinity of the project are not english speaking. The public requested that at least the executive summary and the basic impacts and mitigations be translated into Spanish and Hmong. There was also a request for some presentations be made to the community, focusing on residents in the project area and those whose children attend the nearby schools. it was hoped translators would be made available. In other words "extenuating circumstances" exist- specifically the complexity of the document and language barriers of those most impacted. Under CEQA provisions more time is allowed and should be granted to insure proper involvement by the public in the project review process. The City Council was approached by the public early in this process requesting an extension to the review and comment period. By a vote of 5 to 1 they rejected these requests.

12-3

The CEQA process demands that proper review by the public and the opportunity for input be provided. The Merced Sierra Club was among those who actively implored the City council in written and public comment to make this process as open and transparent as possible. In our opinion this was not done.

Air Quality

The ultimate conclusion of the DEIR's analysis is that impacts on air quality by the Distribution Center are "insignificant" (page 5-34). Estimates are that the WMDC will produce 74,812 tons of carbon dioxide per year. This is more than double the total greenhouse gas emissions for the entire county calculated for 2005. Recent recognition by the federal government that CO2 is indeed a factor in climate change requires that our community be attentive and responsive to meeting the expectations of lowering these levels. The California Air Resources Board (CARB) has recently passed their cleanup plan for diesel emissions through the year 2030. How 600-900 trucks a day can run in and out of the WMDC, idling as they load and unload, without causing a significant impact is imponderable. Reference is made to low emission W-M trucks being used. Hopefully this will indeed be the case and will also be monitored and enforced. There is no mechanism in the DEIR to make sure this happens. Nor are contingencies or consequences spelled out should this commitment not be followed through on. 12-4

Of important note is that many of the trucks (up to 2/3 by some accounts) moving in and out of the distribution center will not be company vehicles. There need to be the same 'air friendly' requirements for them as the Wal-mart vehicles. If not then the DEIR analysis needs to define how this impact will be prevented or mitigated. It is definitely not "insignificant" as stated under the construction and long term emissions section (page 5-34). 12-5

It is clear that our County with its number 6 ranking in the state and our Valley with 4 counties out of the 10 worst in the country, cannot afford to indulge any business or industry that flagrantly adds to our severely compromised air quality. Especially when there are ways to do business in a more responsible manner. A company such as Wal-Mart (second largest in the nation) can certainly be a trend setter in finding effective controls and mitigations for this challenge. 12-6

Idling rules are of a similar concern. The Wal-Mart trucks are stated to have a three minute automatic shut off feature. There are also electric hook ups for those parked for an extended time. These are good features to help control emission impacts. Will all the Wal-Mart company trucks entering and leaving the distribution center have these features? Will the non-Wal-Mart trucks have similar controls? They should. And all of this should be monitored and enforced by an outside agency or party chosen by the city and paid for by Wal-Mart. Penalties for violations should be stated upfront and fully mitigate any compromising of Valley air quality. Of note is that recent studies out of Los Angeles have shown that diesel emissions have been directly linked to lung damage if sensitive receptors like schools are nearby. 12-7

The impacts of the WMDC on our local and regional air quality need to be explored in depth and mitigated completely. The second largest company in the U.S. certainly has the resources to be responsive to the health and quality of life impacts which they bring to our residents. 12-8

Traffic 12-9

Clearly traffic impacts of the WMDC will be monumental, not just on Hwy 99

and its on and off ramps, but on local residential streets as well. One of the great errors in siting this facility was its location so close to schools and residences. Traffic flow through many intersections will be degraded to unacceptable levels. The DEIR states that during the AM peak hours six intersections will be rated LOS F and one LOS E. During the PM peak conditions are only slightly better with five at the F level and two at the E level. Mitigations for these significant impacts are minimal. One signal with a possible lane addition is the ONLY mitigation offered for these impacts on local intersections.

12-9 Cont'd

One stretch of road identified as impacted is a segment of Tower Rd. between SR 140 and Gerard Ave. The current striping is identified as faded- Wal-Mart's mitigation is to paint it darker. Is this a reasonable commitment to the problem?

12-10

The only other stretch of roadway impacted according to the traffic analysis is SR 140 between Kibby and Santa Fe. That would be degraded to a LOS of E during AM peak traffic. The mitigation- add a lane in each direction for that stretch alone. Why not double the width of all existing roadways that WM trucks and over 900 employee commuters will use? Why not really improve our already inadequate roadways and intersections in the area (many already rated at LOS D)?

12-11

And what of our 63 million dollar Mission interchange which Wal-Mart had no part in helping to finance (though their intent to build a distribution center nearby and use it extensively was clear). Impacts recognized as "significant" in the DEIR are mitigated by restriping the northbound and westbound approaches. Will this adequately compensate for over 3800 "auto equivalents" per day (90% of the 4300 total) created by the distribution center trucks and employees ? Is this what the city and county had in mind when they designed the main access route to UC Merced? Is this the 'first impression' we wanted to make for those visiting our newest showpiece and the potential future attractant for real green jobs and industries? Was this additional load on freeway access taken into account when the campus parkway and Mission interchange were planned? In either case restriping seems an overly simplistic solution to a serious traffic dilemma.

12-12

The WMDC clearly will have major impacts on local roadways and the nearby freeway access ramps. Though large trucks may be equated to "four autos' in the analysis by DKS Associates, the reality of their impact logically seems greater. These large trucks have reduced mobility, acceleration limitations, wider turning radii, wide girth, and visibility constraints which will impact local roadways far more than the equivalency numbers acknowledge.

12-13

Land Use

Although the proposed site for the WMDC is indeed zoned "industrial", the City should certainly have reconsidered that designation as housing and schools grew right up to the borders of this land parcel. When the application by Wal-Mart was submitted that would have been a perfect time to reassess. Three sides of the project site are county rural areas. The west side border is filled by low and medium density residential homes and a mobile home designation. The only "developed" land in the area is a tiny neighborhood commercial designation and another similar parcel on the other side of the freeway. This does not sound like a prime area to replace productive farmland with an intensely used industrial facility.

12-14

The City's objectives for this land's use are: maintaining proper buffers, creating jobs for local residents, and improving roadways (3.6.1) The General Plan standards of maintaining suitable buffers have been ignored. Wal-Mart refuses to make any specific commitments to employing locals at the distribution center. In fact what Wal-Mart terms "full time jobs" often mean as few as 28 hour work weeks. The City needs to demand some tangible, written commitments that will assure us that the economic benefits we seek reach our citizens? And finally, the improvements to roadways are meager and in fact do not even maintain current LOS levels on existing roads. Many intersections will be lowered to LOS' of E and F but the traffic created by the Wal-Mart project. The City should find an applicant who indeed meets their own stated objectives for this land parcel.

12-14

12-15

Underscoring how inappropropriate the distribution center is for this area of town, is the significance of impacts caused by the proximity to residences and schools. Impacts like: light pollution, noise, storage of large amounts of toxic chemicals, potential impacts on runoff and groundwater, and diesel fumes are especially unsuited to these kinds of neighbors. And these impacts are magnified because they exist 24-hours-a-day. These homes and schools are 'neighbors' who were already there, neighbors who undoubtedly had no awareness that such a facility could spring up nearby. Ones who had no idea that they and their families were settling in a neighborhood where a facility of this size and problems of this magnitude would be their "neighbor".

12-16

This points to another issue largely ignored in the DEIR- that of urban blight. The impact on homeowners is the nearby community and the investment they have in their family homes cannot be ignored. it cannot be deemed insignificant. Property values in the area are sure to plummet if the distribution center becomes a reality. Major truck traffic, significant commuter traffic, light pollution, 24 hour a day noise issues, environmental hazards, potential traffic accidents all make the nearby homes undesirable residences. What impact will this have on an already depressed and desperate housing market? Will this be an area of town where people migrate to or exodus from. The answer seems clear.

12-17

Also of note if we are appraising the future of the community adjacent to and in the vicinity of the distribution center is the potential impact of the trucking subculture. Truck stops are notorious for drug-dealing and prostitution. As trucks park and wait to unload, perhaps for hours or overnight, what assurances do we have that such trafficking will not occur. If they do: pity to the nearby residents and their families, woe to the schools nearby, and heads up to local law enforcement. The EIR needs to have contingency plans and mitigations should such problems come with this project. Should they not then the issue will be moot and no one's welfare will be compromised.

12-18

Finally, in regards to land use, the fact that this is productive crop land places the city's zoning of it as industrial in to question. What resource is more rare in the world, critical to feeding mankind, and essential to the economic soundness of our region than farm land? Aren't there more marginal lands in the county more suitable for industrial use. The City's General Plan is in a update process. Hopefully they are following suit with the county and the region by trying to preserve as much farmland as possible, and encourage higher density use within the existing footprint.

12-19

Other Environmental Concerns

Air quality rates its own discussion but other impacts associated with this project are noteworthy too. Will the run-off basins be adequate to meet the 100 year flood standards? What assurances are there that runoff and groundwater will not be contaminated by petrochemicals in the ____square feet of blacktop? Those same waters could be in jeopardy from chemicals stored on site, including 6,000 gallons of new oil, up to 2500 gallons of waste oil, and 20,000 gallons of diesel fuel. Given the many problems neighborhood gas stations have had with leaks and ground contamination, how ca we be assured that these incredibly larger amounts will be safely stored and monitored. No one wants a spill or leakage but the fact is they do occur. There need to be specific standards to safeguard transportation and storage of these toxins and consequences built-in should they impact our health, water supplies, land, etc. In fact are the impacts of the fuel trucks bringing diesel and oil on to site included in the traffic as well as safety impacts? 12-20

Noise is another problem of no small consequence. Diesel trucks will pass by homes and near schools 24-7. Another major noise impact is the practice of "dropping" which where trucks release their trailers. This creates a resounding noise- Hundreds of times per day, day and night?! 12-21

The DEIR states that light will be "contained within the borders of the distribution center site" and therefore will not be a significant impact. This is an interesting new physics discovery- the fact that light will not cross property lines. Forty-five foot high poles with halogen lights, even if directed downward, will indeed illuminate the neighborhood. The glow across the Valley from major facilities like the local prisons makes this seem obvious. 12-22

Health Risk Assessment

A comprehensive health risk assessment is sorely lacking for the DEIR document. The health of Merced citizens is the top priority of our community and should be for our elected leadership. We need analysis of how air quality degradation will impact the health of residents nearby, the three schools in the area (and a potential fourth), and our community as a whole. Experts agree that the cost of health care is one of the main factors creating our economic crisis. We in the Central Valley, and Merced County specifically, already have asthma and respiratory problems far in excess of state and national averages. The costs for medical care of these conditions is in billions of dollars. A project like the Wal-Mart distribution center which will bring more traffic accompanying emissions to our area will increase both the human and monetary health costs. The DEIR needs to attempt to estimate these impacts and Wal-mart needs to propose some preventive measures and/or mitigations. For instance build and staff a local respiratory clinic. Too much to ask? too expensive? well the certainly same is true for the city's citizenry. It seems only fair that the entity creating the hardship should pay for its impact. 12-23

Alternative Sites

The alternatives proposed by the Merced City panning staff and analyzed in the DEIR seem very limited, as though they are meant to point to the proposed site 12-24

between Childs Ave. and Girard and tower Roads as the only acceptable one. Are there really such limited options in the city? in the county?

Alternative #1 is geographically very close and current use very similar so that many of its advantages and disadvantages are identical to the chosen siting. The main advantage cited is that employee autos would have easier access via the Mission interchange instead of using Childs Ave. and hwy 99.

Alternative #2 west of Hwy 99 is zoned as a "business park" so it does not seem compatible with the project. One clear plus is that it does not have any residences or sensitive areas adjacent to it. The DEIR does not see this as a difference. It equates this property as "similar" because it has the "potential for residences" (5-31). With this logic wouldn't any land be termed "similar" since conceivably houses could be built almost anywhere at a future time? This seems an invalid point of 'similarity' that ignores a definite advantage of this alternative which does not have the neighborhoods and schools around it that the chosen site does.

12-24 Cont'd

Alternative #3 is an industrial zone of town with many facilities of this kind already located nearby. To discount it as 'a possible wetlands" makes one wonder why it is designated industrial already and how nearby businesses have cleared such concerns. Hazardous materials near an airport are discussed as a concern. Aren't these an even greater concern near residences and schools! at the proposed site?

In essence the alternatives presented are limited and seem skewed in their analysis to favor the chosen site between Childs Ave. and Gerard and Tower Roads as the only viable alternative. This is not a valid conclusion. One alternative that may make sense in this DEIR is that of "no project". This distribution center in fact might not belong in the city limits. Other centers in the state are more removed and remote from population and traffic. Other locations in the county may better meet the criteria for both Wal-Mart and Valley citizens. Hopefully the City will not make undefendable compromises just to land some possible revenues. Jobs would still come to Merced citizens as long as other sites were within the county.

In Conclusion

The overall focus of the DEIR is misplaced. The limited extent of study and discussion reflects the priorities of the applicant, not those of the community. In the appendices, which cite relevant studies and statistics, over 200 pages are allotted to traffic concerns. This is 1 1/2 times the TOTAL for all other areas combined. Air quality should head the list given the potential impacts on nearby schools and residents not to mention the community as a whole. It is given a mere 28 pages of consideration. Is this because data regarding our area's air quality, asthma and respiratory complications, and impacts on children and the elderly is not available. To the contrary, air quality has been a focus of regulation and legislation at the regional and state level. AB 32 has underscored this focus. The addition of a scientist and health expert to the CARB Board show commitment to tackling this crisis aggressively. Recently adopted statewide standards and goals for ozone, P.M. 10, PM 2.5, and diesel emissions show this to be a "hot issue". An yet it remains an understated and little discussed portion of this DEIR.

12-25

So why are traffic issues so thoroughly analyzed in the appendices and later discussed and mitigated in the DEIR? Probably because this impact is most tied to the efficient running of the distribution center. Circulation along roadways is what Wal-Mart prioritizes for their needs. Their concern is likely less for Merced residents than for the ease of moving 600-900 trucks a day on and off their premises.

Human health concerns, impacts on local residents and school children, these are not the priorities of Wal-Mart. To be accepted and responsible new members to our city and our community they should be. Our elected officials have the responsibility to make sure they are top priorities for Wal-mart as well as any other new business entering our community. Yes we need jobs, yes we need economic stimulus, but what these really bring us is "quality of life". Cleaner air to breathe, safety and conservation of our water resources, preservation of our productive farmland, and perhaps most importantly the health of our citizens are critical for true "quality of life". Let's demand that new businesses meet this vision. If a Wal-Mart Distribution Center can meet those criteria, then welcome them with open arms, if they do not, then please send them back to the drawing board.

12-25 Cont'd

Please keep us appraised of further developments in the Wal-Mart Distribution Center project. We certainly are anxious to see if the Final EIR for this project meets the community's needs and expectations. I trust that each of the City Council members thoroughly reviewed the DEIR and will take letters of comment into consideration when they make recommendations for the final EIR. We also appreciate the expertise of City Staff in advising the Council in their deliberations on this proposed project.

12-26

Roderick Webster

Roderick Webster
Chair, Merced Group of the Sierra Club/ Tehipite Chapter
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12-1 The comment indicates that mitigation measures did not identify a monitoring mechanism. The FEIR includes a mitigation monitoring program (Please see Appendix A of this FEIR). This issue is addressed in response to Comment 6-3.

12-2 The comment suggests that the EIR's analysis of various issue areas is cursory. However, the commenter only generally identifies the issue areas and does not provide any specific examples or any reasoning behind this allegation. Except for minor changes or clarification provided in this FEIR, the DEIR's analysis of the issue areas identified is considered appropriate per CEQA.

12-3 The commenter suggests that the duration of the public comment period for the Draft EIR was inadequate doe to the size and complexity of the document and supporting appendices and that the document should have been translated into Spanish and Hmong. Please refer to Master Response 2: Language Barrier and Public Review Period, which fully addresses these issues.

12-4 The commenter states that "the ultimate conclusion of the DEIR's analysis is that impacts on air quality by the Distribution Center [would be] 'insignificant'." To clarify, six separate impacts are discussed in Section 4.2, "Air Quality." Generation of Short-Term Construction-Related Emissions of Criteria Air Pollutants and Precursors (Impact 4.2-1) would be less than significant with mitigation. Generation of Long-Term Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursor Emissions (Impact 4.2-2) would be less than significant with mitigation. Generation of Long-Term, Operation-Related (Local) Mobile-Source Emissions of carbon monoxide (Impact 4.2-3) would be less than significant and no mitigation would be required. Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants (Impact 4.2-4) would be less than significant and no mitigation would be required. Exposure of Sensitive Receptors to Emissions of Odors (Impact 4.2-5) would be less than significant and no mitigation would be required. Generation of Emissions of Greenhouse Gases (GHGs) (Impact 4.2-6) would be a significant impact and implementation of Mitigation Measures 4.2-6a through 4.2-6d would reduce greenhouse gas emissions, but not to a less-than-significant level.

The commenter states that "estimates are that the [Wal-Mart Distribution Center] [would] produce 74,812 tons of carbon dioxide per year." This is not stated in the DEIR. Table 4.2-10 of the DEIR shows that the estimated operational emissions of CO_2 would be 12,708 TPY. The commenter also states that the project's GHG emissions would be "more than double the total greenhouse gas emissions for the entire county calculated in 2005." However, the commenter does not state the total value of the GHG inventory for the county or the source of this information.

The commenter states that "recent recognition by the federal government that CO_2 is indeed a factor in climate change requires that our community be attentive and responsive to meeting the expectations of lowering these levels." This comment is noted and the City agrees. The environmental and regulatory setting for GHG emissions and climate change is discussed on pages 4.2-11 through 4.2-14 of the DEIR and a discussion of construction- and operation-generated emissions of the proposed project is discussed under Impact 4.2-6 on pages 4.2-46 through 4.2-56.

The commenter also states that "how 600-900 trucks a day can run in and out of the [proposed distribution center], idling as they load and unload, without causing significant impact is

imponderable." Trucks would not idle as they are loaded and unloaded. Haul trucks would check in at the entrance gate, proceed to their assigned drop location, and decouple their trailer. Then an on-site yard trucks would move the trailer to a loading dock and leave the trailer at the loading dock for loading or unloading. A tractor would not be attached to the trailer during the loading or unloading period. The significance determinations made for Impact 4.2-2 and Impact 4.2-4 are described in the DEIR. The commenter does not address the reasoning used to reach these significance determinations and, therefore, the comment does not raise issues with the adequacy of the DEIR.

12-5 The comment states that up to 2/3 of the vehicle trips generated by the project will not be "company vehicles." Additional information has been added to the project description explaining that approximately 40% of the truck trips generated by the project would be Wal-Mart-operated trucks. Please refer to Section 4.2 for text changes and additions.

The comment states that the non-Wal-Mart vehicles should be subject to the same emission reduction requirements as the Wal-Mart trucks. It is considered administratively infeasible for the applicant to create and enforce rules regarding the emissions efficiency of trucks that are not under its control. This would be similar to an office building requiring the U.S. Postal Service to only deliver its mail in vehicles that meet certain efficiency standards. Additional text has been added to Mitigation Measure 4.2-2c, which explains that this measure would apply to the 40% of truck trips generated by the project that are operated by Wal-Mart trucks. This measure also states how implementation of the measure would be monitored.

The comment also states that the impact "is definitely not 'insignificant'" as stated under the analyses of construction- and long-term operational emissions. The comment provides no reasons why the impact conclusion for construction-generated emissions should be considered significant. With regard to the commenter's statement about operational emissions, it is assumed that the commenter means that emissions from non-Wal-Mart trucks were not accurately estimated. However, the emissions for all truck trips does not account for the fact that emissions from by Wal-Mart trucks would be lower than those from non-Wal-Mart trucks. A statement has been added to Table 4.2-7 to provide additional clarity. Please refer to Section 4.2 for text changes and additions.

12-6 The commenter describes the poor air quality within the county and suggests that projects adding to the air quality problems should not be approved. The commenter indicates that Wal-Mart should be able to mitigate these impacts. The Draft EIR identifies feasible mitigation measures to reduce emissions generated by the proposed project. These measures include those required by the SJVAPCD, as well as additional measures derived by professional air quality specialists that specifically target the project-generated emissions; although these mitigation measures would successfully reduce emissions associated with project construction, emissions generated during the operation of the project cannot be successfully mitigated to a less-than-significant level. The commenter does not offer additional or alternative mitigation measures; therefore, the Draft EIR appropriately analyzes and mitigates air quality impacts to the extent feasible, and no changes to the Draft EIR are necessary.

12-7 The commenter raises concern about idling emissions from the trucks. All trucks would be required to comply with ARB's air toxic control measure limiting stationary idling by diesel-fueled commercial trucks to 5 minutes (13 CCR Chapter 10 Section 2485). The comment also states that "the Wal-Mart trucks are stated to have a three minute automatic shut off feature" and that "there are also electric hookups for those [trucks] parked for an extended time." On the contrary, no such statements are written in the DEIR. Please refer to the response to comment 12-

5 regarding the proportion of trucks using the site that would be Wal-Mart trucks, and related mitigation, and the enforcement mechanism for the mitigation.

The comment also expresses concern about diesel emissions sources and their effect on local schools. The potential for exposure to off-site receptors, including nearby schools, is analyzed in Impact 4.2-4, Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants.

12-8 The commenter states that the impacts to local and regional air quality need to be explored in depth. The air quality analysis is presented in Section 4.2 of the DEIR. Please refer to Master Response 13. The commenter also states that the impacts to air quality shall be "mitigated completely." CEQA requires lead agencies to adopt all mitigation to reduce significant impacts to the extent feasible. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." (CCR Section 15364) If an impact cannot be feasibly mitigated, it is considered a significant and unavoidable impact. In the case of air quality, all impacts were reduced to the extent that feasible mitigation was available to do so.

12-9 The commenter states that the proposed facility should not have been sited so close to schools and residences, and that the mitigation measures for identified significant impacts are not adequate. Many of the LOS conditions cited in the comment would occur regardless of the proposed project. Impacts associated with the proposed project have been identified, and mitigation measures are provided in the DEIR, which reduce the project's impacts to the extent feasible. No changes to the DEIR are required.

12-10 The commenter expresses concern about a mitigation measure requiring the painting of roadway striping on Tower Road. The roadway striping was identified as an issue that needs to be improved. Roadway striping affects driver behavior and overall safety on the roadway; therefore, the mitigation measure is appropriate. No changes to the DEIR are required.

12-11 The commenter expresses concern about the adequacy of mitigation for impacts to the stretch of SR 140 between Kibby and Santa Fe Streets. Impacts associated with the proposed project have been identified, and mitigation measures for the project's impacts are provided in the DEIR. The issues of roadway capacity, number of vehicles, widening needs and other transportation factors have been identified and noted under the timeframes under which they may be needed (e.g., 2010 Background, or 2010 Background with Project Condition, etc.). The poor operating conditions cited in the comment are projected to occur under No Project Conditions due to projects already approved and ambient traffic growth in the study area. The proposed project's incremental impacts are measured against a baseline that already has poor operating conditions projected. No changes to the DEIR are required.

12-12 The commenter expresses concern about the adequacy of mitigation for impacts to the Mission Avenue interchange, and states that restriping is an overly simplistic solution to a serious traffic dilemma. The commenter cites the Campus Parkway and Mission interchange projects, and is speculating that the impact of trucks would logically be greater than the assumed passenger car equivalent of four autos per truck. The figure of four autos per truck is very conservative by current industry standards. The Mission interchange and Campus Parkway projects are important projects. When they were each envisioned and originally analyzed they each assumed the known cumulative traffic forecasts, which would include the General Plan buildout of the area. In addition, roadway striping affects driver behavior and overall safety on the roadway, as noted in the response to comment 12-10; therefore, the mitigation measure for striping (along with the other mitigation measures required to reduce this impact) is appropriate. No changes to the DEIR are required.

12-13 The commenter indicates that the impacts from large trucks is greater than the assumed ratio of four autos equals one truck. The passenger car equivalent of four passenger cars for every truck is a conservative estimate and takes into consideration the factors noted in the comment such as mobility, acceleration, etc. Although the commenter disputes the conclusion, no support for such dispute is offered.

12-14 The commenter raises issues related to proximity of the proposed project to residences and schools and suggests potential land use conflicts may occur. The commenter also indicates that the project does not include the required buffers. The commenter seems to be suggesting that the proposed project is located too closely to urban residential development, while simultaneously arguing that the location is too rural. As discussed in detail under Master Response 7: Agricultural Resources, industrial land uses are not considered to be in conflict with agricultural uses, and no buffers are required. As noted by the commenter, the project site is surrounded mostly by agricultural uses (not to mention other industrial uses), and the commenter mistakenly states that low- to medium-density residential development exists adjacent to the west of the site. In fact, the residential development to which the commenter refers is located approximately 1,200 feet west of the site (nearly ¼ mile). The commenter does not consider the fact that the project site has already been evaluated for industrial use, such as that proposed, in the EIR prepared for the General Plan.

Second, the commenter restates the City's objectives for the industrial land use zone which includes creating jobs for local residents and suggests that Wal-Mart does not make commitments to employ local residents. The commenter states the City should demand commitments that assure the economic benefits reach the community. Where appropriate, a DEIR may contain discussion of economic impacts of a project; by themselves, however, such impacts "shall not be treated as significant effects on the environment"(CEQA Guidelines, Section 15131, subd. [a]). As discussed in the CEQA Guidelines, "there must be a physical change resulting from the project directly or indirectly before CEQA will apply" (discussion following CEQA Guidelines, Section 15131). If a proposed project may cause economic consequences but no significant environmental impacts, CEQA does not require that an EIR be prepared (Hecton v. People of the State of California (1976) 58 Cal.App.3d 653, 656 [CEQA was "not designed to protect against the…decline in commercial value of property adjacent to a public project"]). Thus, a project's changes to land uses do not necessitate CEQA review unless such effects are "related to or caused by physical change" (discussion following CEQA Guidelines, Section 15131). The commenter provides no evidence of economic changes, nor of any adverse physical changes, that would be caused by implementation of the proposed project. The DEIR analyzes all potential physical impacts of implementing the proposed project, as is required by CEQA. No additional analysis is required.

12-15 The commenter indicates that proposed project traffic will lower intersection LOS to E and F, and the City should find an applicant who meets their objectives for this land parcel. Many of the LOS conditions cited in the comment would occur regardless of the proposed project. Impacts associated with the proposed project have been identified, and mitigation measures for the project's impacts are provided in the DEIR.

12-16 The commenter suggests that the project would result in land use conflicts and other environmental impacts that would affect the existing residents and schools. The commenter indicates that residents "undoubtedly had no awareness that such a facility could spring up nearby." Regarding land use conflicts, please refer to Response to Comment 12-14. It should be noted that the other environmental issues raised (i.e., light pollution, noise, hazardous materials, water quality, and air quality) are analyzed in the DEIR: light pollution is discussed in Section 4.13 "Visual Resources;" noise is addressed in Section 4.8 "Noise;" hazardous materials are

addressed in Section 4.10 "Public Health and Hazards;" water quality is addressed in Section 4.6 "Hydrology and Water Quality;" and air quality (including effects related to diesel emissions) is addressed in Section 4.2 "Air Quality." The comment does not suggest that the Draft EIR inappropriately analyzed these issues. Regarding the purported residents' lack of knowledge of the potential for an industrial land use at the site, the project site has been designated for industrial use for over a decade (a portion of the site has been designated Industrial for at least as far back as the General Plan adopted in 1980), which predates much of the residential development in the area (the subdivisions west of the Doane-Hartley Lateral/Future Campus Parkway were developed after 2000). The planning process for the General Plan was a public process, and the documents are all publicly available. The comment does not raise issues with the adequacy of the Draft EIR. The comment is noted.

12-17 The commenter suggests that the Draft EIR fails to evaluate the blighting effects of the Wal-Mart distribution center to the housing market. Please refer to Master Response 11: Economics and Urban Decay, which addresses this issue.

12-18 The commenter raises concerns about social and crime problems that could potentially arise as a result of an increase in long-haul truck drivers in the community. Concern is expressed that truck drivers may engage in illegal activities such as drug dealing and prostitution. Concerns were also expressed that truckers who are delayed from delivering or receiving materials will need to spend long hours of idle time in Merced without a place to park and without basic facilities and services.

The comment is essentially focused on anticipated social behavior that cannot be accurately predicted. Moreover, these potential activities would not generally result in environmental impacts; social impacts are not subject to analysis under the California Environmental Quality Act. (See CEQA Guidelines Section 15382) The exception to this would be instances in which social behavior could result in an environmental effect. For example, if criminal activities led the Merced Police Department to a decision to add onto its existing station or build a new facility, such as a sub-station, such activity could potentially have an environmental effect. As is standard practice for development projects proposed in the City of Merced, the Merced Police Department was asked to comment on the proposed project and make recommendations. Comments from the Police Department did not express concern about potential illegal activities or other nuisance factors associated with an influx of truck drivers. Specifically, the Police Department determined that, with proposed on-site security measures and payment of City impact fees, the proposed project would not result in an impact on police services.

There is no direct correlation between the presence of truck drivers and criminal activity; there are no identifiable potential environmental effects.

12-19 The commenter asks what resource is more critical to feeding people and essential to economic soundness of the region other than farmland. The comment expresses hope that the City will follow the County and region in attempting to preserve as much farmland as possible and encourage higher density land uses. Regarding economic issues, please refer to Response to Comment 12-14. Related to the preservation of farmland, please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

12-20 The comment questions if runoff basins would be adequate to meet the 100-year flood standards and raises concerns regarding spills and leaks from the above ground and underground storage tanks. For flood standard concerns see Master Response 7: Detention Basins and Drainage. For storage tank spill prevention see Master Response 8: Runoff Water Quality regarding source control. Also see Comment 3-1. Source control measures are required under NPDES Industrial

General Permit requirements. And see Comment 3.3 regarding aboveground and underground tank regulations and safety procedures.

12-21 The commenter expresses concern about noise generated by diesel trucks passing by homes and schools on a "24/7" basis. Noise levels generated by off-site truck travel are addressed in Impacts 4.8-3 and 4.8-4 of the DEIR. The commenter also expresses concern about noise associated with on-site truck activity including the practice of "dropping" (i.e., decoupling) trailers from the truck tractors. On-site noise-generating activities are discussed under Impact 4.8-2. The loudest on-site noise-generating activities observed at the existing distribution center in Apple Valley are presented in Table 4.8-10 of the DEIR. This table, however, does not include the decoupling of trailers from semi-tractors or from yard trucks. Decoupling trailers from semi-tractors does not involve the dropping of the trailer onto the pavement because this could cause damage to the trailer. When decoupling, the driver steps out of the semi-tractor and raises the front end of the trailer with a stabilizer jack until all of the weight of the trailer's front end is supported by the jack. Then the driver enters the semi-tractor and pulls away from the trailer. The coupling of a semi-tractors to a trailer is a noisier activity and the noise level (L_{max}) generated by this activity was measured to be 79.5 dBA at distance of 50 feet, or 56.6 dBA at the nearest off-site sensitive receptor, as presented in Table 4.8-10. The comment does not raise issues with the adequacy of the DEIR.

12-22 The commenter indicates that the DEIR does not find that proposed project lighting impacts are significant, and that lighting would illuminate areas beyond the borders of the project site. The analysis of project lighting impacts is provided on page 4.13-14 of the DEIR (see Impact 4.13-3). As described therein, the project would result in potentially significant light and glare impacts, and mitigation is recommended to reduce these impacts to less-than-significant levels. In particular, the first paragraph on page 4.13-14 states that the project would result in a very noticeable increase in illumination on and from the site that would be readily visible from all of the public streets abutting the site and from vantage points beyond. In addition, as described on paragraph 4 on that page, there is potential for light spillage impacts on adjoining properties, and light spillage could result in glare impacts on persons at vantage points beyond the site boundary. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided. See also the response to comment 5-5 (Visual Resources).

12-23 Commenter states that that "a comprehensive health risk assessment is sorely lacking for the DEIR." A comprehensive HRA is included in Appendix C of the DEIR. Impact 4.2-4, Exposure of Receptors to Toxic Air Contaminants, includes discussion about the potential health risk from short-term construction-related emissions of TACs and long-term operation-related emissions of TACs. The methodology and results of the HRA are summarized in the discussion about long-term operation-related emissions of TACs on pages 4.2-43 through 4.2-45. This discussion analyzes the potential health effects of nearby residents, workers, and schools. Please also refer to Master Response 13.

12-24 The commenter criticizes the list of alternative sites as too limited. The commenter finds fault with Alternative Site #1, but presents advantages for locating the proposed project at Alternative Sites #2 and #3. The commenter focuses on impacts to residential uses and dismisses other potential environmental impacts that could occur at these alternative sites. Please see Master Response 12: Alternatives for more detailed discussion regarding CEQA's purpose and requirements for the alternatives analysis.

12-25 The commenter suggests, based merely on the number of pages, that the DEIR's traffic impact analysis overshadows the much more important air quality analysis. The DEIR makes no

suggestion that either traffic or air quality is a more important issue. The DEIR treats all issues objectively and focuses most on those environmental resources most likely to be adversely affected by the project. However, that is not to say that because the traffic analysis has more pages than the air quality analysis that the project has a greater potential to result in traffic impacts. The number of pages does not equate to significance. Traffic analyses tend to consume a lot of pages because of the nature of traffic computer modeling and the large volume of data output sheets. The commenter is incorrect regarding the unequal treatment of these environmental issues. The DEIR dedicates the appropriate level of analysis to air quality and traffic issues.

12-26 This comment asks that the City keep the commenter notified of the status of the proposed project and take the comments offered into consideration before acting upon the Final EIR and the application.

13

MERCED IRRIGATION DISTRICT

April 14, 2009

RECEIVED
APR 24 2009
CITY OF MERCED
PLANNING DEPT.

Kim Espinosa, Planning Manager
City Of Merced
678 West 18th Street
Merced, California 95340

Subject: Completion of DEIR for Wal-Mart Distribution Center – APN's 61-250-90, 61-290-47

Dear Ms. Espinosa:

The Merced Irrigation District (MID) has reviewed the above referenced notice and offers the following comments:

MID operates and maintains the Doane Lateral in a pipeline assembly of varying diameters, west of, the west property line of the project. 13-1

MID respectfully requests that the City require the following, as conditions of approval upon development, the following:

1. If storm water is to be discharged to any MID facility, the owner/applicant shall enter into a "Storm Drainage Agreement" with the Merced Irrigation District Drainage Improvement District No. 1 (MIDDID No. 1), paying all applicable fees.

2. MID offered Wal-Mart alternatives regarding discharging storm water to either the Fairfield Canal or the Farmdale Lateral/Doane Lateral. Wal-Mart needs to engage MID to verify discharge rates, means for connection and water quality requirements before MID can set its final requirements. Depending upon the approved route and discharge location, certain improvements, including but not limited to, pipelines, sensors, discharge structure assemblies and their appurtenances would be required. MID will notify the City as these issues are worked out between MID and Wal-Mart 13-2

3. That the property owner must execute an appropriate agreement for all crossings over or under any MID facilities, including utilities, crossings and pipelines.

4. A signature block will be provided for MID on all Improvement Plans that impact MID facilitiles.

5. A "Construction Agreement" between the owner and the MID shall be executed for any work associated with MID facilities.

744 West 20th Street P.O. BOX 2288 Merced, California 95344-0288
Administration / Electric Services (209) 722-5761 / FAX (209) 722-6421 / Water Resources Engineering (209) 722-5761 / FAX (209) 726-4176
Finance \ Billing Dept. (209) 722-3041 / FAX (209) 722-1457 / Irrigation Operations (209) 722-2720 / FAX (209) 722-1457

6. In response to Page 2-30, Item 4.6-1, please note that construction runoff into MID facilities is not allowed. In addition, said Doane Lateral is in a pipeline assembly. Therefore, no storm runoff into said lateral is possible. Storm water discharges meeting MID requirements during the construction phase can be discussed, subject to proper design considerations to protect water quality within the Doane Lateral and any downstream connected facilities or creeks. 13-2 Cont'd

7. There is an MID 21KV electrical line located within the Kibby Road extension right of way that services City Well No. 10 at the south end of the project site. According to the site plan, the west portion of the warehouse would be in direct conflict with this existing electrical line. Mitigation of this problem will require the realignment of said electrical line within a new, appropriately sized easement.

8. MID requests a copy of the final, signed CEQA documents.

In addition to providing reliable, low-cost power, the Merced Irrigation District has developed a New Construction Rebate Program for new businesses. Rebates are available for projects estimated to exceed a Title-24 or standard practice baseline by at least 10% on a whole building performance basis. The maximum rebate is $150,000 per year, per customer and will not exceed 50% of the project's cost (equipment plus labor). These incentives encourage owners to make energy efficiency a major goal in new building projects. For more information, please contact David Carroll at 722-5761. 13-3

The project is located within an area of the Merced Irrigation District where untreated surface water (secondary water) is available for landscape irrigation. The use of surface water for landscape irrigation will help conserve valuable groundwater in the Merced area. The developer should explore the installation of a dual water system and utilize MID surface water to irrigate landscape areas within the project. 13-4

Thank you for the opportunity to comment on the above referenced notice. If you have any questions, please contact me at 722-5761.

Sincerely,

Rory Randol
Facilities Specialist

cc: Dan Pope, General Manager
Robert Acker, Director of Facilities and Streams
Hicham ElTal, Assistant General Manager - Water Resources Engineering
Ron Price, Associate Engineer - Water Resources
Robert Lindsey, MIDDID No. 1
Steve Dunn, Assistant General Manager - Electrical Services
David Carroll, Assistant General Manager - Business and Resource Planning - Electrical Services

13-1 The comment indicates that MID requires conditions of approval from Wal-Mart. See Master Response 7: Detention Basins and Drainage regarding MID conditions of approval.

13-2 The comment indicates that MID requires conditions of approval from Wal-Mart. See Master Response 7: Detention Basins and Drainage regarding MID conditions of approval.

13-3 The comment describes a new rebate program offered by Merced Irrigation District for energy efficiency in buildings. The comment does not raise issues related to the adequacy of the DEIR. The comment is noted.

13-4 The comment indicates that the project site is within an area of the Merced Irrigation District where secondary water is available for landscape irrigation. The comment recommends that the applicant explore installation of a dual water system and utilize surface water for landscape irrigation, which would help conserve groundwater. Section 4.12 of the DEIR "Utilities and Public Services" includes analysis related to water supply and distribution, which is based on a Water Supply Assessment prepared specifically for the proposed project. The DEIR concludes that the project would result in a less-than-significant impact related to water supply. No mitigation is necessary to reduce this impact, and the comment raises no issues with the adequacy of the DEIR. This comment will be forwarded to the decision makers.

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14

MERCED LAO FAMILY COMMUNITY, INC.
A Non-Profit Organization

March 6, 2009

RECEIVED
MAR -6 2009
CITY OF MERCED
PLANNING DEPT.

City of Merced
The Honorable Mayor and City Council
C/O Planning Department
678 W. 18th Street
Merced, CA. 95340

Dear Mayor and City Council,

It has been reported in the newspaper that several members of the community are calling on the city to extend the Wal-Mart environmental impact report's public comment period so that it can be translated into Spanish and Hmong. We believe that this would be an unnecessary cost to the city and taxpayers.

The Merced Lao Family Community, Inc is more than pleased to work with the city to help overcome any language barriers associated with interpreting the content of the EIR, including providing interpreters at city planning commission and council meetings. Working together, we are confident that the Hmong community will be well informed and comfortable with knowing that our elected leaders will act in the best interest of our community.

To date, no member of our community has expressed any concern with the project. In fact, the response has been overwhelmingly supportive for a distribution center project that promises over 900 full-time jobs. 14-1

With the news that Merced County's jobless rate has reached nearly 19%, I can assure you that unemployment among the Hmong community is even higher and this is very concerning. For every day that the Wal-Mart project is delayed for unnecessary and costly requests, it is one less paycheck for the thousands of residents seeking employment.

We urge the city to continue its course and again, we offer our services and support to you.

Thank you for considering our invitation to work with you for the betterment of the Merced community.

Sincerely,

Chong Sue Xiong
Vice President

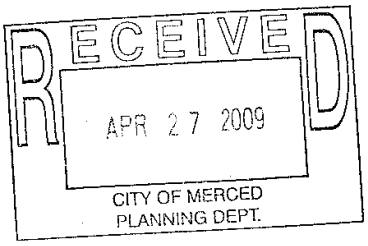
855 W. 15th Street • Merced, California 95340 • (209) 384-7384 • Fax: (209) 384-1911
Website: www.laofamilymerced.com • Email: mlfc@laofamilymerced.com

14-1 This comment indicates that translation of the DEIR into other languages is not necessary. The comment further discusses the merits of the project, and raises no other CEQA issues. The comment is noted.

15

April 1, 2009

Ms. Kim Espinosa
Project Director
Merced Planning Department
678 W. 18th St.
Merced, CA 95340



Kim,

Why is it that Health Risk Assessments are only taken seriously in the Wal-Mart DEIR when it comes to the children of the employees? What happens if you admit that the health risks resulting from the distribution center are so bad for children that the distribution center should not have on-site child care, but the distribution center is fine for all the children who currently live in Southeast or attend our schools? What is NOT good for the goose it good for the gander? That's pretty insensitive and very insulting to me.

15-1

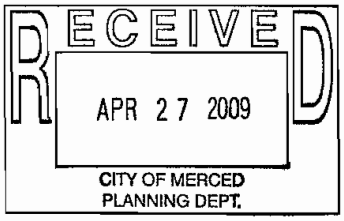
Mike Baldwin
Merced-Mariposa Asthma Coalition - Steering Committee
559-903-4570
41810 Rd 40L
Coarsegold, Ca 93614

15-1 The comment is not written clearly, but it is assumed that the commenter questions why the DEIR (and supporting HRA) concludes that the increased exposure of children, schools, and residents located near the project site to project-generated TACs is considered a less-than-significant impact (as discussed in Impact 4.2-4), but that an on-site child daycare center for employees' children shall not be provided. To clarify, Mitigation Measure 4.2-2b states that an on-site child daycare center for employees' children shall not be provided unless supported by the findings of a comprehensive HRA performed in consultation with SJVAPCD.

The comprehensive HRA prepared for the proposed project, which is included in Appendix C of the DEIR and discussed under Impact 4.2-4, analyzes the potential health effects of nearby off-site residents, workers, and schools. The HRA and impact discussion did not address the potential health effects to children at a possible on-site daycare facility because a daycare facility is not included in the project description. Therefore, the DEIR did not conclude that a daycare facility should not be located on the project site.

16

April 27, 2009



Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

RE: Comments on the Draft Environmental Impact Report for the Proposed Wal-Mart Distribution Center in Southeast Merced (State Clearinghouse Number 2006071029)

Ms. Espinosa:

We are the Stop Wal-Mart Action Team: a three year-old grassroots community group opposed to the impacts of the proposed Wal-Mart distribution center. Many of our members and supporters live in South and Southeast Merced, meaning that our health and quality of life will be among those most affected by the proposed distribution center and other development in southeast Merced. Since 2006, over 4,000 Merced County residents have signed petitions opposing the project as proposed and expressing their concern over its impacts.

Over the past several years, members of the Stop Wal-Mart Action Team have commented on a number of matters related to the proposed distribution center and issues related to its impacts. We are deeply concerned that without adequate political representation, southeast Merced will continue to develop as an underserved neighborhood facing the concentrated build-out of the highest-polluting land uses in Merced. We find it unacceptable for this project to happen on the backs of southeast Merced residents.

Our reading of the Draft Environmental Impact Report (DEIR) is based on the Southeast Merced Community Survey conducted from November 2008 to April 10, 2009 by Stop Wal-Mart Action Team members, volunteers, friends and family members. This letter is divided into two sections: first, a discussion of the survey and its results, and second, comments on the DEIR itself which are informed by the survey. However, we wish for the entire letter to be considered by the City of Merced in the course of preparing written responses to comments, as required for production of the Final EIR.[C1]

16-1

I. The Southeast Merced Community Survey

Why we conducted the survey
We believe that people who are most affected by development in their community should be heard the loudest in the decision-making process. San Joaquin Valley communities that are already overburdened with higher-than-average crime, poverty, pollution and foreclosure rates often find themselves coping with the local impacts of industrial and otherwise "unwanted" land uses. These communities – our communities – are also more likely to feel excluded from the local political system.

Many of the proposed distribution center's most severe impacts are local; however, the voices of people most affected by the project have largely been missing from public dialogue about the project. We see this survey as an effort to support southeast Merced residents in having their interests heard in what is likely the most controversial project in the history of southeast Merced.

Methodology
We define "southeast Merced," as the area within Merced city limits east of Highway 99, south of Highway 140 and bounded by Mission Ave. to the south and Tower Rd. to the East. The Survey was conducted over a six month period using an intensive door-to-door interviewing process with a mail or drop off option for

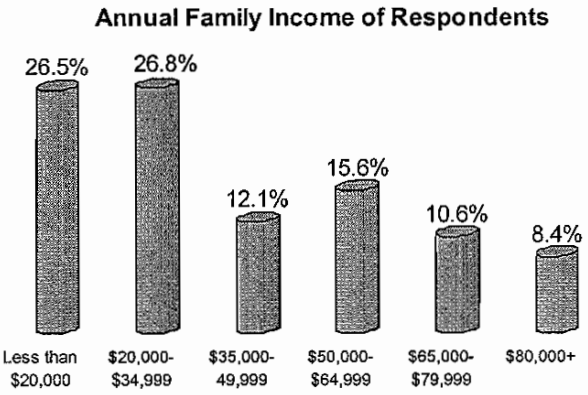
those residents who were not home. Door-to-door surveys improve the quality and level of response, allow more personal interaction and ensure that certain groups, for example young people, people who speak English as a second language, or people living in a particular neighborhood are able to participate meaningfully.

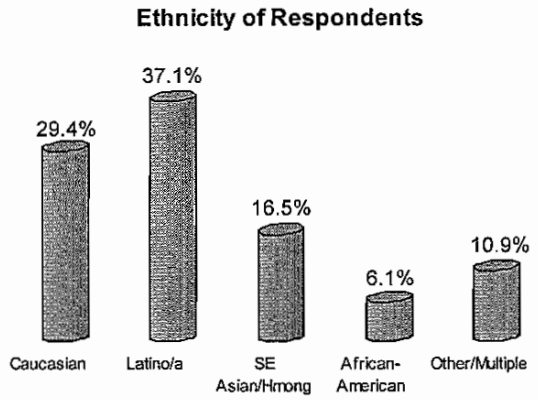
We estimate that roughly 90% of southeast Merced residents were given the opportunity to take the survey either via a personal visit at their door or a survey left at their doorstep. The other 10% includes homes and apartment buildings that restrict access to outsiders and allows for some human error by volunteers[C2].

Respondents

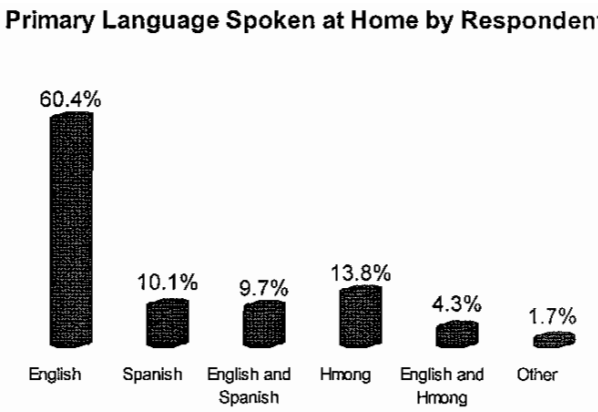
Of the 416 surveys received, 25 were administered via a Spanish language version questionnaire, and a smaller number were verbally translated into Hmong. Survey respondents were demographically diverse in terms of income, ethnicity, language, and family size. About a quarter of respondents earn a total annual family income of less than $20,000 a year, while another quarter earn between $20,000 and $35,000, and 8% have a family income of $80,000 or more. Respondents self-reported their ethnicity as roughly 37% Latino/a, 29% Caucasian, 17% Southeast Asian (including Hmong), and 6% African American. Almost two-thirds of respondents speak primarily English at home, but a fifth spoke either primarily Spanish or a mix of English and Spanish, and another fifth Hmong or English and Hmong. About 70% of respondents have children living at home with them; of these, the majority have either one or two children, but 10% had five or more.[1]

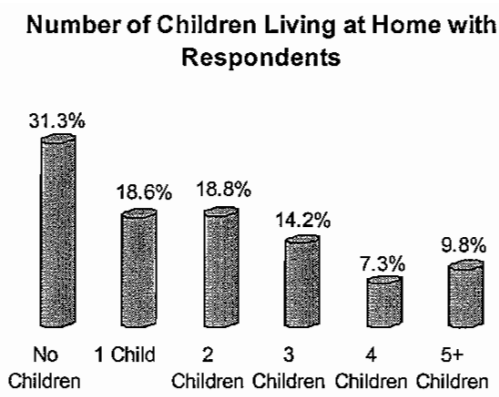
Altogether, although detailed census data are badly out of date as an objective standard of comparison, our familiarity with our city leads us to believe that the demographic mix of respondents to the survey is representative of the neighborhood as a whole. We can characterize Southeast Merced as a multiethnic, residential/family-oriented neighborhood rapidly transitioning to an urban center from its rural/agricultural roots.





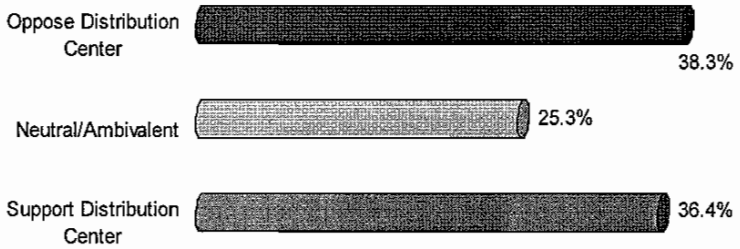
[1] Calculations of percentages of survey respondents reported herein exclude any respondents who did not provide an answer to a particular question.





Findings

❖ **A plurality of respondents opposed the distribution center, but overall feelings about the project were very mixed.**



Many claims of popular support have been made in the contentious debate over the proposed Wal-Mart distribution center. Our results show that, in reality, southeast Merced is deeply divided on the issue. Perhaps the most notable aspect of these results is that a full quarter of respondents fell somewhere between support and opposition—they filled in "2" on a scale of support for the distribution center ranging from 1 (oppose) to 3 (support). This finding suggests that meaningful mitigation of project impacts or guarantees of benefits could create a solid base of support for the project—but without real mitigation or guarantees, even the support it currently enjoys is likely to erode.

❖ **Neither income, nor ethnicity, nor number of children had any significant effect on levels of support for the distribution center.**

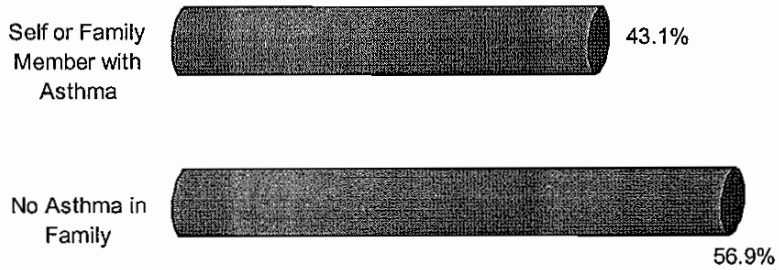
One might expect that a respondent's annual family income would be closely related to level of support for the distribution center. Lower-income residents might be expected to be more interested in new jobs, and thus be more supportive of the distribution center. However, we found that there were no significant differences in levels of support for the center among respondents of different income levels.[2] Similarly, one might have expected that residents with more children would be more supportive, due to interest in new jobs both for themselves (to better support their children in the present) and for their children (for the future). However, again, we found no significant differences among respondents with different numbers of children living at home in terms of levels of support for the center.[3] Finally, although it is unclear precisely what effect one might have expected ethnicity to have on support for the distribution center, it is still worth noting

[2] An ANOVA revealed that there were no significant differences (P=0.179) among respondents within different annual family income classes in terms of their level of support for the distribution center.

[3] An ANOVA revealed that there were no significant differences (P=0.444) among respondents with different numbers of children in terms of their level of support for the distribution center.

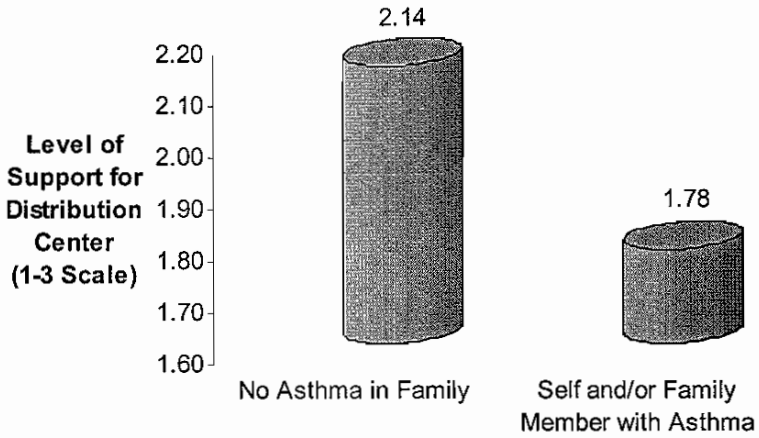
that we found no significant differences among respondents of different ethnicities in this regard.[4] These findings suggest that other factors are making the difference between support and opposition for the distribution center.

- **Almost half of respondents had asthma themselves, had a family member with asthma or respiratory problems, or both.**



Existing, widely reported data indicate that twenty percent of children in the San Joaquin Valley have been diagnosed with asthma.[5] Our survey results indicate what this means for Merced families—more than 43% of respondents had asthma themselves, had a family member with asthma, or both.

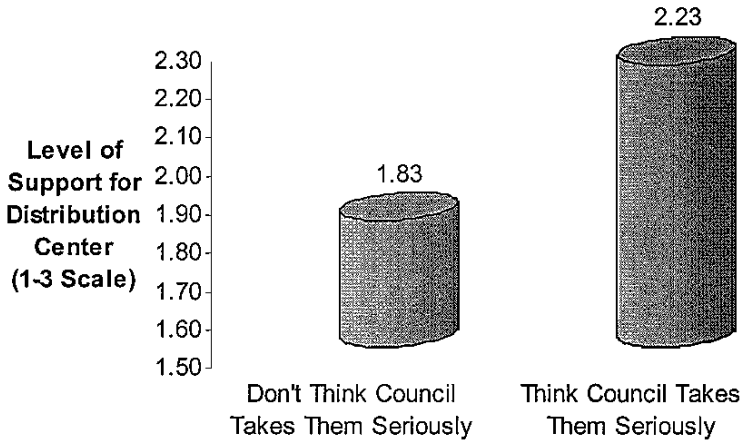
- **Experience with asthma or respiratory problems significantly decreased support for the distribution center.**



Respondents who have asthma, have a family member with asthma, or both showed a significantly lower level of support for the distribution center than those with no experience of asthma in their families.[6] Furthermore, the average score for those with no asthma in their families was above the neutral "2" (meaning they tended slightly toward support for the center), while the average score for those with asthma in their families was below neutral (meaning they tended toward opposition). This finding, combined with the extremely high levels of asthma in the community, helps to explain the serious concerns about the distribution center's air quality impacts that have been frequently expressed over the past several years.

[4] An ANOVA revealed that there were no significant differences (P=0.694) among respondents of different ethnicities in terms of their level of support for the distribution center.
[5] See for example the Merced/Mariposa County Asthma Coalition's 2008 "Report to the Community on Asthma."
[6] A two-sample *t*-test assuming unequal variances found that respondents who had asthma and/or family members with asthma scored significantly lower than others in terms of support for the distribution center. In fact, the difference was highly significant (for one-tailed test, P=0.00006).

❖ **Opponents of the distribution center felt more politically disenfranchised than supporters.**



Nearly half (47%) of respondents felt that the Merced City Council as a whole would not take them seriously if they stated their opinions to City Council. Furthermore, these disenfranchised residents on average were significantly more opposed to the distribution center than those who felt that the City Council did take them seriously.[7] In short, southeast Merced residents will be uniquely impacted by this project, and yet feel uniquely excluded from the process by which this project will be considered by City Council.

Other results:

- In order of favorable response, southeast Merced residents want the following types of development in their neighborhood: Places to shop (71%); parks (70%); health care (63%); schools (59%); offices (56%); industrial (36%); residential (34%).
- 56% of respondents feel that truck traffic near schools in southeast Merced is a "major problem." However, 37% of respondents feel that truck traffic is not *currently* an issue in the neighborhood. We feel these answers indicate a consciousness of the health and safety threat posed by the build-out of nearby industrial land.
- By a two to one ratio[C3], respondents felt that they have "no confidence" that City Council makes decisions that benefit the health and quality of life of residents in south and southeast Merced.
- Despite years of publicity surrounding the project, 30% of respondents in southeast Merced were unaware of the project.

Full results of the Southeast Merced Community Survey are attached to this document.

II. Comments on the Wal-Mart Distribution Center Draft Environmental Impact Report

The DEIR as written is inadequate as an informational document. It should be recirculated via an inclusive process that allows residents most affected by the project's impacts to participate meaningfully. 16-2

Participation and process

Throughout the DEIR comment period, the City has heard from residents struggling to understand what the DEIR says. At the first available City Council meeting on March 2, several residents approached Council to ask for a 1-2 month extension of the comment period; meaningful translation of part of the DEIR; 16-3

[7] A two-sample *t*-test assuming unequal variances found that respondents who thought City Council did not take them seriously scored significantly lower in terms of support for the distribution center than those who thought Council took them seriously. In fact, the difference was highly significant (for one-tailed test, P=0.0006).

notification to residents near the project site; and a public hearing in southeast Merced, with translators, to explain the DEIR's findings and receive comments. All of these requests were rejected by a 5-1 vote when the requests were agendized at the March 16 City Council meeting.

As demonstrated by the Southeast Merced Community Survey, residents directly affected by this project want to participate meaningfully in the CEQA process, but have been frustrated by the barriers erected by the City and contempt expressed by some City Councilmembers. [C4]

16-3 Cont'd

According to CEQA, "EIRs shall be written in plain language and may use appropriate graphics so that decision-makers and the public can rapidly understand the documents" (CEQA Guidelines § 15140). There are a number of established ways to measure how easy it is for a reader to understand a given piece of writing. For example, the text from 4.2-42 to 4.2-44 describes how the project's long-term on-site operational emissions supposedly result in a "less than significant" exposure of carcinogenic soot to sensitive receptors. This passage scores an 18.59 in the Standard Measure of Gobbledygook (SMOG) test, and a 17.9 in the Flesch-Kincaid grade level test, meaning that a Master's-level education is required to comprehend the section. As a whole, the Air Quality chapter scores a 15.9, meaning that it requires a four-year degree to understand the chapter. According to the 2006 Census, 11.6% of Merced County residents have a Bachelor's Degree or higher.

16-4

Unfortunately, the DEIR comment period will be closed by the time you read this letter, excluding many of our members and affected residents from meaningful participation.

Southeast Merced is already an underserved, overburdened neighborhood

The project site is 4.2 miles from the nearest fire engine company station and 7.1 miles from the nearest truck company station. According to Fire Chief Mitten, the project site falls outside of the City of Merced Fire Department's accepted response standards (Lyons Annexation #97-22 memo dated 4/29/1998). Quantities of flammable and hazardous materials would be stored on-site, jeopardizing the health and safety of southeast Merced residents. Adequate fire and police protection must be in place before the facility is operational.

16-5

There is a long-acknowledged, regular level of diesel truck travel through Childs Ave. and Gerard Ave. in southeast Merced. Residents in the neighborhood have long complained about truck parking in residential neighborhoods, excessive truck idling, and illegal off-route truck driving. Communities near distribution centers commonly experience these issues. The EIR should identify measures to actively enforce and, where necessary, strengthen existing laws regarding truck traffic.

16-6

The Weaver School District was predicted to exceed its K-8th grade facility capacity of 2,470 students at the beginning of the 2008-2009 school year. Given the elevated health impacts, absenteeism, safety risks, infrastructure degradation and population increase generated by the project, Wal-Mart should pay a 2:1 School Facilities Impact Fee.

16-7

If Toxic Air Contaminants generated by diesel trucks using this facility require the Weaver School District to relocate its planned school site between Gerard Ave. and Childs Ave. adjacent to the western edge of the Campus Parkway, Wal-Mart should be required to reimburse the School District fully for the costs of relocating its long-planned school site.

16-8

Agriculture

The DEIR should explain how the tax assessment of the project site will increase pressure adjacent agricultural land to convert their land for development. [C5]

16-9

The project site does not incorporate an adequate buffer from adjacent agriculturally-zoned land. 16-10

The DEIR does not assess the crop damage due to elevated ozone exposure from this project. 16-11

We feel that 4:1 mitigation is appropriate for the conversion of prime agricultural land on the project site. 16-12

Air quality

We follow southeast Merced residents' clear concern over the effects of localized diesel truck emissions as expressed in the Southeast Merced Community Survey. Forty-seven percent of southeast Merced residents either have asthma or other respiratory problems, or have a family member that does. This is an urgent public health crisis. We have identified several deficiencies in assessment of these impacts in the DEIR.

A Health Risk Assessment (HRA) that incorporates cancer risk from off-site operational traffic emissions generated by vehicles using the facility must be conducted for southeast Merced residents to fully understand how this project will impact their health. The HRA ignores construction phase impacts and Toxic Air Contaminant exposure to truck drivers and other workers employed at the facility. 16-13

Any mitigation agreement should prioritize the elimination of emissions generated by the project's mobile and stationary sources. We oppose any voluntary agreement that permits concentrated local emissions over the life of this project because of uncertain and questionable off-site in-lieu fees.

The DEIR prematurely identifies the project's regional operational air quality impacts as less than significant by relying on undefined mitigation measures, such as those supposed to exist in not-yet-negotiated voluntary agreements between Wal-Mart and the San Joaquin Valley Air Pollution Control District (SJVAPCD)[C6]. The DEIR denies the 47% of families with a member with respiratory problems the opportunity to appropriately assess and participate in this aspect of the process. The DEIR should be recirculated with identified emission reduction measures to allow for public review and comment before discretionary approval. 16-14

The DEIR fails to assess how criteria air pollutants generated by this project will impact Air Basins outside of the San Joaquin Valley, including Yosemite National Park and Kings Canyon National Park. 16-15

Cumulative on- and off-site emissions generated by the project represent a significant cancer risk level. Wal-Mart should provide proper warning to the surrounding neighborhood that its development will cause an elevated cancer risk.

A Safe Use Determination pursuant to the Safe Drinking Water and Toxic Enforcement Act of 1986 must be obtained regarding the diesel engine exhaust produced and concentrated locally as a result of the project before discretionary approval can be granted. The DEIR, at the very least, must contain a full discussion of the Act and its applicability to the project. 16-16

The Air Impact Assessment mitigation process described in the Air Quality chapter improperly defers mitigation. Construction and operational particulate emissions generated by the project after Indirect Source Review mitigation are still significant and should be treated as such. The approach taken in the DEIR—namely, refusing to quantify the effects of mitigation measures and instead merely asserting that standard control measures will ensure less-than-significant impacts—ignores the unusually high levels of particulate emissions produced by the project.[C7] 16-17

The discussion of carbon monoxide (CO) inappropriately uses SJVAPCD screening criteria to rule out in-depth study of CO hot spots. First, SJVAPCD's screening criteria are pre-empted by a more stringent 16-18

standard contained in a mitigation measure for the current General Plan (and also incorporated as a 1998 Lyons annexation mitigation measure): "Appropriate CO (CALINE or equivalent) hot-spot air quality studies shall be prepared to identify appropriate project level mitigation measures for all development proposals which can be expected to reduce road segment or intersection levels of service below "D"." Every segment or intersection with a projected "E" or "F" level of service in 2010 or 2030 must be subjected to a CO hot-spot study. Furthermore, the rationales provided in the DEIR for not performing these required studies are unsupportable and are not found in either the SJVAPCD screening criteria or the General Plan/Lyons annexation mitigation measure. 16-18 Cont'd

Mitigation[C8]
The mitigation measures related to air quality and energy use are inappropriately vague and improperly defer mitigation, denying the public an opportunity to assess and comment upon proposed mitigation. 16-19

The EIR improperly assumes that a number of air quality and traffic impacts will be less than significant after mitigation. There are too many uncertainties in the implementation of the Air Impact Assessment, proposed voluntary agreements between Wal-Mart and the SJVAPCD, and proposed roadway improvements to support those conclusions. 16-20

The City of Merced has a history of not fulfilling its mitigation monitoring enforcement responsibilities, including on this very site. This project violates adopted mitigation measures for the Weaver Annexation and Lyons Annexation. [C9] 16-21

Traffic
There is little evidence that the City has coordinated with the County or CalTrans about this project's impacts, including changes to the Campus Parkway. The DEIR should be circulated with the Campus Parkway EIR/EIS and UC-Merced Long Range Development Plan EIR.

The DEIR requires modifications to Campus Parkway to accommodate project traffic. Currently, plans for Campus Parkway have been finalized and approved by all applicable agencies, but construction has not yet begun. Making modifications to the project will require either recirculation of Parkway plans or waiting until the first phase of the Parkway is completed as currently planned (and then making modification to accommodate the distribution center). 16-22

The City of Merced and Lyons Investments, LLC have piecemealed the expansion of Childs Ave. and Gerard Ave. adjacent to the distribution center site in order to facilitate the approval of this project[C10]. The DEIR must assess the full impacts of these expansions, which to date have been considered separately.

The traffic study is unnecessarily vague and inadequate. It makes unsupportable assumptions about the route that trucks would use to reach the facility, the number of trucks using the facility at peak hours and the types of vehicles using the facility.

Noise
The noise impacts identified are not significant and unavoidable. Commonly used mitigation measures such as soundproofing windows are not discussed. 16-23

Cumulative impacts
Expanded Initial Study #97-22 assumes that full build-out of the entire 484-acre Lyons Annexation land will occur over a 40-year period (by 2037). Various studies included in the EIR ignore the build-out of this 16-24

industrial area, even while incorporating the build-out of other adjacent uses into their analyses. These probable future projects include a 500 megawatt natural gas peaking power plant and industrial park near Childs Ave. and Kibby Rd.

The DEIR improperly concludes that cumulative air emissions are less than significant. This conclusion is particularly unwarranted in the case of exposure to Toxic Air Contaminants, as the Health Risk Assessment fails to address the substantial current and future "background" exposure levels of sensitive receptors near the project site from existing and planned emission sources.

16-24 Cont.

Economics

When the City of Merced considers discretionary approvals for this project, any economic benefits from the project need to be weighed against the project's costs in damage to human health, productivity, infrastructure and agricultural crop yields (many of which are localized to southeast Merced and eastern Merced County), among other impacts. Because some impacts have been determined to be "significant and unavoidable," the City will have to adopt a Statement of Overriding Considerations if it chooses to approve the project. The DEIR must provide adequate information for decision-makers to consider in weighing this choice.

16-25

Because the project's impacts are primarily local, the project's benefits should be local as well. The DEIR should 1) describe how many employees at the facility would be new hires, and 2) include a binding mitigation measure that 100% of new employees hired at the facility reside in Merced County.

The DEIR should assess local hiring as a mitigation measure to reduce employee trips and reduce the project's air quality emissions.

Wal-Mart has faced a long history of lawsuits charging structural discrimination against women and people of color. Because of the demographics of Merced County, a local hiring requirement would not be adequate without addressing these issues. Thus, the local hiring mitigation measure described above should incorporate binding conditions from its recent settlement with African-American truck drivers. The settlement directs Wal-Mart to "establish benchmark hiring goals so future hires are proportionate by race to the composition of applicants, select a diversity recruiter, and improve its recruitment efforts and advertising aimed at African-Americans" (*Wall Street Journal,* 02/20/2009).

16-26

Alternatives

The Project Objectives are unnecessarily limited; just because Wal-Mart rejected an otherwise viable site doesn't mean that the site should be rejected without further question. Legitimate alternatives were discarded inappropriately.

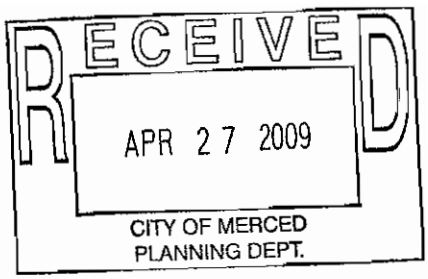
The rationale behind discarding the Reduced Site Plan as the Environmentally Superior Alternative is confusing and unnecessarily vague.

16-27

The DEIR and the CEQA process for this project to date have failed to meet legal standards and excluded residents most affected by the project, resulting in an unacceptable burden on an underserved, impacted neighborhood. We reserve the right to submit additional information at the time of the public hearing on the Final Environmental Impact Report.

16-28

The Merced Stop Wal-Mart Action Team
Kyle Stockard Marilynne Pereira
Co-Chairs[C12]



MEMORANDUM

TO: Mark Hamilton, Planner
City of Merced Planning & Permitting Division
678 West 18th Street
Merced, CA 95340

CC: Mayor, City Council members and
Other interested parties

FROM: The Merced Stop Wal-Mart Action Team
1735 Canal St. Suite 13
Merced, CA 95340
swat@mercedstopwalmart.org

DATE: July 7, 2008

RE: Comments on Lyons Investments for Irrigation and Drainage Pipeline Encroachment Permit #288 / Mitigated Negative Declaration Item K-2 on July 7 City Council agenda

Mr. Hamilton,
We are the Merced Stop Wal-Mart Action Team: a broad, grassroots coalition of community groups and thousands of Merced residents opposed to the construction of the proposed Wal-Mart distribution center in Southeast Merced. Many of our members and supporters live in South and Southeast Merced, meaning that our health and quality of life will be among those most affected by the proposed distribution center.

Site Plan Application #288 proposes a "14-inch irrigation pipeline" which would travel under the Campus Parkway and close to or onto the proposed Wal-Mart distribution center site, thus interacting intimately with two of the largest, most complex projects in the history of our city. The pipeline must, therefore, be considered in light of its relationship to these two projects. Furthermore, the relationship between the "irrigation pipeline" and the proposed Wal-Mart distribution center is far closer than mere adjacency. Rather, the pipeline is an integral part of the Wal-Mart project and/or nearby anticipated industrial development whose separate consideration is misleading to the public and to decisionmakers and contravenes the California Environmental Quality Act (CEQA).

The purpose of this letter is to comment on Site Plan Application #288 and the accompanying Mitigated Negative Declaration. We conclude that the pipeline is not approvable as proposed and its impacts must be further examined as part of the environmental review process for the larger industrial development of which it is a part.

I. The Pipeline Is Part of the Wal-Mart Distribution Center Project and/or nearby Industrial Development

The Mitigation Measure proposed by the City's Mitigated Negative Declaration which purports to limit the use of the pipeline to irrigation purposes states in part:

> The applicants shall only use the irrigation pipes for watering the existing agricultural use (orchard). They may not use the pipes for storm drainage or any other purpose for any future development, **until that use (an industrial one per the current zoning) goes through an environmental review and is approved by the City**. (emphasis added)

In other words, the Mitigated Negative Declaration recognizes the pipeline's future use as a stormwater pipe for "an industrial use" such as the proposed distribution center and expressly allows such stormwater use following approval of the industrial project by the City. Indeed, since the distribution center and nearby industrial development are intended to replace all of the current agricultural use on the site either concurrently with or soon after the Campus Parkway is constructed, the project's ostensible purpose—allowing the pipeline to continue to function after the Parkway is built—only makes sense if the applicant's primary intention is to use the pipeline for industrial stormwater rather than for agricultural irrigation.

The proposed Wal-Mart Distribution Center is separated from the nearest major canals and laterals by City rights-of-way and substantial distances, posing problems for Wal-Mart's stormwater drainage plans. The nearest waterway into which Wal-Mart could potentially deliver its stormwater is the Doane Lateral, but the Lateral is separated from the distribution center site by the right-of-way of the proposed Campus Parkway. A memorandum from Wal-Mart's engineer to the City dated July 5, 2007, lays out the two potential options for stormwater drainage then being negotiated by Wal-Mart and the Merced Irrigation District (Attachment A). Both routes would require thousands of linear feet of pipeline (Attachments A1, A2).

A stormwater pipe which, instead of being forced to follow the Campus Parkway right-of-way until it crossed the Doane Lateral, crossed under the Campus Parkway, could potentially reduce the linear footage of a distribution center stormwater pipe by over half over the two current options, if the discharge point was approved by MID. The "irrigation pipeline" provides just such a route.

It therefore seems very likely that the pipeline will become an integral part of the Wal-Mart project. If so, any approvals required for the pipeline must be included in the Wal-Mart project description and analyzed together with the rest of the impacts of the proposed Wal-Mart distribution center in the forthcoming Environmental Impact Report for that project (CEQA Guidelines 15124 et seq.). If the pipelines connects to another project adjacent to the distribution center (the only other option), the same principle applies. The courts have consistently held that splitting one project into two or more smaller projects for the purposes of avoiding full environmental review is unacceptable under CEQA, yet this is the only possible explanation for the current attempt to have the pipeline considered separately from any industrial development it would serve .

The Mitigated Negative Declaration for Site Plan Application #288 is inadequate in that it does not consider all of the impacts of the full Wal-Mart distribution center project and/or nearby industrial development. The proposed pipeline cannot be approved prior to certification of the EIR for the industrial development of which it is a part, which EIR must analyze it as part of said industrial project(s). Should the applicant wish to pursue the pipeline as an independent project, the City must remove the qualifying statement from the proposed Mitigation Measure cited above and instead must expressly prohibit any future stormwater use of the pipeline regardless of the outcomes of the City's environmental review and permitting processes for any other pending and future projects.

II. An "Irrigation Pipeline" Contravenes Title 20 of the Merced Municipal Code

Even assuming that the proposed pipeline would or could in fact be used for agricultural irrigation, Site Plan Application #288 cannot be approved. In fact, even temporary usage for agricultural irrigation prior to conversion to industrial stormwater use is prohibited by Title 20 of the Merced Municipal Code.

Rather disingenuously, the "Land Use" section of Initial Study #08-21 states in part:

> Given the zoning and the surrounding industrial and agricultural uses in the area, the project is very compatible with the purpose and the intent of the City's General Plan designation of Industrial.

In fact, agricultural uses are **not** allowed under the site's current zoning designation of I-H, as they are not listed as Permitted (MMC Section 20.36.020), Accessory (MMC Section 20.36.030), or Conditional Uses (MMC Section 20.36.040) in the City's Code. The current agricultural use of the site is a legal nonconformity, resulting from the continuation of such use from a time prior to the establishment of the site's current zoning (MMC Section 20.60). However, the City may not approve new plans or uses for the site which do not conform with the current zoning restrictions (MMC Section 20.60.050), and no new or existing agricultural structures—such as the proposed irrigation pipeline—may be built, modified, or moved on the site (MMC Section 20.60.060).

The proposed "irrigation pipeline" is in fact intended to be a stormwater drainage pipeline, as discussed above. Even as an irrigation pipeline, however, it is not an allowable use under the site's current zoning designation.

III. The Pipeline Environmental Review is Inadequate

The Mitigated Negative Declaration is an invalid document under CEQA, as it is the product of a piecemeal environmental review of only one part of a larger project or projects—the proposed Wal-Mart distribution center and/or nearby industrial development. Even if the Declaration were to stand on its own, however, the document would be inadequate on several grounds.

First, the project description is incomplete. When the pipeline was first proposed (along with a second nearby pipeline) several months ago, the applicant requested encroachment permits from the City to allow the pipelines to cross City rights-of-way (Attachment B). The current project is framed as a site plan application, which is appropriate, but an encroachment permit also remains necessary. The project description should include both approvals.

The failure to address the encroachment permit requirement appears to have contributed to some of the inadequacies of the environmental review for the pipeline. For example, the conclusion that the pipeline will have negligible impacts on public services results from a failure to consider the potential restrictions on the construction of the Campus Parkway and attendant drainage facilities which could be caused by the placement of the pipe under the roadway.

Further inadequacies resulted from failure to consider the impacts of the acknowledged future use of the pipeline for stormwater drainage. Thus, the Mitigated Negative Declaration rejects without sufficient analysis the possibility of significant impacts on surface water quality, on the capacity of receiving waters to continue to receive stormwater from other sources, etc. Furthermore, the document fails to acknowledge that the project will, in fact, "result in a significant alteration of the present or planned land use" of the area by facilitating the conversion of existing agricultural land to the proposed and anticipated industrial uses.

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In sum, the proposed pipeline cannot be approved at the current time in any form. The pipeline "project" is in fact part of a much larger industrial development—most likely the Wal-Mart distribution center project currently undergoing environmental review—and must be analyzed and reviewed accordingly; even if the pipeline were in fact an independent project accurately described by the applicant, no new irrigation pipeline can be approved on the site pursuant to its current zoning designation; and the current Mitigated Negative Declaration is in any case inadequate.

Attachments

Attachment A:	Memorandum from Wal-Mart's Engineer, Dated July 5, 2007
Attachment A1:	"Preferred Stormwater Drainage Route"
Attachment A2:	"Alternate Stormwater Drainage Route"
Attachment B:	Request for Encroachment Permits
Attachment C:	Merced Municipal Code

Sincerely,

The Merced Stop Wal-Mart Action Team (SWAT)

MEMORANDUM

TO: Kim Espinosa, Planning Manager
City of Merced
678 West 18th Street
Merced, California 95340

CC: Mayor and City Council Members
Jack Lesch, Development Services Department
Frank Quintero, Development Manager

FROM: The Merced Stop Wal-Mart Action Team
1735 Canal St., Suite 13
Merced, CA 95340

DATE: April 25, 2008

RE: Proposed Kibby Road Abandonment for Wal-Mart Distribution Center Violates Adopted Mitigation Measures, Other Regulations

In the past two years, the Merced Stop Wal-Mart Action Team has conducted several California Public Records Act requests. As a result of reading these thousands of pages of documents, it has come to our attention that the site plan for the proposed Wal-Mart Distribution Center in Merced, if approved, would be in violation of a number of binding restrictions and regulations on the use of the site.

We write this letter to protect the public's right to participate in development review and the broader planning process, and ensure those concerns are enforced by City staff as is their legal obligation. Merced residents depend on City staff to enforce binding mitigation measures in development agreements. To ignore or alter these measures behind closed doors represents a betrayal of the public trust.

One problem with the Site Plan which has come to our attention centers on the proposed abandonment of the Kibby Road right-of-way between Childs and Gerard Avenues. This abandonment is key to the configuration of the Distribution Center as currently proposed.

I. The proposed abandonment of Kibby Road would violate adopted mitigation Measures.

In 1998, the City annexed an area which contained the majority of the site on which the Distribution Center is now proposed to be located (the "Lyons Annexation"). At the time, the City's Planning Division produced an "Expanded Initial Study #97-22 for Lyons Annexation to the City of Merced." This Expanded Initial Study formed the basis for a Mitigated Negative Declaration, and both documents were adopted by the City. The City then proceeded with the Lyons Annexation and accompanying project approvals.

The Mitigation Measures adopted by the City with the Expanded Initial Study and Mitigated Negative Declaration include the following:

> The developer shall construct all collector, local, or cul-de-sac streets within the Project boundaries to their ultimate right-of-way with full frontage improvements . . . This includes Kibby Road, Gerard Avenue, Tower Road, and any new interior streets within the Project boundaries. . . .

Kibby Road's right-of-way is fully or partially "within the Project boundaries" of the Lyons Annexation between Childs Avenue and Mission Avenue, and it is classified as a "collector" in the City's General Plan throughout this segment. The City may believe that the proposed General Plan amendment eliminating this segment of Kibby Road from the General Plan relieves the developer from constructing Kibby in conformance with this adopted Mitigation Measure. This is not the case. Removing Kibby's General Plan designation as a "collector" cannot obscure the fact that it is named specifically in the adopted Mitigation Measures as a street which the developer must construct "to its ultimate right-of-way." Thus, even with an appropriately approved General Plan amendment, approving the Site Plan as proposed would produce a clear violation of this adopted Mitigation Measure.

It should be noted that the requirement for the developer to construct Kibby Road between Childs and Mission Avenues was based in part on the need for acceptable traffic routes between this industrial area and Highway 99. The Expanded Initial Study makes this clear:

> [T]here will be three possible major routes in and out of the Project area. Route 1 would be Kibby Road to Highway 140, Route 2 would be Childs Avenue to Highway 99, and Route 3 would be Kibby Road to Mission Avenue to Highway 99. . . . Some vehicle trips would also be routed to Gerard Avenue and the Eastern Beltway/Campus Parkway but these trips are not projected to be as significant in number.

Specifically, the Study projected that only 10% of trips would use the Gerard Avenue/Campus Parkway route. In contrast, the plan proposed by Wal-Mart for its Distribution Center involves eliminating Kibby Road and placing no entrance on Childs Avenue, thus putting all trips onto Gerard Avenue. In fact, Wal-Mart proposes routing all truck traffic to Highway 99 via the Gerard Avenue/Campus Parkway route—virtually the only route available given the proposed site configuration. This would fly in the face of the projections relied upon in the Expanded Initial Study.

II. The proposed abandonment of Kibby Road violates the City's Storm Drain Master Plan.

The City's adopted Storm Drain Master Plan includes a storm drain running along part of the Kibby Road right-of-way between Childs and Gerard Avenues. In fact, it is our understanding that this storm drain is already constructed. General Plan Implementing Action P-1.1.d directs the City as follows:

> Construct a stormwater drainage system, water system, and sewer system in accordance with master plans.

The vacation of the segment of Kibby Road at issue and the construction of the Wal-Mart Distribution Center as proposed would necessitate removal or re-routing of the storm drain in the

Kibby Road right-of-way, in contravention of the adopted Storm Drain Master Plan and the City's General Plan.

III. The proposed abandonment of Kibby Road violates the conditions of approval of the 2005 subdivision of the site.

In December 2005, the Merced City Minor Subdivision Committee approved a Minor Subdivision of the proposed Wal-Mart Distribution Center site (Lot Split Application #05-15). Resolution #871, passed by the Committee, approved the Minor Subdivision with the following condition of approval:

> Prior to the issuance of an occupancy permit on any parcel, the street frontages (except Campus Parkway which is addressed under Condition #7) shall be improved to full City standards. Improvements shall include, but not be limited to, curb, gutter, fire hydrants, paving, street trees, street lights, under grounding of utilities and canals, and traffic control devices. . . .

As there is no exception made for Kibby Road, this condition of approval requires Kibby to be constructed between Childs and Gerard Avenues.

Another condition of approval contained within Resolution #871 requires compliance with the City's Storm Drain Master Plan:

> Before issuance of a building permit, subdivider shall demonstrate, to the satisfaction of the City Engineer, that storm drainage is designed to function as an integral part of a larger system. . . . This shall include compatibility with the City's Storm Drain Master Plan.

As described above, the proposed abandonment of Kibby Road would inevitably result in non-compliance with this Master Plan. Thus, the proposed abandonment would result in the violation of two of the conditions of approval of this Minor Subdivision.

IV. The proposed abandonment of Kibby Road would result in violations of the General Plan's policies on industrial traffic.

The General Plan's Implementing Action T-1.1.b directs the City as follows:

> Whenever feasible implement a system of arterials and higher order streets in new growth areas based on the adopted concept of arterials/expressways.

The description of the Implementing Action specifies further:

> Arterials and higher order streets will carry the higher-speed traffic to adjacent commercial, industrial, and other major destinations. Collectors and local streets will be designed for local, neighborhood traffic . . .

The plan outlined in the Lyons Annexation Expanded Initial Study and Mitigation Measures would have largely conformed to these policies: For example, Kibby Road was to be used to access the industrial area to and from Mission Avenue (an arterial), which would provide access to Highway 99. This plan is consistent with the current General Plan and remains feasible. However, the abandonment of Kibby Road, along with other aspects of the proposed Site Plan for the Wal-Mart Distribution Center, would instead result in a street system and traffic pattern

that violates the General Plan by funneling all of Wal-Mart's industrial traffic onto Gerard Avenue (a collector). As the General Plan recognizes, collector streets like Gerard Avenue are simply not designed to handle this kind of high-volume, high-speed industrial traffic. Maybe these issues are being addressed in the current General Plan update process; maybe not. The City must rely on the existing General Plan until the update process is completed and a new document is approved.

V. The City and Wal-Mart have recognized the necessity of constructing this segment of Kibby Road since the beginning of planning for this project.

In 2003, before making a final decision to pursue a Distribution Center in Merced, Wal-Mart submitted a number of questions regarding the currently proposed Distribution Center site to Frank Quintero, the City's Economic Development Manager. In his response, Mr. Quintero clearly indicated that Kibby Road had to be constructed between Childs and Gerard Avenues. He stated in part:

> Right of Way for Kibby Road extended may be moved; however, Kibby Road must go through from Childs Avenue to Mission Avenue for public safety access.

He further stated:

> Kibby Road, Tower Road, Mission Avenue, Gerard Avenue and Childs Avenue would have to be improved to City Standards.

It is unclear to us why Wal-Mart and the City have proceeded so far with the review of Wal-Mart's proposed Site Plan and Kibby Road abandonment, despite apparently recognizing at the beginning that this segment of Kibby Road could not be abandoned. Regardless, the information outlined herein (which only recently came to our attention) must serve to remind the City and Wal-Mart of the impossibility of the proposed Kibby Road abandonment.

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The Mitigation Monitoring Program adopted by the City along with the Lyons Annexation Mitigation Measures states in part:

> Any person or agency may file a complaint asserting noncompliance with the mitigation measures associated with the project. The complaint shall be directed to the City Planner in written form providing specific information on the asserted violation. The City Planner shall cause an investigation and determine the validity of the complaint. If noncompliance with a mitigation measure has occurred, the City Planner shall cause appropriate actions to remedy any violation.

It has been clearly demonstrated herein that the proposed abandonment of Kibby Road would result in violation of the adopted Lyons Annexation Mitigation Measures as well as several other applicable rules and restrictions. The City's planning staff must investigate and take appropriate steps to ensure that this does not occur. In other words, if Wal-Mart wishes to build a Distribution Center on the currently proposed site in Merced, it must discard the idea of abandoning Kibby Road and re-design its Site Plan around the Kibby Road right-of-way. It is the City's duty to ensure that this occurs by enforcing its own regulations governing development of the site.

MEMORANDUM

TO: Jack Lesch, Director of Development Services
Planning Division
City of Merced
678 West 18th Street
Merced, California 95340

CC: Mayor, City Council and Planning Commission members
Other interested parties

FROM: The Merced Stop Wal-Mart Action Team
1735 Canal St. Suite 13
Merced, CA 95340
swat@mercedstopwalmart.org

DATE: June 2, 2008

RE: Comments on University Industrial Park Vesting Tentative Subdivision Map #1299
Item 4.1 on June 4 City of Merced Planning Commission agenda

Mr. Lesch,
We are the Merced Stop Wal-Mart Action Team, a broad, grassroots coalition of community groups and thousands of Merced residents opposed to the construction of the proposed Wal-Mart distribution center in Southeast Merced. Many of our members and supporters live in South and Southeast Merced, meaning that our health and quality of life will be among those most affected by the proposed distribution center and nearby projects.

We appreciate the opportunity to comment on this project. The University Industrial Park Subdivision is located near the Campus Parkway and proposed Wal-Mart distribution center, two of the largest, most complex projects in the history of our city. It is essential that projects abutting the Parkway and distribution center site take into account the cumulative impacts of rapidly-shifting conditions on the ground in Southeast Merced, a fast-growing area that will "transform a sleepy corner of southeast Merced into a residential and commercial hub" (Merced Sun-Star, Aug. 22, 2007).

The studies for the Tentative Subdivision Map are outdated

Due to numerous changed circumstances in the past decade, some of the studies found in the University Industrial Park Subdivision Initial Study #98-06 – released to the public on May 21, 1998 and approved by the Planning Commission on July 8, 1998 – are out-dated and contradict other City statements and findings. Consequently, TSM #1299 should not be permitted to tier off of the Negative Declaration.

A "Negative Declaration" is a "written statement by the Lead Agency briefly describing the reasons that a proposed project…will not have a significant effect on the environment and therefore does not require the preparation of an EIR" (CEQA Guidelines, §15371). A negative declaration must be prepared when after completing an initial study, a lead agency determines that a project "would not have a significant effect on the environment" [Public Resources Code §21080 (c)]. This determination can only be made if there is "no substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment" [Public Resources Code, §21080 (c)(1)].

The "fair argument" standard under CEQA applies when a lead agency decides whether to issue a negative declaration. This standard places a greater burden of proof on the project proponent to demonstrate that it cannot be "fairly argued" that a project could result in a significant impact. Additionally, "the existence of serious public controversy in itself indicates that preparation of an EIR is desirable" [*No Oil, Inc. v. City of Los Angeles (1974) 13 Cal. 3d 68]*. The intent is to err towards a broad application of CEQA that protects the right of the public to participate in decisions that may worsen the environment and their own health and quality of life.

The Negative Declaration should be withdrawn. A full Environmental Impact Report needs to be prepared to correct factual errors in previous studies, evaluate cumulative impacts and determine alternatives to the project. The City can no longer certify that this proposed project "could not have a significant effect on this environment" or that no "serious public controversy" exists.

We also want to remind the Planning Commission and City Council of the various duties and obligations of the Developer as detailed in the 32 conditions found in the Staff Report for this item, some of which are required before issuance of the final map when prepared. Additionally, we urge City staff to re-examine the appropriateness of these conditions after over ten years' time.

Comments on Initial Study #98-06 Environmental Evaluation

B.) Air

Since 1998, the scientific and medical communities' understanding of the health impacts of non-attainment of ozone and particulate standards has improved dramatically. We live in a terrible air quality public health crisis where, according to a report released by the California Air Resources Board on May 22, over 2,900 Valley residents die prematurely every year from exposure to fine particulate. New projects must take the health and quality of life of most affected Merced residents into account in every step of the permitting process.

The Applicant should communicate with the San Joaquin Valley Air Pollution Control District to determine whether new standard requirements have taken effect since 1998. For the tentative map phase, the Air District suggests a variety of mitigations, including:

- Contribute to Local Air Quality Mitigation Fee Fund
- Energy conservation measures above and beyond requirements
- Pay for fleet vehicle conversions to alternative fuels

There is an inadequate discussion of how the Applicant plans to mitigate localized toxic air emissions that will likely come from industrial use.

The City of Merced is currently updating its General Plan. The Applicant should communicate with City staff to create an updated list of roadway and intersection improvements in the vicinity of the site.

C.) Water

The years of study used to determine the City's peak water capacity – 1990-1994 – are outdated and inadequate to understand how this project will impact City water supply. Subdivision of the project may result in greater-than-anticipated water usage when compared to other types of industrial usage. The intervening years have been some of the driest on record; the City needs the latest analysis possible to make wise decisions about our limited groundwater supply.

I.) Traffic
The traffic study upon which the mitigated negative declaration was based is flawed and must be conducted again.

The study estimates 9 Average Daily Trips (ADT) per 1,000 square feet and estimates that this project will generate 3,880 ADT at full build-out. The study does not, however, describe how many of those trips will be cars or trucks, or how that traffic will interact with current traffic levels and circulation.

The study assumes:

- 50% of the traffic uses Kibby Road north to Highway 140 (75% will go west, 20% will go east and 5% will continue north)
- 35% use Childs Avenue West to Highway 99
- 10% use Kibby Road south to Highway 99
- 5% use Childs Avenue eastbound (or other miscellaneous local needs)

Since 1998, Wal-Mart purchased the parcel to the south of this project, subdivided it, and proposed to amend the City's General Plan to abandon build-out of Kibby Road south to Highway 99. It is our contention in a letter dated April 25, 2008 and attached for your convenience, that the abandonment of Kibby Road violates numerous adopted City plans and mitigation measures and contradicts the advice of City staff. In addition to the points raised in this April 2008 letter, we now add that Vesting Tentative Subdivision Map #1299 would also preclude the abandonment of Kibby Road as proposed by Wal-Mart. In any case, the City must clearly state its intentions with regard to the proposed abandonment of Kibby Road before this project can move forward as proposed.

A document entitled "Weaver Conditions," last updated June 15, 1995, includes binding mitigation measures for the Pluim-Sutter-Vierra annexation. Condition 03.01 (c) states:

> Whenever practical construction-related truck traffic should be prohibited from using adjacent arterial and collector streets, and all truck traffic should be directed to State Highway 140 via Childs Avenue or Gerard Avenue to Kibby Road.

This binding mitigation measure is currently violated on a daily basis as any Southeast Merced resident can attest. The City is obligated to post relevant signage in and around the project site and work with users of the industrial park to educate drivers about where they can park and drive their trucks. Perhaps the added truck traffic through Kibby to SR 140 with the enforcement of City code would impact improvements necessary to Kibby Road and circulation in the area. Without a new traffic study, we will not know.

MEMORANDUM

TO: Kim Espinosa, Planning Manager
City of Merced Planning & Permitting Division
678 West 18th Street
Merced, CA 95340

CC: Mayor, City Council members and other interested parties

FROM: The Merced Stop Wal-Mart Action Team
1735 Canal St. Suite 13
Merced, CA 95340
swat@mercedstopwalmart.org

DATE: January 20, 2008

RE: Proposed Abandonment of a Portion of a Certain Right-of-Way and Storm Drain Detention Basin for the Campus Parkway Project

Environmental Review #08-52 (CEQA Section 15162 Finding)

Ms. Espinosa:

We are the Merced Stop Wal-Mart Action Team: a broad, grassroots coalition of community groups and thousands of Merced residents opposed to the construction of the proposed Wal-Mart distribution center in Southeast Merced. Many of our members and supporters live in South and Southeast Merced, meaning that our health and quality of life will be among those most affected by the proposed distribution center and other development in southeast Merced.

We are writing to continue our previous comments found in the City Council Administrative Report as Attachment #5.

Summary

The City proposes to vacate to Lyons Investments a 59,729 sq. ft. piece of land (a map is found in Staff Report Attachment #1). This is land for which the City paid Lyons Investments about $90,000 in 2006, but the City does not propose to request any refund from Lyons for returning it by means of the vacation. The area was intended to be a storm drain basin for the Campus Parkway, but, according to the City, it was determined to be no longer needed. The City describes the impact of this abandonment as "negligible."

The City also proposes to acquire a 3,718 sq. ft. piece of land located at the southeast corner of the Campus Parkway and Childs Ave. intersection to be used as an additional and/or modified right turn lane from Northbound Campus Parkway onto Eastbound Childs Ave. A 10 ft. temporary construction easement would surround both of these pieces of land. The draft City Council Resolution included in the Staff Report describes

the vacation as conditional upon the acquisition of the 3,718 sq. ft. piece of land near Childs Ave. on or before Feb. 13, 2009.

However, the City also proposes to independently acquire 10,150 sq. ft. of land along Gerard Ave. The staff report identifies the use of the Gerard Ave. land only as "additional right of way" and claims without explanation that both pieces of land to be acquired "[add] to the functionality of the Campus Parkway project." The accompanying plat maps, legal description and the rationale for bundling the Gerard Ave. land to be acquired with this action are confusing, contradictory, and obscure. Therefore, we must use these comments to shed light on the subject.

We are obliged to point out that, before City Council can adopt the draft resolution approving the vacation, the City must:

- Show fiscal responsibility and demand that Lyons Investments refund the portion of fee reimbursement it received in 2006 from the City of Merced for the land now proposed for vacation—according to the assessment value used when right-of-way was originally acquired, Lyons Investments should refund the City $89,126.70;
- Appropriately amend the "Public Facilities Impact Fee Credit or Reimbursement Agreement" entered into by the City and Lyons Investments in 2006;
- Amend Lot Split Resolution #871, including Condition #7, which requires dedication of the area proposed to be abandoned and the construction of storm drainage improvements on this land;
- Add an addendum to the Campus Parkway EIR/EIS that explains the new information that prompted the City to believe land originally intended as a storm drain basin is in fact unneeded and can be abandoned without loss of critical storm drainage capacity, as well as why changes to the right turn lane configuration from the Campus Parkway onto Childs Ave. is necessary, including any traffic study conducted;
- Describe why the City now believes that the expansion of the Childs Ave./Campus Parkway intersection requires no environmental review after several years of arguing the opposite in various environmental documents;
- Describe the intended use of the 10,150 sq. ft. of land to be acquired along Gerard Ave. and how this acquisition and subsequent improvement interacts with surrounding development, including the Lyons Investments properties and the proposed Wal-Mart distribution center;

Fiscal Responsibility

On Feb. 6, 2006, the City of Merced and Lyons Investments entered into a "Public Facilities Impact Fee Credit or Reimbursement Agreement" for storm basin right-of-way and oversize right-of-way dedication "in excess of 74 feet (collector standard) or 37 feet measured from both the east and west ultimate right-of-way line." Per this agreement, the City of Merced paid $758,615 to Lyons Investments in April 2006 to acquire 21 acres of land. This included $464,490 for storm basin right-of-way, including the land now proposed for vacation, which was purchased at $65,000 per acre. At 59,729 sq. ft., or

1.37118 acres, the land proposed for vacation cost the City $89,126.70 when Lyons Investments dedicated it in 2006.

Furthermore, it is important to note that Lyons Investments is not eligible for reimbursement for the land now proposed for acquisition by the City. In September 1998, the Merced City Council approved Expanded Initial Study #97-22 for the Lyons Annexation, adding approximately 484 acres of agricultural land pre-zoned as Heavy-Industrial (I-H) in the southeast corner of the City of Merced. The Expanded Initial Study also includes a number of mitigation measures that are binding on future development within the annexation area, including Transportation/Circulation item M-3:

> M-3 **The developer shall dedicate the full right-of-way for all arterial and higher order streets within the Project boundaries as defined in the *Merced Vision 2015 General Plan.* For those arterial or higher order streets that are adjacent to but do not lie completely within the Project boundaries, the developer shall dedicate half of the required right-of-way. This includes Childs Avenue, Mission Avenue, and the Campus Parkway.** Consistent with Mitigation Measure 7.b of the *Merced Vision 2015 General Plan EIR,* where the extent of right-of-way dedication exceeds the City's development standards for a collector street (currently 74 feet for a collector street located entirely within the Project and 37 feet for a collector abutting the Project), then the developer is eligible for reimbursements in accordance with the City's Public Facilities Impact Fee Ordinance and guidelines, unless a traffic study determines that the Project's traffic impacts require additional dedication. (emphasis supplied)

The 10,150 sq. ft. piece of land along Gerard Ave. is part of a planned minor arterial in the City General Plan and falls completely within the project boundaries and is therefore not eligible for reimbursements. The 3,718 sq. ft. piece of land along Childs Ave. is an arterial adjacent to the annexation area and therefore Lyons is contractually obligated to dedicate this required right-of-way without reimbursement as well.

Our members include taxpayers who reside within the City of Merced. As former City Manager Jim Marshall wrote in his final memo for the fiscal year 2008-2009 City of Merced Municipal Budget:

> We are public servants. We need to keep a narrow focus during tight budgets and not attempt to publicly finance every project or program that presents itself. Basic public services must not be diluted at the expense of providing deep pocket funding to those who are unwilling or unable to develop their own source of capital. Be vigilant.

In the spirit of fiscal responsibility and vigilance, we demand that the City obtain a refund for the portion of storm drain basin right-of-way it purchased from Lyons Investments but has determined is no longer needed. The land at issue has both market value, and, as indicated in the Administrative Report, potential future "bike path and open space benefits." To return this land to Lyons Investments without fair compensation would be to waste valuable City assets. We demand, then, that the City obtain a refund from Lyons Investments for the costs of acquiring and later abandoning this piece of land, including at least $89,126.70 for the land itself, as well as compensation for staff time and attorney's fees. We also remind the City of California Code Section 526a:

> An action to obtain a judgment, restraining and preventing any illegal expenditure of, waste of, or injury to, the estate, funds, or other property of a county, town, city or city and county of the state, may be maintained against any officer thereof, or any agent, or other person, acting in its behalf, either by a

citizen resident therein, or by a corporation, who is assessed for and is liable to pay, or, within one year before the commencement of the action, has paid, a tax therein.

Amendments to Existing Agreements and Resolutions

On December 15, 2005, during the final review of the Campus Parkway EIR/EIS, the City of Merced Minor Subdivision Committee approved the resubdivision of 313 acres of the Lyons Annexation, including the portion of land the City proposes to vacate in this action. Resolution #871 of the City's Minor Subdivision Committee contains 14 conditions that apply to the land described in this action. Most importantly, Condition #7 of the Resolution required Lyons Investments to dedicate right-of-way along the route of the future Campus Parkway, including the right-of-way now proposed for vacation. Therefore, the vacation will result in non-compliance with Resolution #871 unless the Resolution is amended prior to the vacation.

Furthermore, the Reimbursement Agreement described above includes a finding, contained within Recital C, that the improvements intended for the right-of-way now proposed for vacation are critical for the city's infrastructure. The City must amend this finding prior to abandoning the right-of-way—and thus any potential future infrastructure on it.

Additional Environmental Review

In October 1998, the City signed a development agreement with Lyons Investments, LLC that contains 35 "sections" that define how the City will govern future development within the annexation area. Since the portion of land that the City proposes to vacate is within the Lyons Annexation area, both the Expanded Initial Study #97-22 and the Lyons Annexation development agreement contain conditions that apply to the land described in this action. In the following years, the City and County of Merced, CalTrans and the U.S. Department of Transportation conducted the planning and environmental review for the Campus Parkway. The Campus Parkway EIR/EIS document was released for public review mid-2005.

Page 2-27 of the "Project Alternatives" chapter of the Campus Parkway Final EIR/EIS clearly describes the potential significant impacts of widening the intersection of Childs and the Campus Parkway:

> A constraint to widening the Childs Avenue intersection at Campus Parkway was identified as a result of environmental review. The Sunshine Dairy is southwest of and adjacent to the Hartley Lateral, which parallels the existing Childs Avenue in the area of the proposed Campus Parkway. Adding turning lanes on Childs Avenue may require minor relocation of the canal, which would require acquisition of a small sliver of land in the existing fields at the Sunshine Dairy. The Sunshine Dairy was determined eligible for listing in the National Register of Historic Places and the California Register of Historic Resources. To avoid this property entirely, the traffic signal and the intersection of Childs Avenue and Campus Parkway would be designed to minimize widening of Childs Avenue.

These same constraints were reiterated by the City in Staff Report #07-01 dated January 2007 for General Plan Amendment #06-12.

On July 5, 2005, Lyons Investments submitted a traffic study performed by Fehr & Peers as comments on the Campus Parkway EIR/EIS. Senior Transportation Engineer Richard Lee writes of the Childs and Campus Parkway intersection:

> It is important that this intersection provide an adequate level of service for traffic, including truck traffic, traveling to and from the existing and future industrial facilities along Childs Avenue. Please confirm that there will be sufficient right of way on the western leg of the Childs Avenue/Campus Parkway intersection to develop Childs Avenue as an arterial as it is designed in the City of Merced's 1997 General Plan.

The reply:

> The constraints noted in the Draft EIS/EIR would remain as long as the dairy is present. When and if a development plan is submitted for this parcel, intersection improvements (or at least right-of-way acquisition or dedication) would be made a requirement. If no development plan is advanced for this parcel, the intersection is still functional.

The Jan. 20, 2009 action apparently proposes to only widen the southeastern portion of the Childs/Campus Parkway intersection. Even so, portions of the Hartley Lateral would still need to be rebuilt. How would this impact the existing canal system in the area? Who will conduct those improvements? Has the City notified MID that it has plans to rebuild its canal? The staff report and Environmental Review #08-52 do not provide answers. In fact, the acquisition of 3,718 sq. ft. of land for an additional right turn lane onto Childs contradicts evidence provided in the Campus Parkway EIR/EIS; it is totally unacceptable to tier off of this document per CEQA Guidelines 15162. Additional review is needed.

Furthermore, Condition #6 of Resolution #871 states clearly that any additional right-of-way needed for the Childs Ave./Campus Parkway intersection must be "addressed at the Site Plan Approval stage." In other words, the Resolution anticipates that extra right-of-way may be needed to accommodate future industrial projects within the Lyons subdivision area—exactly the reason we believe the City is currently attempting to acquire additional right-of-way in these locations—and requires this issue to be addressed during site plan review. As we have noted in our previous comments, the present action is in this and many other ways a part of the Wal-Mart distribution center project and/or other future Lyons industrial projects, and must be reviewed as part of those projects, not independently.

Conditions of Approval

The City has noted the value of this land as open space, and the Administrative Report implies that even after abandonment the land will remain open space. If this is accurate, it would alleviate some of our concerns regarding the action. Therefore, when abandoning this piece of land, we also request that the City add certain conditions, particularly that Lyons Investments place the land into an easement that guarantees its use as open space in perpetuity, and that it will not be used to piecemeal the development of other industrial development or induce other types of high-polluting development in the area.

Attachments:
Lyons Annexation Development Agreement, signed Oct. 19, 1998, and Lyons Annexation Expanded Initial Study #97-22 mitigation measures
http://www.mercedstopwalmart.org/images/SWAT_PDFS/lyonsdevelopmentagreement.pdf
Public Facilities Impact Fee Credit or Reimbursement Agreement dated February 6, 2006, and Lot Split Resolution #871, adopted Dec. 19, 2005
http://mercedstopwalmart.org/images/SWAT_PDFS/lyonsreimbursement.pdf
City of Merced Staff Report #07-01 to Planning Commission, Jan. 17, 2007.
http://www.cityofmerced.org/civica/filebank/blobdload.asp?BlobID=5047
Campus Parkway Final EIR/EIS
http://www.dot.ca.gov/dist10/media/docs/CampusParkwayFinalEIS.pdf
City of Merced 2015 General Plan, Chapter 4: Transportation and Circulation
http://www.cityofmerced.org/civica/filebank/blobdload.asp?BlobID=3997
Marshall, James G. "Fiscal Year 2008-2009 City of Merced Municipal Budget,"
http://www.cityofmerced.org/civica/filebank/blobdload.asp?BlobID=6494

An Overview

of the

WILSON ENERGY CENTER

Presented to the

City of Merced and its ***Councilmembers***

by

APEX Power Group, LLC

May 19, 2008

ENERGY INVESTORS FUNDS

BOSTON SAN FRANCISCO NEW YORK

APEX and its Affiliations

- Energy Investors Funds
- General Electric Company
- Kiewit Constructors and Engineers
- URS Corporation

ENERGY INVESTORS FUNDS

BOSTON SAN FRANCISCO NEW YORK

APEX Power Group, LLC

Why Choose Merced?

- Central Valley generating capacity shortage
- Electrical grid congestion and overloading
- Available infrastructure and resources
- Societal Changes and Load Growth Forecast
- Heavy Industrial zoning designation



ENERGY INVESTORS FUNDS

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APEX Power Group, LLC

Wilson Energy Center
57.7 Acres
Wilson Substation
Bear Creek
Kudora
Wagner Sch
Drive-in Theater
Radio Towers
Tuttle
SANTA FE
TOPEKA
AVENUE
ORCHARD
DRIVE
SOUTHERN
PACIFIC
0 0.1 0.2 0.3 0.4 0.5 Miles
0 300 600 Meters
0 1,000 2,000 Feet
1 inch equals 2,000 feet (1:24,000)
APEX Power Group, LLC
Wilson Energy Center
(Merced, California)
2008

Technology and Plant Design

- 5 General Electric LMS 100 units
- Same technology as Panoche plant
- BACT compliant
- Highly flexible and efficient units
- 500 MW total
- Tie to Wilson substation

Panoche Energy Center, LLC
Commercial Operation Date August 2009
ENERGY INVESTORS FUNDS
BOSTON SAN FRANCISCO NEW YORK
APEX Power Group, LLC

CONSTRUCTION and OPERATIONS

- Construction by Kiewit Power Corporation
- 18-month construction period
- Peak work force ~350
- All workers from California building trades
- Operations by highly experienced company – to be determined



ENERGY INVESTORS FUNDS

BOSTON SAN FRANCISCO NEW YORK

APEX Power Group, LLC

Fancher Energy Campus
May 5, 2006
ENERGY
INVESTORS
FUNDS
BOSTON SAN FRANCISCO NEW YORK
APEX Power Group, LLC

PG&E *Request for Offers*

- RFO and Bidding process
- PG&E Gas and Electric Studies
- Power Purchase Agreement



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California Energy Commission

- *Warren-Alquist Act* and CEC authority
- *Application for Certification* (AFC) process and the *CA Environmental Quality Act*
- City AFC review and approvals
- No City administered *Environmental Impact Report* (EIR)



ENERGY INVESTORS FUNDS

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Environmental Considerations

- Air Emissions
- Water Resources
- Geologic Hazards
- Public Health & Safety
- Traffic & Transportation
- Noise
- Biological Resources
- Cultural Resources
- Visual Resources
- Paleontological Resources
- Land Use
- Socioeconomics
- Waste Management
- Hazardous Materials
- Worker Safety
- Cumulative Impacts
- Agriculture & Soils

AIR EMISSIONS

- Apply BACT to lower NOx, CO and VOC emissions
- Project worst-case emissions for NO_x, CO, VOC, PM, SO_x, NH_3, CO_2
- Offset NOx, VOC, PM and SOx with Emission Reduction Credits (1 to 1.5 ratio)
- Perform ambient and cumulative analyses per SJVAPCD and EPA procedures

ENERGY INVESTORS FUNDS
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WATER RESOURCES

- Water is used to lower NOx emissions and to improve energy conversion efficiency
- Maximum use 1400 ac/ft per year
- ~50% returned to the City
- Proposed water plan with MID
- Proposed wastewater plan with City

Local Benefits

- Employment of skilled and professional positions
- Sales Taxes ($12-$15 million)
- Property Taxes ($5 million per year)
- Power capacity and electric grid integrity

ENERGY INVESTORS FUNDS

BOSTON SAN FRANCISCO NEW YORK

APEX Power Group, LLC

Employment

- Up to 350 workers during construction - from California building trades
- Up to 15 permanent skilled and professional positions during operations
- Periodic contracted skilled maintenance work force
- Local and regional service contractors

Community Growth and Changes in Electricity Use

- Wilson would increase local/regional capacity margins by 500MWs
- Improve power quality
- Improve power reliability
- Lower line losses (increase transmission efficiency)
- Could enhance regional groundwater balance through exchange and enhancement programs
- Would provide peaking generation that supports alternative energy development and use



ENERGY INVESTORS FUNDS

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APEX Power Group, LLC

Milestone Schedule

• PG&E Bids	July 21, 2008
• PG&E Short List	October 20, 2008
• PG&E Contract Award	December 2008
• File CEC Application	March 2009
• CPUC Approval	June 2009
• CEC Approval	August 2010
• Start of Construction	October 2010
• Commercial Operation	April 2012



ENERGY INVESTORS FUNDS

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Questions & Answers
ENERGY
INVESTORS
FUNDS
BOSTON SAN FRANCISCO NEW YORK
APEX Power Group, LLC

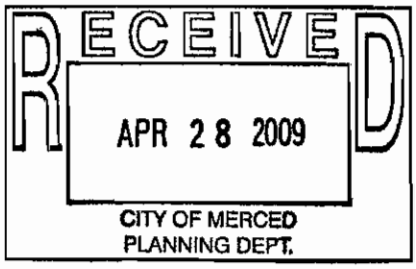
Espinosa, Kim

From: Nick Robinson [ndrobinson@gmail.com]
Sent: Monday, April 27, 2009 5:20 PM
To: Espinosa, Kim
Subject: Additional attachment

Kim,
Please accept this attachment to the Stop Wal-Mart Action Team's comments that were submitted this afternoon.

Thank you,
Nick Robinson

--
Nick Robinson
209.489.1740 | ndrobinson@gmail.com



RESULTS

Below are each of the questions which appeared in our survey of Southeast Merced residents, exactly as they appeared on the survey. The percentage of respondents who chose each option is presented below that option in **red**. These are the results of the survey in their most basic form. Please note that percentages for each question were calculated based on the total number of respondents who answered each question; thus, respondents who did not answer a given question (or who did not answer it within the parameters provided) were not included in the total for that question. However, countable response rates were generally above 98%, so the influence of this exclusion on calculations is insignificant. (Also: percentages are rounded to whole numbers, and unless otherwise noted, any failure of percentages for a given question to add to 100% is a result of rounding.)

1. Did you know that Wal-Mart wants to build a distribution center between Childs and Gerard Avenues in southeast Merced?

☐ Yes	☐ No
70%	**30%**

Many different things *could* be built in Southeast Merced. We want to know which are most important to people who live in southeast Merced. By "southeast Merced," we mean the area within Merced city limits east of Highway 99, south of 140, and with Mission Ave. to the south.

If you *don't* like it, then circle 1; if you like it a lot and want to see it built, circle 3.

2. More places to shop for groceries, clothing, or other things	1 **16%**	2 **13%**	3 **71%**
3. More homes and apartments	1 **44%**	2 **22%**	3 **34%**
4. More places for professionals to work, like offices or banks	1 **21%**	2 **23%**	3 **56%**
5. More doctor, dental and other healthcare	1 **16%**	2 **21%**	3 **63%**
6. More industrial, like storage, manufacturing or warehouses	1 **43%**	2 **21%**	3 **36%**
7. More schools	1 **20%**	2 **21%**	3 **59%**
8. More parks and playgrounds	1 **11%**	2 **19%**	3 **70%**

9. How many children under the age of 18, if any, live with you?

0	1	2	3	4	5+
31%	**19%**	**19%**	**14%**	**7%**	**10%**

10. Do you or does anyone in your family have asthma, problems breathing, or use an inhaler to help them breathe?

☐ Yes – I do.	☐ Yes – A family member.	☐ No
14%	**33%**	**57%**

(Percentages do not add to 100% due to some respondents who both had asthma themselves and had a family member with asthma.)

11. Children who grow up within about 1,500 feet of a major road have a higher risk of developing asthma. There are plans to build another elementary school less than 500 feet from the Campus Parkway. How concerned are you about car and truck traffic near schools in southeast Merced?

1 means truck traffic is not an issue → | 1 16% | 2 27% | 3 56% | ← 3 means it's a major problem

12. How do you feel about the level of truck traffic in the neighborhood right now?

1 means truck traffic is not an issue now → | 1 37% | 2 34% | 3 28% | ← 3 means truck traffic is a major problem

13. Based on what you know, do you support or oppose the Wal-Mart distribution center?

1 means you *oppose* the project as proposed → | 1 38% | 2 25% | 3 36% | ← 3 means you *support* it

After they hear from residents, the Mayor and six elected Merced City Council members will vote on whether to approve site plans and environmental studies for the distribution center.

14. How much confidence do you have that City Council makes decisions that benefit the health and quality of life of residents in south and southeast Merced?

1 means you have no confidence in City Council → | 1 34% | 2 50% | 3 16% | ← 3 means you are completely confident

15. Do you think City Council as a whole takes you seriously if you give them your opinion?

1 means you don't feel taken seriously → | 1 47% | 2 36% | 3 18% | ← 3 means you feel taken seriously

16. Do you think in general, City Council understands issues important to Southeast Merced residents?

1 means City Council doesn't understand your issues → | 1 36% | 2 41% | 3 23% | ← 3 means City Council understands

17. What is your ethnicity?

1. ☐ Caucasian **30%**
2. ☐ Hispanic, Latino **38%** *(including "Mexican," etc.)*
3. ☐ Punjabi **0%**
4. ☐ Southeast Asian **17%** *(including "Hmong," etc.)*
5. ☐ African American **7%**
6. ☐ Other _____ **9%**

(Percentages do not add to 100% due to some respondents who marked more than one ethnicity.)

18. What language is spoken the most at home?

1. ☐ English **76%**
2. ☐ Spanish **20%**
3. ☐ Hmong **18%**
4. ☐ Mien **0%**
5. ☐ Laotian **0%**
6. ☐ Punjabi **0%**
7. ☐ Other _____ **1%**

(Percentages do not add to 100% due to some respondents who marked more than one language.)

19. What is your family's combined yearly income?

1. ☐ $0-$19,999 **27%**
2. ☐ $20,000-$34,999 **27%**
3. ☐ $35,000-$49,999 **12%**
4. ☐ $50,000-$64,999 **16%**
5. ☐ $65,000-$79,999 **11%**
6. ☐ $80,000+ **8%**

16-1 The comment introduces the letter, indicating that it is divided in two sections: first, a discussion of a survey conducted by the Stop Wal-Mart Action Team, and second, comments on the DEIR informed by the survey. The commenter requests that the entire letter be considered by the City in the course of preparing responses. CEQA requires that written responses describe the disposition of significant environmental issues raised (*State CEQA Guidelines* Section 15088[c]). CEQA does not require written responses for non-environmental issues. The first part of the letter describing the survey has been reviewed and does not raise any significant environmental issues (it should however be noted that the comment letter, including the description of the survey, is included in this FEIR, which will be considered by the decision makers). Regarding the second section of the letter, which includes comments on the DEIR, this FEIR includes responses to all environmental issues raised in the letter.

16-2 The comment indicates that the DEIR is inadequate as an informational document and should be recirculated with a more inclusive public review process. This comment alone is a general statement and does not raise any specific issues, but the comment provides introduction to the more specific comments that follow. Responses to Comments 16-3 through 16-28 below address these specific comments.

16-3 This comment describes language barrier issues, and the public requests for translation. Please see Master Response 2: Language Barrier and Public Review Period.

16-4 This comment describes language barrier issues associated with education level and text complexity. This issue is addressed in Master Response 2: Language Barrier and Public Review Period.

16-5 The commenter states that the project site falls outside of the City of Merced Fire Department's accepted response standards and expresses concern about flammable and hazardous materials stored on-site which could jeopardize the health and safety of southeast Merced residents. Commenter also states that adequate fire and police protection must be in place prior to facility operation.

It should be noted that the nearest fire station, Fire Station 54, is approximately 2.6 miles from the project site, as opposed to 4.2 miles, as indicated by the commenter.

The DEIR fully analyzed increased demand for fire and police protection facilities, systems, equipment, and services under 'Utilities and Public Services', pages 4.12-20 and 4.12-21 of the DEIR. As stated in Impact 4.12-7, the City of Merced Fire Department has indicated it would be capable of responding to fires and emergencies within the desired response time (Franco, pers. comm.). The applicant will also pay its fair share of the costs associated with increased demand for fire and police protection facilities and services, as appropriate, through the City's Public Facilities Impact Fees Ordinance. Using the fee levels from 2009 for a 1.1 million-square-foot "Light Industrial Use" at $3,812 per 1,000 square feet, the project would pay approximately $4.2 million in City Public Facilities Impact Fees, of which approximately $790,000 would be designated for police and fire facilities (based on $720 total per 1,000 square feet with $501 for fire and $219 for police facilities). Furthermore, on-site security measures are incorporated into the project design plan. For these reasons, impacts to police and fire services would be less than significant.

Related to health and safety issues associated with hazardous materials (including flammable) that may be stored on-site during construction and operations, please refer to 'Public Health and Hazards', pages 4.10-12 through 4.10-14 of the DEIR (Impact 4.10-2 and 4.10-3). This comment on hazardous materials does not raise any issues about the adequacy of environmental analysis in the DEIR. Therefore, no further response is necessary.

16-6 The commenter indicates that the DEIR should identify measures to enforce and strengthen existing laws regarding truck traffic. Please see Response to Comment 22-15, which addresses this issue.

16-7 The commenter states that Weaver School District was predicted to exceed its K-8th grade facility capacity of 2,470 students at the beginning of the 2008-2009 school year. The commenter also asks that Wal-Mart pay a 2:1 school facilities impact fee because the project will generate elevated health impacts, absenteeism, safety risks, infrastructure degradation, and population increases.

As stated in Section 4.12, Utilities and Public Services', page 4.12-7 of the DEIR, the project is anticipated to hire primarily from the local community, resulting in little in-migration. Therefore, the project is not expected to increase long-term demand for schools necessitating the expansion of existing facilities or construction of new facilities.

The California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA (Government Code Section 65996) [See Section 4.10, 'Utilities and Public Services', page 4.10-14 of the DEIR]. The project would be subject to development impact fees that would provide the legally maximum required level of funding under State law. A 2:1 school facilities impact fee is not required by State law. This comment does not provide any information on the correlation between doubling the applicant's school facilities impact fee and the projects impact on health, absenteeism, safety risks, infrastructure degradation, and population. Further, this comment does not raise any issues about the adequacy of environmental analysis in the DEIR. Therefore, no further response is necessary.

16-8 The commenter states that Wal-Mart should fund relocation of Weaver Elementary School if TACs generated by diesel trucks using the proposed project require such location to be necessary. A comprehensive HRA is included in Appendix C of the DEIR. Impact 4.2-4, Exposure of Receptors to Toxic Air Contaminants, includes discussion about the potential health risk from long-term operation-related emissions of TACs, including TACs generated by diesel trucks. This analysis concluded that no nearby receptors, including all schools in the area, would be subject to increased levels of health risk that exceed the applicable thresholds of significance. Therefore, no mitigation would be required, including relocation of Weaver Elementary School.

16-9 The commenter states the DEIR should explain how tax assessment of the project site would increase pressure on adjacent agricultural land to convert to urban development. Related to economic issues, please refer to Response to Comment 12-14. Related to the conversion of farmland to nonagricultural use, please refer to Master Response 5: Agricultural Resources which addresses the issue related to conversion of important farmland.

16-10 The commenter states the proposed project does not include adequate buffer from adjacent agricultural land. The commenter does not provide any evidence of how the project does not provide sufficient buffer and what amount of buffer would be considered sufficient. The DEIR fully analyzes impacts associated with potential conflicts between urban land uses and adjacent agricultural operations (refer to Impact 4.1-3 of the DEIR). Therefore, analysis of impacts to agricultural resources is considered adequate. No additional analysis is required.

16-11 The commenter states the DEIR should assess crop damage from elevated ozone exposure from implementation of the proposed project. The proposed project would not emit substantial amounts of ozone at the site. Although ozone precursors (ROG and NOx) would combine in the atmosphere in the presence of sunlight to create ozone, the distribution of ozone is highly dependent on local meteorology on any given day. In addition, the vast majority of ozone precursors generated during project operation are emitted from diesel trucks traveling long distances. Furthermore, although the proposed project would generate ozone precursors, Section 4.2 "Air Quality" includes mitigation measures that reduce the operational emission of ozone precursors to a less-than-significant level (Mitigation Measures 4.2-2a through 4.2-2e). For these reasons, the project would not result in local elevated ozone levels such that crop production would be substantially affected. Therefore, analysis of air quality impacts and impacts to agricultural resources is considered adequate. No additional analysis is required.

16-12 The commenter recommends a 4:1 mitigation ratio for conversion of prime agricultural land on the project site. Please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

16-13 The commenter expresses concern about the effects of localized diesel truck emissions on people in Merced County who have asthma or other respiratory conditions. Please refer to Master Comment 13.

The commenter states that the HRA needs to address the level of increased cancer risk from off-site operational traffic emissions generated by vehicles using the proposed facility. Please refer to the response to comment 92-3.

The commenter states that the HRA needs to address TAC exposure to truck drivers and workers employed by the proposed project. Occupational risks to truck drivers and other employees, including exposure to potentially harmful levels of TACs, are regulated by the Occupational Safety and Health Administration (OSHA). The DEIR assumes that all OSHA regulations would be enforced and therefore, the analysis of TAC emissions discussed under Impact 4.2-4 focuses on the potential exposure of off-site receptors (e.g., schools, residents, and off-site places of employment) to project-generated TAC emissions.

The commenter also states that the HRA does not address construction-phase TAC emissions and TAC exposure to truck drivers and workers employed at the facility. Short-term construction-generated TAC emissions are addressed qualitatively under Impact 4.2-4. As explained on page 4.2-43, "SJVAPCD has not adopted a methodology for analyzing such impacts and does not recommended the completion of HRAs for construction-related emissions of TACs…"

16-14 The commenter believes the mitigation measures proposed to mitigate impacts 4.2-1 and 4.2-2 improperly defers mitigation. Please see response to comment 16-19.

16-15 The commenter states that the DEIR fails to assess how CAP emissions associated with project operations would affect air basins outside the SJVAB. Please refer to response to comment 96B-27.

The commenter also expresses concern about the impact of project-generated emissions on Yosemite National Park and Kings Canyon National Park. National Parks are considered Class I areas by EPA. Major stationary sources of emissions (e.g., coal-fired powered plants) that have the potential to adversely affect air quality in areas considered Class I areas by EPA, including national parks, are required to submit Prevention of Significant Determination (PSD) permit applications. The proposed project does not constitute a major stationary source with respect to the PSD permit program. The air quality analysis for the proposed project was conducted in

accordance with SJVAPCD-recommendations for this type of project as such relates to CEQA analysis, not for NEPA or other permit requirements as this is an EIR.

16-16 The commenter states that Wal-Mart should provide warning to the surrounding neighborhood that the project will cause elevated cancer risk. Impact 4.2-4 discusses the incremental increase in cancer risk to off-site receptors. The analysis concludes that the incremental increase would not exceed the applicable threshold of significance and, therefore, no mitigation is required, such as notification of nearby receptors. The commenter also indicates that the project must obtain a "Safe Use Determination" pursuant to the Safe Drinking Water and Toxic Enforcement Act of 1986. The Safe Drinking Water and Toxic Enforcement Act of 1986 (e.g., Proposition 65) contains two basic provisions: (1) no discharge of a listed chemical shall be made in a significant amount to a potential source of drinking water or to soil, which may cause the chemical to enter groundwater; and (2) the posting of clear and reasonable warnings prior to exposure of Proposition 65 chemicals is required. The potential for the proposed project to emit such chemicals and other toxic substances, and subsequent effects to surface water and groundwater, is addressed in Master Responses 8 and 9 in the FEIR, and in Section 4.10 "Public Health and Hazards".

16-17 The commenter believes the mitigation measures proposed to mitigate impacts 4.2-1 and 4.2-2 improperly defers mitigation. Please see response to comment 16-19.

16-18 The commenter believes that the CO screening-level analysis used in the DEIR was inappropriately applied, and that a full CO hot-spot study should have been performed. The traffic study prepared for the project (DKS 2008) supports the conclusion that the project would not contribute to the deterioration of signalized intersections to unacceptable level of service (LOS), which SJVAPCD uses as an indicator for CO hot spot potential. In addition, the project would not exceed the threshold level for the mitigation measure from the General Plan EIR. The screening-level analysis provided by SJVAPCD (GAMAQI 2002) was correctly applied. The screening level analysis is a conservative approach such that if the project would not result in an exceedance of the screening criteria, the project would not result in a violation of the ambient air quality standards.

16-19 The commenter believes that mitigation measures proposed with the intent of reducing impacts to air quality are inappropriately vague and improperly defer mitigation, but does not provide any specific examples of where this has occurred. As a general matter, a lead agency must not defer the formulation of mitigation until after project approval (State CEQA Guidelines Section 15126.4[a][1][B]). The state courts have developed legal principles regarding the extent to which an agency can rely on a mitigation measure that defers some amount of environmental problem-solving until after project approval. In particular, deferral is permissible where the adopted mitigation measure commits the agency to a realistic performance standard or criterion that will ensure the mitigation of the significant effect, or lists alternative means of mitigating an impact that must be considered, analyzed, and possibly adopted in the future. Here, the City has set forth numerous mitigation measures designed to mitigate the project's environmental consequences. As noted, where the mitigation measures, policies, or programs require future action, performance standards are included to ensure effectiveness of the mitigation. Where mitigation measures are proposed for the purpose of reducing impacts to air quality, timing, responsibility, and performance standards have been assigned to make measures as specific and enforceable as possible. Please also refer to response to comment 17-14.

16-20 The commenter indicates that uncertainties related to "implementation of the Air Impact Assessment," the voluntary agreements between Wal-Mart and SJVAPCD, and proposed roadway improvements should have prevented the Draft EIR from concluding "less-than-

significant" for a number of air quality and traffic impacts. The commenter does not explain the alluded "uncertainties" and does not identify the specific impacts considered to be problematic in this instance. It should be noted that although the "Emissions Reduction Agreement" with SJVAPCD is, in most instances, a voluntary program, because the Draft EIR requires the applicant to participate in this program as mitigation to air quality impacts, the program is not voluntary in this case. Regarding uncertainties related to "implementation of the Air Impact Assessment" and proposed roadway improvements, specific responses cannot be provided, except that the Draft EIR clearly mitigates for traffic and air quality impacts, and there are no uncertainties related to these issues that could alter the conclusion of the Draft EIR.

16-21 The commenter suggests that the City has a history of failing to enforce the implementation of mitigation measures and cites two annexation projects as examples, and indicates that the project violates mitigation requirements for those annexation projects. However, the allegation is very general, and the attachments provided to support the examples of lack of mitigation enforcement are multifaceted, dealing with many alleged issues between the Lyons Annexation project, the Campus Parkway EIR/EIS, and the proposed project. Most of the issues are fiscal in nature and do not raise environmental issues. Master Response 3: "Piecemealing" addresses the adequacy of the Draft EIR with respect to other CEQA documents prepared for other projects in the vicinity. It should be noted that the proposed project would not violate any of the mitigation measures set forth in the Lyon's Annexation project. When mitigation measures are adopted, they are not necessarily intended to remain forever unchanged. Subsequent projects come along, a community develops, and new projects need to consider what has happened before and how circumstances have changed. Since the Lyons Annexation, the Campus Parkway project was planned and that EIR assumed development in the industrially zoned project area. Campus Parkway has changed the environmental setting dramatically, introducing a new road system (under construction), including the Parkway and Mission Interchange, none of which was in place when the Lyons Annexation project was evaluated; from a transportation planning perspective, Kibby Road no longer makes sense as a collector in this location. Campus Parkway superseded it as a major arterial; that EIR has superseded the previous mitigation measures. In addition, abandoning the Kibby Road easement would not violate the General Plan because the City will be amending the General Plan.

16-22 The commenter states that there is little evidence that the City has coordinated with County or Caltrans regarding the project's traffic impacts. The Notice of Preparation for the EIR was sent to the County and Caltrans, and both agencies provided comment letters prior to preparation of the EIR that were considered in the DEIR. In addition, these agencies commented on the DEIR. The DEIR assumes roadway improvements that are already programmed (such as modifications to Campus Parkway), as well as approved development projects. For roadway projects that are already programmed, the DEIR traffic analysis did not analyze whether the modifications are required, as noted in the comment. The traffic study carefully considered the number and types of potential vehicles, and their potential routes. The assumptions were reviewed and confirmed by City staff and an independent peer review of the analysis. Regarding the issue of piecemealing, please refer to Master Response 3: Piecemealing, which addresses this issue.

16-23 The comment states that noise impacts are not significant and unavoidable and that mitigation such as retrofitting windows is not included in the EIR. Window retrofitting and other soundproofing measures are addressed on page 4.8-27 in Mitigation Measure 4.8-3.

16-24 The commenter notes that the expanded IS/MND prepared for the Lyon's Annexation project indicates a 40-year buildout period for the 484-acre site. The commenter claims that "various studies" in the Draft EIR ignore this assumption and identifies two "probable future projects," including a power plant (actually an electrical power peaking plant, the application for which has

been rejected by the Public Utilities Commission (PUC) and, the City has no subsequent peaking plant applications on file at this time) and a business park. It should be noted that this annexation area is identified in the Merced Vision 2015 General Plan update, and the IS/MND incorporates the General Plan EIR by reference and therefore is based on the General Plan's buildout assumptions (regardless of the stated buildout estimate). Furthermore, neither the General Plan nor the Lyon's Annexation project identify specific uses for the properties located within the vicinity of the project (such as a power plant or business park), but rather identify general land use types that allow various uses. It is speculative to assume that specific uses will develop on specific parcels unless formal applications have been accepted by the City. Analysis in the Draft EIR for the proposed Merced Wal-Mart Distribution Center Project is based primarily on buildout assumptions included in the *Merced Vision 2015 General Plan*, as well as on information provided by City staff regarding approved and planned projects in the vicinity. Consequently, the Draft EIR is based on the best information available and heeds CEQA's warnings against speculation (*State CEQA Guidelines* Section 15145). The commenter also states that "the DEIR improperly concludes that cumulative air emissions are less than significant. This conclusion is particularly unwarranted in the case of Toxic Air Contaminants, as the Health Risk Assessment fails to address the substantial current and future 'background' exposure levels of sensitive receptors near the project site from existing and planned emissions sources." Please refer to response to comment 230-4. In addition, it is speculative to assume that any particular sources of TACs would be developed as part of the Lyon's Annexation project.

16-25 The commenter indicates that the City needs to weigh the economic benefits versus the proposed project's costs in damage to human health, productivity, infrastructure, and agriculture crop yields and that the City must adopt a Statement of Overriding Considerations to approve the project. The commenter further states that the Draft EIR must adequately inform the decision. The commenter is correct. Although this specific comment does not raise any issues regarding the adequacy of the Draft EIR, and will therefore not be further addressed, more information related to the decision to approve a project in light of significant impacts to the environment is provided in Response to Comment 118-2.

16-26 The commenter indicates that the DEIR should describe how many new employees will be generated from the proposed project and should require that all employees reside in the County of Merced. Local hiring procedure is not an environmental issue and does not require analysis under CEQA. Please see Response to Comment 92-4, which discusses this issue in greater detail.

16-27 The commenter objects to the limited nature of the objectives and the alternatives. See Master Response 12: Alternatives, which addresses this issue.

16-28 This comment concludes the letter with a general statement that the legal standards for the DEIR and the CEQA process have not been met and that affected residents have been excluded. Regarding the document and process, this comment offers no specific criticism and is assumed to emphasize more specific statements made previously in the letter. The responses to comments above address these specific statements. Regarding the exclusion of residents, again, the comment is non-specific, but it is assumed that the commenter refers to the language barrier issue, which is addressed in Master Response 2: Language Barrier and Public Review Period.

17

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Merced / Mariposa County Asthma Coalition
Controlling asthma through awareness and education

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April 21, 2009

Kim Espinosa
City of Merced - Planning Department
678 W. 18th
Merced, CA 95340

Re: The Merced/Mariposa County Asthma Coalition Opposes the Proposed Wal-Mart Distribution Center

Dear Ms. Espinosa,

The Merced/Mariposa County Asthma Coalition (MMCAC) is a community-based health organization that is composed of a diverse membership of over 150 volunteer members that seek to fulfill our mission of *controlling asthma through awareness and education.* Since 1997, the coalition has implemented both clinical and environmental interventions which help to reduce the prevalence of asthma in our community by working with schools, health care professionals, policymakers and residents. MMCAC members have a proud history of advocating for the strongest, most health-protective policies possible on the local, regional and statewide levels.

Since plans for the Wal-Mart distribution center were first announced in August 2005, a broad cross-section of Merced residents have expressed their concerns related to local and regional air quality impacts from this project. In January 2007, MMCAC members voted to formally oppose the project. We believed then that the project's negative impacts to the health and quality of life of Valley and local residents outweighed its employment benefits. **We still have serious concerns that the negative consequences of the project on local residents most affected by the project's impacts 1) are not adequately addressed and 2) are not adequately reduced to a less than significant level.**

17-1

Put simply, we submit these comments because the health of our members and our community is directly affected by the project.

The most recent California Health Interview Survey (CHIS) shows that out of 51,000 Merced County residents diagnosed with asthma, 17,000 are children. In 2006, over 700 children visited local Emergency Rooms due to asthma-related illnesses. In 2007, at least two Merced County residents died from asthma attacks (one pregnant, single mother in the City of Merced and one mother in Los Banos). A recent study by Cal State Fullerton Professor Jane Hall estimated that the public would save $5.8 billion in health costs if air pollution in the San Joaquin Valley met federal health-based standards. We must do everything in our power, and we ask you to do the same, to ensure Merced County residents, especially children, are able to live, learn and grow up in a healthy environment, which is why we oppose the proposed Wal-Mart Distribution Center.

737 W. Childs Ave. Merced, California 95341 **TELEPHONE** 209-385-5490 **FAX** 209-384-3966 **WEBSITE** www.mmcac.com

Printed on recycled paper

Air pollution is the number one environmental concern for the people of the Valley. It endangers the health of residents, retards the growth of crops, and threatens the overall economy and quality of life in the region. The economic benefits of the project should be studied and weighed against the economic costs of its air quality impacts. As stated, we oppose the proposed WMDC due to both the negative consequences to residents' health and the burden that will be placed on the economy if 100% of the pollution generated by the proposed project is not fully mitigated through proactive measures (locally and regionally).

We have three main areas of concern:

1. Assumptions made in the Draft Environmental Impact Review (DEIR) are based on confusing and dubious studies.
2. The DEIR does not "identify and discuss all feasible measures that will reduce air quality impacts generated by the project," as requested by the Air District in their Notice of Preparation letter and as required by CEQA.
3. The full extent of the Valley's air quality public health crisis has not been taken into account on all levels of planning.

17-2

The DEIR's underlying analysis is flawed and inadequate.

Despite the many pages of technical writing included in the DEIR, we are left with a number of questions. We feel that the urgent reality our members experience in Merced County classrooms, living rooms and emergency rooms is not adequately reflected in this document. Without a reliable set of studies, we question the adequacy of any subsequent mitigation measures, permitting actions, or voluntary agreement.

17-3

There are fundamental questions that still need to be answered.

How many trucks precisely will use the facility?

The WMDC's Notice of Preparation released July 7, 2006, states that "The project is expected to accommodate up to 900 tractor/trailer trips per day (450 in and 450 out)." However, there is no reference to this number, nor does the DEIR at any point make reference to a maximum peak hour number of truck trips. Instead, the authors of the studies rely on an e-mail communication from Lynn McAlexander, Wal-Mart's former Project Manager for Distribution Center Design. McAlexander's e-mail apparently states that Wal-Mart's distribution center in Apple Valley generates an average of 644 truck trips per day.

A rough daily average of 644 truck trips does not preclude a maximum of 900 truck trips in a day – an additional 28.5% truck trips. This alone renders the 2010 and 2030 traffic studies and subsequent mitigation measures flawed and virtually useless as a document to be used as the basis for such an important decision.

17-4

- What would the project's impact be if the traffic study studied the actual PM Peak Hour traffic with the project? What further mitigation would be required if the actual number of PM Peak Hour trucks were studied? If the suggested mitigation is inadequate for actual PM Peak Hour traffic, what will happen?
- How many more idling trucks would sit at the intersection? How long would the trucks wait for the stoplight to change? How much more carcinogenic diesel soot would students, teachers and staff breathe?

17-5

- Will traffic back up onto SR 99? If traffic backs up, or if the Mission and SR 99 intersection becomes known as a problematic intersection, what other routes will trucks use to avoid it? 17-6

These, or similar questions can be asked of each intersection that the traffic analysis claims to study. The studies that depend on a rough estimate of truck trips should be redone to include a peak hour number of maximum truck trips, their associated emissions and further mitigation measures. These new studies should not be speculative; they should instead provide an accurate assessment of impacts to an already overburdened neighborhood. 17-7

Where will trucks using the Merced WMDC travel to and from?

The DEIR's measurement of truck trips is internally inconsistent and appears to avoid a good faith effort at full disclosure of impacts to Air Districts outside the San Joaquin Valley.

The DEIR again bases its operational emission estimates on an e-mail from former Wal-Mart Project Manager for Distribution Center Design Lynn McAlexander. According to McAlexander's data for trip distances for the proposed project:

	Operation-related emissions of criteria air pollutants and precursors	**Operation-related emissions of carbon dioxide**
Average inbound receivable truck trip distance	**106.2 miles/trip** "in the San Joaquin Valley Air Basin" between the 49 existing Wal-Mart stores and existing DC in Red Bluff or Porterville	**171.5 miles/trip** "in *and beyond* the San Joaquin Valley Air Basin" between 49 existing Wal-Mart stores and existing DC in Red Bluff or Porterville
Average outbound delivery truck trip distance	**83 miles/trip** "in the San Joaquin Valley Air Basin" to the 49 existing Wal-Mart stores	**109.1 miles/trip** "in *and beyond* the San Joaquin Valley Air Basin" to the 49 existing Wal-Mart stores

17-8

We note that Table 4.2-7 shows a stunning amount of existing operational emissions contributing to criteria air pollutants. Wal-Mart's truck traffic that would travel to 49 existing stores, which would be supplied by the Merced WMDC, will be responsible for **343 tons/year of NOx and 207 tons/year of PM10.**

We need more information about three assumptions made in the DEIR's operational emissions study.

1. The DEIR measures trip distance outside the San Joaquin Valley Air Basin when determining CO2 emissions, but not for criteria air pollutants. If the trucks travel outside the San Joaquin Valley Air Basin then the DEIR should a) state the attainment status of each Air District, b) estimate the amount of emissions that will pollute each Air Basin as a result of this project, and c) contact each Air Basin for comment. Any change in truck route from the Port of Oakland should be studied as well. 17-9

2. In order to understand how many miles trucks using the Merced WMDC would actually travel, we would need to know which stores the distribution center is intended to serve. Please provide a list of the 49 existing stores in the San Joaquin Valley Air Basin upon which the DEIR's traffic studies are based. 17-10

3. It is unclear why Inbound Receivable net emissions total precisely 0.0 TPY of all criteria air pollutants and precursors. Even if all trucks using the Merced WMDC were already delivering goods to the supposed 49 existing stores in the San Joaquin Valley Air Basin, the trucks still need to travel over 1 mile from SR 99 to the Gerard Ave. entrance. These emissions must be acknowledged, assessed and appropriately mitigated. 17-11

A full Health Risk Assessment needs to be conducted by trained Air District staff with community input.

We call for a full Health Risk Assessment (HRA) to be completed with specific attention paid to the local area "sensitive sites" (Farmdale Elementary School, Pioneer Elementary School and Weaver Middle School as well as the proposed school site in the area).

In order to adequately understand the health impacts introduced by the project, a full Health Risk Assessment that includes a study of cancer risk caused by off-site WMDC project traffic should be conducted. The 7.3 in 1 million elevated cancer risk should not be dismissed as insignificant. The DEIR should include concrete measures that will be taken to reduce this cancer risk to a minimum. as low as feasible. 17-12

In order to assess the actual cancer risk introduced by this project, two additional sources of emissions should be included:

1) Off-site traffic-related emissions generated by the project should be included. The proposed truck route passes within approximately 1,000 feet from Pioneer Elementary school and appears to be adjacent to a planned Weaver School District elementary school site between Childs Ave. and Gerard Ave.

2) A thorough HRA, one that allows residents to understand the health risks posed to our community by this project, would include a study of sensitive receptors' exposure to Toxic Air Contaminants from 2030 traffic conditions projected to come about with the project.

We note that the project is less than half of the Heavy Industrial zoned land in southeast Merced that was added to the City in 1997 as part of the Lyons Annexation. Other proposed industrial uses in the Annexation area include a 350 megawatt peaking power plant and an industrial park on the eastern side of Kibby and Childs Ave. The traffic study ignores the build-out of these uses and the cumulative health impacts of all proposed projects. 17-13

The Public must be involved in the Air Impact Assessment, Rule 9510 and voluntary emissions reduction agreement

The Coalition has several concerns about the Air Impact Assessment process as described in the DEIR. The MMCAC requests to participate and consult with the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) as local stakeholders and experts on any voluntary agreement between Wal-Mart and the SJVUAPCD. 17-14

Any agreement between Wal-Mart and the SJVUAPCD should be noticed and circulated for public review and given ample time for comment by the public and relevant agencies. Specific details regarding *how* mitigation is performed and monitored are a critical component of the decision-making process. Simply stating that at some point in the future, dozens of tons per year of criteria air pollutants will be mitigated is inadequate and inappropriately defers mitigation. Because we live in one of the country's most polluted air basins with four times the National asthma rates, it is absolutely critical that mitigation happen immediately (locally and regionally). 17-14 Cont'd

The MMCAC encourages the use of on-site mitigation that reduces actual emissions from vehicles entering and exiting the Merced WMDC. 17-15

A majority of trucks using the Merced WMDC would be non-Wal-Mart trucks. We encourage the development of an enforceable mitigation program that monitors *all* trucks using the facility. 17-16

Indirect Source Review (ISR) compliance and any voluntary agreement should consider that the Merced WMDC, if approved, would operate in Merced for decades. For example, an off-site in-lieu fee used to replace an agricultural pump with a seven- year lifespan is not an adequate mitigation measure in itself. **The SJVUAPCD should require Wal-Mart to mitigate each type of criteria pollutant to zero for the life of the project.**

The DEIR's claim that the SJVUAPCD "has not identified mass emissions thresholds for operational emissions of PM10 and PM2.5" is disputable. MMCAC members participated in the SJVUAPCD's process for writing the strongest possible State Implementation Plan (SIP) for attaining health protective fine particulate standards. Even assuming that the DEIR's estimate of 16.5 TPY of PM10 after ISR mitigation is accurate, it is inappropriate and dangerous to state that this is not worth mitigating. 17-17

Given the extreme air quality public health crisis that our members experience on a daily basis, the SJVUAPCD should require 2:1 mitigation per ton of pollutant. 17-18

If the City of Merced is going to monitor the voluntary agreement mitigation measures, we ask that the SJVUAPCD and California Air Resources Board (CARB) staff train City of Merced staff in appropriate fields to assist in gaining expertise in recognizing and mitigating criteria pollutants.

One such field could be training City public services staff to inspect heavy duty diesel trucks for proper tags, compliance with idling regulations, etc. MMCAC members could be available to train City of Merced staff in indoor and outdoor air quality conditions and related areas. 17-19

Finally, we again emphasize that localized coarse, fine and ultrafine PM emissions must be fully accounted for and reduced to the maximum extent possible using the Best Available Control Technology (BACT). **If Wal-Mart chooses to pay an in-lieu fee, we request 1) that PM emissions be mitigated at a 2:1 ratio and 2) that on-site fees be directed towards helping Merced residents cope with the real world health impacts of local PM emissions.** 17-20

The DEIR should also discuss how this project may interfere with regional or countywide emission reduction goals set under SB 375. These goals should be included in the City of Merced's updated General Plan. 17-21

The City of Merced has been in the process of updating its General Plan for nearly two years. The current City of Merced Vision 2015 General Plan, written in 1995-6 and approved in 1997, is out-of-date. The City is out of compliance with the letter and intent of AB 170. This project contradicts the "Toxic and Hazardous Emissions" section of the SJVAPCD's *Air Quality Guidelines for General Plans*. 17-22

As stated in the DEIR, Wal-Mart intends to "take advantage of the local labor force". As a good-faith commitment and in order to reduce the Vehicle Miles Traveled (VMTs) as required by SB 375, the Wal-Mart Corporation must hire 90% of all WMDC employees from Merced County (residents who live in Merced County prior to employment). Specific attention should be paid to Merced County's unemployed. If training is required for new employees, then the Wal-Mart Corporation must implement a training program that will educate the majority of the unemployed labor force in Merced County on the basics of the job and how to do it. 17-23

Wal-Mart must also pay for and provide alternative modes of transportation for its employees, such as:

- Purchasing carpool vehicles to create WMDC's "Carless Commute" which would serve employees and the various shifts
- Providing on-site services such as postal, banking services and showers for bicycle commuters
- Providing and encouraging "Bike-to-Work" days, weeks, seasons, etc.
- Installing one state-of-the-art bike locker for every 20 employees

As discussed, the MMCAC supports full mitigation of project impacts in a manner that corresponds to the project's real world health impacts. Any voluntary agreement between Wal-Mart and the SJVUAPCD should prioritize on-site measures that reduce the project's air pollutants to a less than significant level.

For example:

- No truck with an engine older than 2007 Model Year (MY) will be permitted to use the facility. Wal-Mart staff will be required to submit monthly reports to City staff detailing the model year of the trucks entering the facility.
- A fund will be created to retrofit or replace the trucks that will enter the project site.
- As a good-faith measure, Wal-Mart will need to purchase at least two PM2.5 forecasting monitors to assist the SJVUAPCD in "improving the health and quality of life for all Valley residents through effective and cooperative air quality programs". 17-24

If these are determined to be somehow infeasible or unacceptable, we request that funds be directed to specific programs that create a healthier and more livable community for Merced residents directly affected by the project's impacts.
For example:

- Funds designated to hire three full-time nurses to staff Weaver and Pioneer schools and administer a program that will help students live a healthy and successful life even in the most polluted air basin in the U.S.
- Funds designated to staffing the urgent care facility in Mercy Hospital as well as training and hiring additional respiratory therapists.
- Funds designated to assist southeast Merced residents in purchasing asthma equipment such as inhalers and spacers.

- Funds designated to build publicly-owned infrastructure in southeast Merced that encourages healthy exercise and community building. This could include a Community Center with the most efficient, state-of-the-art Heating Ventilating Air Conditioning (HVAC) system.
- Funds designated to the Weaver School District to offset the cost of the site selection process of a new school site.
- Funds to plant a perimeter of redwood, deodar cedar trees, and/or broad-leaf live oaks around the 1.1 Million Sq. Ft. property and along the project truck route. These types of trees are "highly effective in filtering some of the most toxic particles in auto exhaust." (Sacbee / News: Published May 6, 2008)
- Merced needs to move towards becoming more "green", not "green washing" as Wal-Mart seems to do. We need to be at the fore front of the green movement not lag behind. All of the green issues with Wal-Mart need to be resolved before it moves forward.
- Wal-Mart should pay for the entire cost for all asthma, heart disease, allergy and cancer treatment and medication for residents living within a two mile radius of the proposed Wal-Mart Distribution Center who are diagnosed with the listed diseases or ailments if diagnosis is given on or after the start of WMDC construction.
- As Wal-Mart actively pursues community involvement, we request a management representative from Wal-Mart be required to join the Merced/Mariposa County Asthma Coalition with 80%attendance/annually of all meetings.
- In addition, Wal-Mart needs to be required to fly the Asthma-Friendly Air Quality flags in front of their building and provide mandatory staff presentations explaining the importance of the flag program and asthma education. The Merced/Mariposa County Asthma Coalition will be available to provide the staff presentations.

17-24 Cont'd

Any mitigation measures as a result of this project should be binding with a clear timetable for implementation and benchmarks to measure their success.

17-25

A measure stating that "the project shall include as many clean alternative energy features as possible to promote energy self-sufficiency" (2-17) is too vague. Please note, natural gas is not the Best Available Technology for alternative energy and will also create a more localized, cumulative air pollution burden on the area.

Mitigation Measure 4.2-2d states that "If, however, the additional measures listed below are technologically or economically infeasible, the Applicant shall submit a written report to the City of Merced Planning & Permitting demonstrating such infeasibility. Approval of this report shall be received by the Applicant prior to receiving final discretionary approval of the project from the City of Merced Planning & Permitting."

17-26

We request that 1) if Wal-Mart submits such a written report it be made available for public review and a reasonable amount of time be given to comment on such a report (30 days minimum), and 2) that knowledgeable independent experts determine whether additional measures are truly technologically or economically infeasible.

Thank you for taking our comments and recommendations seriously. As stated above, the Merced/Mariposa County Asthma Coalition adamantly opposes the proposed Wal-Mart Distribution Center due to the negative health impacts the project will create. As the process moves forward, we urge the City to make the process as open, inclusive and accessible as possible to all Merced residents. We have full confidence that if the City of Merced chooses to move forward and approve the project,

that the recommendations above will be implemented into an agreement between the City of Merced (its residents) and the Wal-Mart Corporation.

Please contact us if you have any questions.

Sincerely,

Connie Mull, RN
Chair

Attachments:

1. California Health Interview Survey (CHIS). Lifetime Asthma Prevalence. 2007; Available at: http://www.chis.ucla.edu/.
2. California Office of Statewide Health Planning and DEvlopment (OSHPD). Patient Emergency Department Databases, 2006.
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6. Gauderman, W.J., Avol, E., Gilliland, F., Vora, H., Thomas, D., Berhane, K., McConnell, R., Kuenzli, N., Lurmann, F., Rappaport, E., Margolis, H., Bates, D., and Peters, J. (September 9, 2004). "The Effect of Air Pollution on Lung Development from 10 to 18 Years of Age". New England Journal of Medicine, Vol. 351, Number 11, pages 1057-1067.
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9. Gauderman, W.J., McConell, R., Gillilland, F., London, S., Thomas, D., Avol, E., Vora, H., Berhane, K., Rappaport, E.B., Lurmann, F., Margolis, H.G., and Peters, J.M. (2000). "Association between Air Pollution and Lung Function Growth in Southern California Children". American Journal of Respiratory Critical Care Medicine. Volume 162, pp 1383-1390.
10. "Merced/Mariposa County Asthma Coalition - Report to the Community on Asthma". Released May, 2008.

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Original Contribution

Association of Black Carbon with Cognition among Children in a Prospective Birth Cohort Study

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While studies show that ultrafine and fine particles can be translocated from the lungs to the central nervous system, the possible neurodegenerative effect of air pollution remains largely unexplored. The authors examined the relation between black carbon, a marker for traffic particles, and cognition among 202 Boston, Massachusetts, children (mean age = 9.7 years (standard deviation, 1.7)) in a prospective birth cohort study (1986–2001). Local black carbon levels were estimated using a validated spatiotemporal land-use regression model (mean predicted annual black carbon level, 0.56 μg/m^3 (standard deviation, 0.13)). The Wide Range Assessment of Memory and Learning and the Kaufman Brief Intelligence Test were administered for assessment of cognitive constructs. In analysis adjusting for sociodemographic factors, birth weight, blood lead level, and tobacco smoke exposure, black carbon (per interquartile-range increase) was associated with decreases in the vocabulary (−2.2, 95% confidence interval (CI): −5.5, 1.1), matrices (−4.0, 95% CI: −7.6, −0.5), and composite intelligence quotient (−3.4, 95% CI: −6.6, −0.3) scores of the Kaufman Brief Intelligence Test and with decreases on the visual subscale (−5.4, 95% CI: −8.9, −1.9) and general index (−3.9, 95% CI: −7.5, −0.3) of the Wide Range Assessment of Memory and Learning. Higher levels of black carbon predicted decreased cognitive function across assessments of verbal and nonverbal intelligence and memory constructs.

air pollution; child; cognition; intelligence; neurotoxicity syndromes; particulate matter; soot; vehicle emissions

Abbreviations: CI, confidence interval; IQ, intelligence quotient; K-BIT, Kaufman Brief Intelligence Test; SD, standard deviation; WRAML, Wide Range Assessment of Memory and Learning.

It is well documented that air pollution is associated with a number of adverse respiratory and cardiovascular health effects (1–3). Many of these effects seem to be more strongly associated with particles from traffic (1), which are rich in elemental carbon and are the principal source of ultrafine particle exposure. However, the possible neurodegenerative effect of air pollution remains largely unexplored. The potential effect of translocation of particles from the lung to other organs has been documented. Researchers have shown that ultrafine and fine particles can be translocated from the lungs when they penetrate pulmonary tissue and enter the capillaries, reaching other organs (i.e., liver, spleen, kidneys, heart, brain) through circulation (4). In addition, fine and coarse particles can be phagocytized by macrophages and dendritic cells carrying the particles to the lymph nodes (5).

Animal studies have shown that inhaled particles can be translocated from the respiratory system directly to the central nervous system. In rats, Oberdorster et al. (6) found ultrafine carbon-13 particles in the olfactory bulb and the

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cerebrum and cerebellum after inhalation exposure of ultrafine elemental carbon-13 particles. More recently, Elder et al. (4) confirmed that ultrafine particles can reach the brain, either through circulation or directly translocated to the olfactory nerve from the nose to the brain. This raises the question of whether traffic particles can have neurotoxic effects.

The few studies that have focused on the potentially neurotoxic effects of particulate matter have focused on pathologic lesions that are generally present in neurodegenerative diseases (i.e., Parkinson's disease and Alzheimer's disease). Researchers have proposed that damage mediated by the particles is probably related to the oxidative stress pathway. Calderón-Garcidueñas et al. (7) presented histologic evidence of chronic brain inflammation (i.e., nuclear factor-κB activation and inducible nitric oxide synthase production) and an acceleration of Alzheimer-like pathology (i.e., apoptotic glial white matter cells, nonneuritic plaques, neurofibrillary tangles) among canines chronically exposed to high levels of air pollutants in Mexico City. Levels of proinflammatory cytokines, including interleukin-1α and tumor necrosis factor-α, were higher in the brain tissues of mice exposed to particulate matter than in mice that were not exposed (8). In humans, exposure to severe air pollution has been associated with increased levels of cyclooxygenase-2, an inflammatory mediator, and accumulation of the 42-amino-acid form of β-amyloid, a cause of neuronal dysfunction (9). Changes in brain cytokine and chemokine expression in mice have been directly linked to intranasal exposure to ultrafine black carbon, suggesting a more general inflammatory response (10). Changes in cognitive function have been shown to be associated with relatively low doses of heavy metal exposure (11), which in high doses can produce some of the lesions cited above. Those low doses have also been associated with increased inflammation and oxidative stress.

Taken together, these results suggested that further examination of possible associations between markers of traffic particles and cognitive function would be worthwhile. Thus, we examined the relation between black carbon from traffic sources, a component of particulate matter, and cognition among children followed in a prospective birth cohort study. This provided us with the opportunity to adjust for markers of socioeconomic status and other environmental factors known to affect cognitive development.

MATERIALS AND METHODS

Study population

The sample for these analyses was drawn from participants in the Maternal-Infant Smoking Study of East Boston, a prospective cohort study designed to evaluate the effects of pre- and postnatal tobacco smoke exposure on childhood lung growth and development and respiratory health. The study has been described in detail previously (12). In brief, pregnant women receiving prenatal care (<20th week of gestation) at an urban community health center in Boston, Massachusetts, between March 1986 and October 1992 were eligible for enrollment. Women who did not speak either English or Spanish, who did not plan to have pediatric follow-up at the clinic, and who were less than 18 years of age at the time were excluded. One thousand women were eligible and enrolled, of whom 848 continued participation and delivered a live infant. In November 1996, new study initiatives were implemented, including the assessment of social stressors and neurocognitive assessment, at which time 500 women and their children continued active follow-up. All active subjects were approached to participate in the cognitive battery, and 218 children completed the neurocognitive assessment. Notably, there were no significant differences between those who participated in the cognitive assessment and those who did not with regard to sociodemographic factors, birth weight, blood lead level, or tobacco smoke exposure. The study was approved by the human studies committees at the Harvard School of Public Health, Brigham and Women's Hospital, and the Beth Israel Deaconess Medical Center.

In the longitudinal study, detailed data on race/ethnicity and socioeconomic position (based on maternal educational level) had been ascertained through standardized questionnaires administered at baseline and clinic follow-up visits, as previously described (12).

Black carbon

Exposure to black carbon was estimated on the basis of the children's residence during study follow-up. In order to estimate residential black carbon level, we used a validated spatiotemporal land-use regression model to predict 24-hour measures of traffic exposure using data from more than 80 locations in the Greater Boston area. Three quarters of the monitoring sites were residential; the rest were commercial or government facilities. The data consisted of over 6,021 pollution measurements from 2,127 unique exposure days. A detailed description of all sources of exposure data is provided elsewhere (13). Predictors included in the regression analysis were the black carbon level at a central stationary monitor (to capture average concentrations in the area on that day), meteorologic conditions and other characteristics (e.g., weekday/weekend) of a particular day, and measures of the amount of traffic activity (e.g., geographic-information-system-based measures of cumulative traffic density within 100 m, population density, distance to the nearest major roadway, percentage of urbanization) at a given location. A cumulative traffic density measure was recorded once per location. We used spline regression methods to allow these factors to affect exposure levels in a potentially nonlinear way. Finally, we used thin-plate splines, a two-dimensional extension of regression splines, to model longitude and latitude and capture additional spatial variability that was unaccounted for after we included our deterministic spatial predictors in the model. This approach is a form of universal kriging (i.e., kriging extended to incorporate covariates) or a geoadditive model (14) for daily concentrations of particle levels. We had complete information on all of these factors for 2,114 of the 2,127 unique exposure days. Separate models were fitted for the warm (May–October) and cold (November–April) seasons. The R^2 value for the model (over both seasons) was 0.82, and the cross-validated R^2 between the daily measurements

taken outside the residential locations and corresponding predictions obtained from fitting the model to the data after excluding data from a particular residential location was 0.36. For the purposes of these analyses, we used the average of the two seasons as a measure of average lifetime black carbon exposure. If children moved during the study period ($n = 12$), an average black carbon measure for all addresses was calculated.

Cognitive measures

When the children were aged 8–11 years, a battery of cognitive tests was administered, including the Kaufman Brief Intelligence Test (K-BIT) and the Wide Range Assessment of Memory and Learning (WRAML). The K-BIT is an individually administered test of verbal and nonverbal intelligence (15). Two subscales, vocabulary and matrices, comprise the test, as well as a composite intelligence quotient (IQ) score. The K-BIT has acceptable correlation with the widely used Wechsler verbal performance and full-scale IQ scores (16); validation studies have been conducted for children less than 7 years of age with normative data available (17). The WRAML is a well-standardized psychometric instrument that allows evaluation of a child's ability to actively learn and memorize a variety of information (18, 19). The WRAML includes subscales on verbal memory, visual memory, and learning and an overall general index scale. It has been normed for children aged 5–17 years among racially diverse groups, including minorities. All measures are expressed as standardized scores, which represent the score of the individual taking the test relative to scores obtained by children of the same age and gender in the standardization sample. All scores have a mean of 100 and a standard deviation of 15.

Tobacco smoke exposure

At each clinic visit during pregnancy, mothers were asked about their smoking status and the smoking habits of members of their households. A urine specimen was obtained for determination of a creatinine-corrected cotinine level, as previously detailed (12). A mother was classified as never smoking during her pregnancy if she always reported that she had never smoked on the standardized questionnaire and each of her urinary cotinine levels was less than 200 ng/mg creatinine (12). At any visit, if the report of nonsmoking by the mother was contradicted by the urinary cotinine measure, the mother was classified as a current smoker for that interval. Maternally reported postnatal exposure of the child to secondhand smoke was assessed by questionnaire (monthly through age 26 months, every 6 months between ages 26 months and 4 years, and annually thereafter). Children were considered to have been exposed to secondhand smoke in a particular follow-up interval if the mother reported personal active smoking or active smoking by any other person living in the household. Postnatal secondhand smoke was categorized as early (occurring from birth through 25 months of age) or late (26 months of age or older). The late secondhand smoke exposure category included children exposed both early and late (54 children) and late only (13 children), given that there were relatively few children in the latter category. Children's exposure to maternal smoking during pregnancy was highly correlated with postnatal secondhand smoke exposure. Forty-two children were exposed to prenatal tobacco smoke; among these children, only two were not exposed to secondhand smoke after birth.

Blood lead level

Children in Massachusetts are mandated by law to have blood lead testing annually, starting at 9 months of age, until age 4 years, unless they are considered to be at high risk (living in pre-1978 housing that is deteriorated or undergoing construction or having a sibling with lead poisoning), in which case they are tested annually until age 6 years. Results are incorporated into the medical records at the community health centers where the children obtain pediatric follow-up. Using a standardized instrument, blood lead levels were extracted from medical records at these health centers by a physician blinded to the study aims. Because the children had varying numbers of blood lead measurements which were dependent on their lead exposure (children with higher lead exposure had more follow-up tests than children with lower lead concentrations), we used the highest blood lead level recorded up to age 6 years for each child, referred to hereafter as the "peak blood lead level."

Statistical analyses

A total of 218 children completed the cognitive assessment, of whom 214 were successfully geocoded and assigned a black carbon measure. Eleven children were removed from the data set before analysis because they had black carbon values considered to be outliers according to the extreme studentized deviation model (20); in addition, one child was missing information on socioeconomic status. This left 202 children for our analyses. Multiple imputation was used to impute missing data on birth weight (seven children) and blood lead level (12 children). Since black carbon was being used as a surrogate for traffic particle exposure, which includes more than just carbon particles, it did not make sense for us to report results on a unit mass basis. Instead, we report estimated effects of predicted black carbon level per interquartile-range increase. We conducted bivariate analyses to determine the association between cognitive outcomes and demographic and environmental measures of interest. We also tested for associations between black carbon and environmental and sociodemographic markers. The effect of predicted black carbon on cognition was estimated by linear regression while adjusting for child's age at cognitive assessment, gender, race/ethnicity, and maternal education (as a marker of socioeconomic status) (model 1). To assess the potential for confounding, we examined the sensitivity of those results to further adjustment for in-utero and postnatal secondhand tobacco smoke exposure (model 2), birth weight (model 3), and blood lead level (model 4). All analyses were conducted in SAS, version 9.0 (SAS Institute, Inc., Cary, North Carolina).

RESULTS

Among the 202 children in this study, 52 percent were female and 57 percent spoke Spanish as their primary language. Maternal educational level was less than high school graduation for 42 percent of the mothers (table 1). The mean age was 9.7 years (standard deviation (SD), 1.7), and the mean peak blood lead level was 8.5 μg/dl (SD, 6.1). Mean scores on the K-BIT subscales were as follows: composite, 94.9 (SD, 13.9); vocabulary, 89.5 (SD, 16.3); and matrices, 101.4 (SD, 14.0). WRAML mean subscale scores were: verbal memory index, 84.7 (SD, 15.1); visual memory index, 93.3 (SD, 13.8); learning index, 101.1 (SD, 15.0); and general index, 91.1 (SD, 14.5). The mean annual predicted black carbon level was 0.56 $\mu g/m^3$ (SD, 0.13).

In bivariate analyses (data not shown) of black carbon and cognitive measures, black carbon was associated with the vocabulary, matrices, and composite subscales of the K-BIT and the visual and verbal subscales and the general index of the WRAML. Primary language spoken at home and maternal education were associated with the cognitive measures and black carbon. Children who primarily spoke Spanish at home and children whose parents had a high school education or less scored lower on the composite, vocabulary, verbal, and general memory subscales of the WRAML and K-BIT. In addition, they had higher predicted black carbon levels than children who primarily spoke English at home and whose parents had more than a high school education. Marital status was not associated with any of the cognitive measures or with black carbon. Thus, in multivariate analyses, we adjusted for both parental education and primary language spoken at home, as well as birth weight, blood lead level, and in-utero and postnatal secondhand tobacco smoke exposure.

In multiple linear regression analyses (tables 2 and 3), an interquartile-range increase in log black carbon predicted a 2-point decrease (95 percent confidence interval (CI): −5.3, 1.3) on the vocabulary scale, a 4.2-point decrease (95 percent CI: −7.7, −0.7) on the matrices scale, and a 3.4-point decrease (95 percent CI: −6.6, −0.3) on the composite subscale of the K-BIT. Black carbon level also predicted a 1.1-point decrease (95 percent CI: −4.6, 2.3) on the verbal learning scale, a 5.2-point decrease (95 percent CI: −8.6, 1.7) on the visual learning scale, a 2.7-point decrease (95 percent CI: −6.5, 1.1) on the learning scale, and a 3.7-point decrease (95 percent CI: −7.2, −0.2) on the general index scale of the WRAML. Further adjustment for tobacco smoke exposure, birth weight, and blood lead level did not attenuate these effect estimates.

TABLE 1. Demographic characteristics, environmental exposures, and scores on cognitive subscale measures ($n = 202$) in the Maternal-Infant Smoking Study of East Boston, 1986–2001

	No.	%	Mean (SD*)
Demographic characteristics			
Child's age (years)			9.7 (1.7)
Child's gender			
Male	97	48.0	
Female	105	52.0	
Primary language spoken at home			
English	87	43.1	
Spanish	115	56.9	
Mother's educational level			
Some college	37	18.3	
High school graduation/technical school	81	40.1	
Less than high school/no graduation	84	41.6	
Marital status			
Married/living with someone	155	76.7	
Separated/divorced/single	47	23.3	
Medical history and environmental exposures			
Tobacco exposure			
Nonsmoker	70	34.7	
In-utero and SHS* exposure	42	20.8	
Early SHS exposure†	23	11.4	
Late SHS exposure‡	67	33.2	
Birth weight (kg)			3.35 (0.5)
Peak blood lead level (μg/dl)			8.5 (6.1)
Black carbon ($\mu g/m^3$)			0.56 (0.13)
Cognitive subscales			
Kaufman Brief Intelligence Test			
Composite			94.9 (13.9)
Matrices			101.4 (14.0)
Vocabulary			89.5 (16.3)
Wide Range Assessment of Memory and Learning			
Verbal			84.7 (15.1)
Learning			101.1 (15.0)
Visual			93.3 (13.8)
General index			91.1 (14.5)

* SD, standard deviation; SHS, secondhand smoke.
† SHS exposure before 26 months of age.
‡ SHS exposure at 26 months of age or older.

DISCUSSION

In this prospective urban birth cohort study, long-term concentration of black carbon particles from mobile sources was associated with decreases in cognitive test scores, even after adjustment for socioeconomic status, birth weight, tobacco smoke exposure, and blood lead level. Although our linear regression-based analyses do not establish causation, only associations, a number of features strengthen our findings. Decreases in cognitive functioning were seen in verbal and nonverbal intelligence constructs as well as memory constructs. Moreover, our results are consistent in that we noted decreases across all subscales, though not all associations between black carbon and cognitive subscales were statistically significant.

TABLE 2. Relation of predicted black carbon levels (average of summer and winter) at children's residences to scores on subscales of the Kaufman Brief Intelligence Test in linear regression models ($n = 202$), Maternal Infant Smoking Study of East Boston, 1986–2001†

Black carbon model	Vocabulary		Matrices		Composite	
	Estimate	95% CI‡	Estimate	95% CI	Estimate	95% CI
Adjusted for demographic factors§	−2.0	−5.3, 1.3	−4.2	−7.7, −0.7*	−3.4	−6.6, −0.3*
Adjusted for above factors + in-utero tobacco smoke + secondhand smoke	−2.0	−5.3, 1.4	−4.0	−7.5, −0.4*	−3.3	−6.4, −0.1*
Adjusted for above factors + birth weight	−2.0	−5.4, 1.3	−4.0	−7.6, −0.5*	−3.3	−6.5, −0.2*
Adjusted for above factors + blood lead level	−2.2	−5.5, 1.1	−4.0	−7.6, −0.5*	−3.4	−6.6, −0.3*

* $p < 0.05$.
† Change in subscale score per interquartile-range (0.4-μg/m^3) increase in log black carbon level.
‡ CI, confidence interval.
§ Adjusted for age, gender, primary language spoken at home, and mother's education.

These results are of comparable magnitude to results found for other environmental neurotoxicants. For example, among children, a 10-μg/dl increase in blood lead level has been associated with a loss of 1–5 IQ points (21). Children born to mothers who smoke 10 or more cigarettes per day during pregnancy have an average decrease of 4 IQ points (22). In our cohort, an interquartile-range (0.4-μg/m^3) increase in log black carbon predicted a 3-point decrease in IQ (K-BIT composite subscale).

There are several potential mechanisms that could be contributing to the associations found in this study. First, since black carbon comes almost entirely from traffic, these particles are surrogates for all traffic particles, and other components of traffic particles may play a role. For example, there is evidence that ultrafine particles are translocated up the olfactory nerve to the brain without entering the lung (6). Ultrafine particles in the brain are probably associated with increased oxidative stress, since that has been seen in other tissues (23). The carbon particles themselves are rarely pure carbon; they generally have transition metals adsorbed on the surface. These metals have been shown to induce oxidative stress in the lung (24–28). Other studies have also implicated traffic exposure in oxidative stress (29–31). There is evidence that the oxidative stress and inflammation induced by particles translates systemically (30). For example, exposure of rodents to concentrated air particles collected from a busily trafficked roadway resulted in increased oxidative stress in the heart as well as the lung (31). Other studies comparing animal brains in areas of Mexico City that are heavily influenced by traffic have reported histologic evidence of chronic brain inflammation and an acceleration of Alzheimer-like pathology (7). Taken together, the current body of knowledge suggests that inflammatory processes and increased oxidative stress (7) may play a role in the mechanism by which particles can have an impact on the nervous system; however, additional work in this area of research remains to be done.

While, to our knowledge, no other studies have examined an association between air pollution and cognition, a few have examined the role of traffic noise in cognition among children (32, 33). In the RANCH project, a cross-sectional study of 2,000 children from three European cities (Madrid, London, and Amsterdam), aircraft noise at home and at school was associated with impaired reading comprehension (32). Road traffic noise, however, was not associated with reading comprehension. It is possible that the associations found in our study could be attributable to traffic and/or aircraft noise and not to black carbon; conversely, it is also possible that the associations previously found between road and aircraft noise and cognition are actually due to air

TABLE 3. Relation of predicted black carbon levels (average of summer and winter) at children's residences to scores on subscales of the Wide Range Assessment of Memory and Learning in linear regression models ($n = 202$), Maternal Infant Smoking Study of East Boston, 1986–2001†

Black carbon model	Verbal		Visual		Learning		General	
	Estimate	95% CI‡	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
Adjusted for demographic factors§	−1.1	−4.6, 2.3	−5.2	−8.6, −1.7*	−2.7	−6.5, 1.1	−3.7	−7.2, −0.2*
Adjusted for above factors + in-utero tobacco smoke + secondhand smoke	−1.2	−4.7, 2.3	−5.3	−8.8, −1.8*	−2.6	−6.5, 1.2	−3.7	−7.3, −0.1*
Adjusted for above factors + birth weight	−1.3	−4.7, 2.2	−5.3	−8.8, −1.8*	−2.6	−6.5, 1.3	−3.8	−7.4, −0.2*
Adjusted for above factors + blood lead level	−1.3	−4.8, 2.2	−5.4	−8.9, −1.9*	−2.8	−6.6, 1.1	−3.9	−7.5, −0.3*

* $p < 0.05$.
† Change in subscale score per interquartile-range (0.4-μg/m^3) increase in log black carbon level.
‡ CI, confidence interval.
§ Adjusted for age, gender, primary language spoken at home, and mother's education.

pollutants, such as black carbon. Future studies may be designed to distinguish traffic effects due to noise from those due to pollution.

The current study had a number of limitations. As is typical with longitudinal studies, there was a significant reduction in the sample available from the original cohort over time. The nonparticipation of some subjects from the longitudinal study may be seen as a limitation, although there were no differences based on race/ethnicity, maternal education, smoking status, birth weight, or blood lead level when we compared children who had cognition assessed with those who did not among the participants who remained in follow-up. Thus, this is unlikely to have influenced our findings. While we were able to adjust for a number of factors associated with cognition and air pollution, it is still possible that the associations found in this study could be attributable to unmeasured or residual confounding, perhaps most notably from socioeconomic status. Socioeconomic status has been shown to be a determinant of cognitive ability and achievement from early childhood through young adulthood (34, 35). Furthermore, socioeconomic status can determine whether a family lives in close proximity to roadways (36). In addition to adjusting for mother's educational level, the present study was somewhat restricted regarding socioeconomic status, given that all families were recruited from one neighborhood health center in Boston. This restricted the variability of income in this population, thereby reducing the potential for confounding.

Our measure of exposure was also subject to limitations. While we attempted to capture black carbon exposure from all residential addresses, it is possible that we potentially missed exposures incurred at school and/or other locations where children spend portions of their time. However, this potential misclassification of exposure was nondifferential with respect to the outcome, and thus it is unlikely to account for the associations found. Furthermore, compared with adults who work, children spend considerably longer periods of time at home or in the vicinity of their home. Furthermore, exposure studies using personal monitors indicate that home exposures are the most important in predicting personal exposure (37). While demonstrated in adults, time activity studies indicate that children spend more time at home and near home, making the finding relevant (38). Other studies (39) have shown that residential indoor concentrations of particulate matter of outdoor origin are highly correlated with outdoor concentrations. In another study (40), the personal exposures of the working spouses of persons with chronic illnesses have been shown to be highly correlated with their spouses' personal exposures. Taken together, we believe these studies indicate that personal exposures to ambient particles are driven primarily by exposures incurred at home. Moreover, we attempted to capture black carbon exposure from all residential addresses when children moved.

Another limitation of this study is the use of predicted exposure, rather than observed measurements taken outside the residences of the study participants. Since the latter approach is not practical in a large community-based study, we decided to use all available exposure data and advanced modeling approaches to predict the missing exposure at the residences of the participants. This is an approach that has become very popular in recent years. A potential statistical issue that arises when using spatial-temporal predictions of exposure rather than measured quantities is that predicted quantities are uncertain, and this could bias the resulting health effect estimates. In a previous study, Gryparis et al. (41) found that the use of predictions from spatial exposure models induces a Berkson-type measurement error. This results in unbiased parameter estimates for the association between the predicted exposure and the observed health outcome. However, the standard errors for the parameter of interest might be incorrect. In such a case, we would expect larger standard errors for the parameter of interest.

In summary, this is the first study to have found a consistent relation between exposure to black carbon and reduced neurocognitive functioning across a number of domains in urban, community-dwelling school-aged children. More studies are needed to explore the potentially neurotoxic effects of particulate matter, both to determine the possible impact on cognitive development among children and cognitive decline across the life cycle and to determine the potential contribution of air pollutants to the development and exacerbation of neurodegenerative diseases (i.e., Parkinson's disease, Alzheimer's disease).

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Research | Children's Health

Ambient Ozone Concentrations Cause Increased Hospitalizations for Asthma in Children: An 18-Year Study in Southern California

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Introduction
Methods
Results
Discussion

Abstract

Background: Asthma is the most important chronic disease of childhood. The U.S. Environmental Protection Agency has concluded that children with asthma continue to be susceptible to ozone-associated adverse effects on their disease.

Objectives: This study was designed to evaluate time trends in associations between declining warm-season O_3 concentrations and hospitalization for asthma in children.

Methods: We undertook an ecologic study of hospital discharges for asthma during the high O_3 seasons in California's South Coast Air Basin (SoCAB) in children who ranged in age from birth to 19 years from 1983 to 2000. We used standard association and causal statistical analysis methods. Hospital discharge data were obtained from the State of California ; air pollution data were obtained from the California Air Resources Board, and demographic data from the 1980, 1990, and 2000 U.S. Census. SoCAB was divided into 195 spatial grids, and quarterly average O_3, sulfur dioxide, particulate matter with aerodynamic diameter ≤ 10 μm, nitrogen dioxide, and carbon monoxide were assigned to each unit for 3-month periods along with demographic variables.

Results: O_3 was the only pollutant associated with increased hospital admissions over the study period. Inclusion of a variety of demographic and weather variables accounted for all of the non-O_3 temporal changes in hospitalizations. We found a time-independent, constant effect of ambient levels of O_3 and quarterly hospital discharge rates for asthma. We estimate that the average effect of a 10-ppb mean increase in any given mean quarterly 1-hr maximum O_3 over the 18-year median of 87.7 ppb was a 4.6% increase in the same quarterly outcome.

Conclusions: Our data indicate that at current levels of O_3 experienced in Southern California, O_3 contributes to an increased risk of hospitalization for children with asthma.

Key words: air pollution, asthma, children, epidemiology, ozone. *Environ Health Perspect* 116:1063–1070 (2008) . doi:10.1289/ehp.10497 available via *http://dx.doi.org/* [Online 6 March 2008]

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Introduction

In terms of numbers, morbidity burden, and health care costs, asthma is the most important chronic disease of childhood, with estimated medical care costs over $1 billion in 2005 (Wang et al. 2005). Based on its recent review of data on ozone-related health effects, the U.S. Environmental Protection Agency (EPA) has once again concluded that children with asthma constitute a group that is susceptible to O_3-associated adverse effects on their disease (U.S. EPA 2006). Hospitalization and visits to emergency departments are major contributors to childhood asthma-related health care costs and account for approximately 12% of care costs for asthma in children 5–17 years of age (Wanget al. 2005). Despite the large number of studies on various asthma-related outcomes (symptoms, lung function) in relation to ambient O_3, there are relatively few studies on O_3-related hospital discharges and emergency department (ED) visits in children with asthma; and the results of these studies have not been consistent [U.S. EPA 2006 (Figures 7-8, 7-9)]. Moreover, these studies have been concerned with associations between pollutant exposures over a few days before hospital admission and over relatively short periods of calendar time.

Several studies illustrate findings based on short lag periods. White and colleagues (1994) reported that ED visits for asthma (1–16 years of age) to an Atlanta, Georgia, hospital increased by 37% on the 6 days in the summer of 1990 when the maximum 1-hr O_3 concentrations exceeded 110 ppb. A subsequent Atlanta-based ecologic study reported that Medicaid claims for hospital admissions for asthma decreased during the time of the 1996 Summer Olympic Games in parallel with reductions of ambient O_3 concentrations (Friedman et al. 2001). The decline in O_3 was attributed to the marked decline in city traffic during the games, but associations with other mobile source emissions were not evaluated in

the regression models. A third study from Atlanta for the summers of 1993–1995 found similar associations with ED visits, but these investigators could not separate effects due to particulate matter with aerodynamic diameter ≤ 10 μm (PM_{10}) (Tolbert et al. 2000). An approximate 33% increase in ED visits for childhood asthma was reported from eastern Canada on days when the 1-hr maximum exceeded 75 ppb over the years 1984–1992, an association that was independent of concentrations of sulfate and total suspended particulates (TSP) (Stieb et al. 1996). Data from Washington, DC; Mexico City, Mexico; and Madrid, Spain, support these findings of O_3-associated increases in ED visits, independent of pollens and PM_{10} (Babin et al. 2007; Galan et al. 2003; Romieu et al. 1995).

In contrast to the above results, several relatively recent European studies have not found these associations. Data from the APHEA (Air Pollution and Health: A European Approach) study from the period 1986–1992 from Barcelona, Spain; Helsinki, Finland; Paris, France; and London, UK, failed to find any association between ED visits and ambient O_3 in children < 15 years of age (Sunyer et al. 1997). However, these results were based on O_3 concentrations throughout all months of the year. Similarly, a study in London, based on year-long data for 12 EDs over the years 1992–1994, also failed to find any association between ED visits and hospitalizations for asthma and ambient O_3 concentrations for children from birth to 14 years of age (Atkinson et al. 1999a, 1999b).

California's South Coast Air Basin (SoCAB) has some of the highest concentrations of O_3 in the U.S. [South Coast Air Quality Management District (SCAQMD) 2006] and will continue to be a major area of noncompliance under proposed new O_3 standards (U.S. EPA 2005). Mobile source emissions are the main source of precursors for O_3 generation (Fujita et al. 1992). Because O_3 and other pollutant levels, in general, have been declining over the past 25 years (SCAQMD 2003), this area offers an excellent opportunity to study the relation between warm-season ambient O_3 concentrations and hospitalizations for asthma in a large population that spans urban and rural areas. Therefore, we undertook an ecologic study of hospital discharges for asthma in children from 0 (birth) to 19 years of age over the period 1983–2000 in the SoCAB to evaluate the effect of population-level O_3 exposure on asthma-related hospital discharge over time. Our approach is based on conventional linear modeling with adjustment for temporal factors that could confound the causal effect of interest. Our approach has several novel features: *a*) We used a very flexible, data-adaptive model fitting program that is based on multiple cross-validations (van der Laan and Dudoit 2003); *b*) pollutants other than O_3 could enter our modeling at equivalent levels of complexity, as for O_3, and *c*) we used marginal structural models (MSM) to support the interpretation of population-level effects of O_3 on the outcomes (van der Laan and Robins 2002).

Methods

Study area. The study area was the portion of California's SoCAB covered by the grids shown in Figure 1. The 20,000-km^2 area extends from 34.6° latitude at its most northern reach to 33.2° latitudeat its most southern extent. It is bounded on the west by –118.9° longitude and the Pacific Ocean, and extends to –116.8° longitude at its eastern end. We selected this location because it contained many areas that consistently exceeded National Ambient Air Quality Standards for O_3 during the 1980–2000 study period (U.S. EPA 2000). Nonetheless, the area also experienced marked reductions in 1-hr and 8-hr maximum O_3 concentrations over this time.

Ambient pollutant data and exposure methods. We estimated the population's exposure to O_3, nitrogen dioxide, sulfur dioxide, carbon monoxide, PM with aerodynamic diameter ≤ 2.5 μm ($PM_{2.5}$), and PM_{10} from ambient air quality measurements obtained from a network of stations that began monitoring for most of the pollutants before 1980. The number and locations of air monitoring stations (Figure 1) varied over the study period. The number of stations with valid air quality data in or near the grid in a given year varied from 45 to 55 for O_3, 33 to 41 for NO_2, 28 to 39 for CO, and 9 to 56 for PM_{10}. We compiled quarterly average concentrations of the 1-hr daily maximum O_3 and 24-hr average NO_2, SO_2, and CO from hourly measurements of gases. We compiled quarterly average concentrations of the 24-hr average PM_{10} and $PM_{2.5}$ from monthly averages of every sixth day PM_{10} measurements and daily, every third day, and 2-week average $PM_{2.5}$ measurements (Blanchard and Tanenbaum 2005). The air quality data were complemented with quarterly average daily 1-hr minimum and 24-hr average temperature and relative humidity data obtained from the SoCAB and National Weather Service measurements (National Climatic Data Center, NOAA Satellite and Information Service: http://www.ncdc.noaa.gov/oa/ncdc.html).

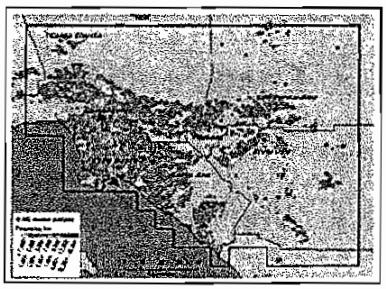
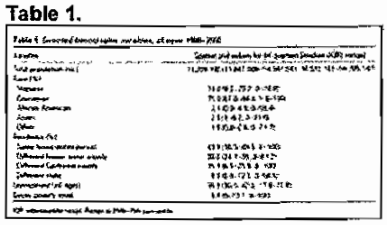


Figure 1. Study domain grid system with location of pollutant monitors and population density. AQ, air quality.

Table 1.



California PM_{10} data are not widely available before 1988. Special study PM_{10} mass data available in Burbank, downtown Los Angeles, Long Beach, Los Alamitos, Costa Mesa, Azusa, Rubidoux, Perris, and Banning were used for 1985–1987 (Solomon et al. 1988). Collocated PM_{10} and TSP data for 1988 through 1992 in Los Angeles, Orange, San Bernardino, and Riverside Counties indicated that daily PM_{10} concentrations were correlated with daily TSP and, on average, were 54% of TSP concentrations. The PM_{10} concentrations for 1980–1984 were estimated from the TSP data based on this relation. $PM_{2.5}$ data were available for only 1994–2000.

The study domain was divided into two-hundred 10 km × 10 km spatial grids that covered the populated portion of the SoCAB, of which 195 were used. The population, other demographic, and health outcome data were aggregated into the grid cells [Supplemental Material, Figure S1 (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. The air quality and meteorologic data were interpolated spatially from the monitoring stations to the grid

cell centroids based on inverse distance-squared weighting. Maximum interpolation radii of 50 and 100 km were used for pollutants and meteorologic parameters, respectively. Although 100% of the grids had an O_3 air quality station within 50 km, 73% of the grids had a station within 5–25 km of the grid centroids and 13% of grids had a station located within the grid on average [see Supplemental Material (online at http://www.ehponline.org/members/2008/10497/suppl.pdf) for other pollutant interpolation distances]. This interpolation approach worked reasonably well in this application, because the spatial coverage in the SOCAB monitoring network is good (typically, stations located 20–30 km apart); and spatial gradients in monthly average concentrations are modest.

Our principal exposure of interest was 1-hr daily, maximum O_3. We chose this measure, because the same 1-hr maximum standard was in place for most of the study period; and the 1-hr maximum is the most commonly used metric in O_3 epidemiologic studies. Quarterly, average O_3 concentrations were low and showed little variability from October through March [see Supplemental Material, Figure S6 (online at http://www.ehponline.org/members/2008/10497/suppl.pdf) for sample quarters]. Therefore, we confined our analyses to April–June (quarter 2) and July–September (quarter 3), which constitute all months with the highest and most variable O_3 concentrations.

Hospital discharge and demographic data. Since 1983, hospital discharges (diagnoses, demographic data and medical payments) have been reported semiannually by all hospitals licensed in California. Patient-level data were extracted from a CD-ROM (Healthcare Information Resource Center, Sacramento, CA) and included: patient age category, county of residence and 5-digit ZIP Code, ethnicity, sex, major diagnostic category (plus four secondary), major procedure (plus four secondary), quarter admitted, length of stay, and hospital ID number (Office of Statewide Health Planning and Development, data files e-mailed July 2003). We focused on quarterly hospital discharges for asthma [*International Classification of Diseases, 9th Revision* (ICD-9; World Health Organization 1975) code 493, ICD-10 (World Health Organization 1993) code J45/46] listed as the first discharge diagnosis for children and adolescents from birth through 19 years of age. We included discharges in which the first listed diagnoses were acute sinusitis (ICD-9 461; ICD-10 J01) or pneumonia (ICD-9 480–483, 485–487; ICD-10 J10–J18) and asthma was the second listed diagnosis, because we could not be sure of the extent to which the presence of asthma actually led to the hospitalization [see Supplemental Material (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)].

We obtained data from the U.S. Census Bureau's decadal surveys for years 1980, 1990, and 2000 [see Supplemental Material (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. We reviewed all income, demographic, and residential data and selected covariates that were considered likely to affect asthma morbidity and were likely to show spatial clustering and temporo-spatial trends (graphs available on request from authors). We selected 57 sociodemographic variables.

The finest spatial resolution for which hospital discharge data were available was the 5-digit postal ZIP code of the patient's residence; the patient's street address, 9-digit ZIP code, or census block were not available. Population-weighted ZIP-to-grid allocation factors were developed with geographic information system (GIS) tools for 1980–1984, 1995–1994, and 1995–2000. Separate allocations factors were developed for males and females for < 1 year and 1–19 years of age. [see Supplemental Material for details (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)].

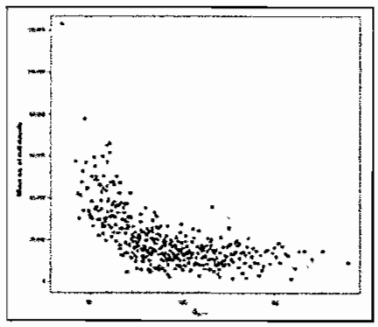


Figure 2. Distribution of population number by 400 quantiles of quarterly 1-hr maximum O_3 over quarters 2 and 3, 1983–2000.

Table 2.

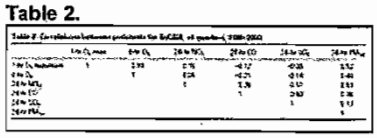
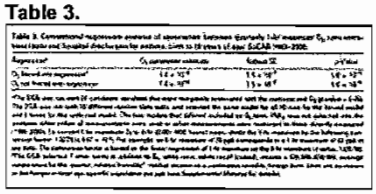


Table 3.



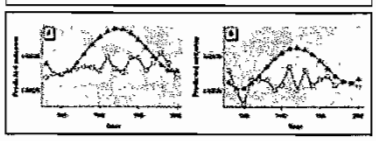
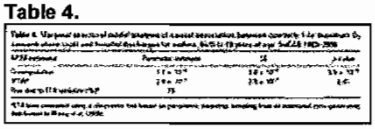


Figure 3. Predicted proportions of quarterly hospital discharges based on a model that included only time variables (triangles) and the model in Table 4 that includes O_3 and the demographic variables (squares) for quarters 2 (*A*) and 3 (*B*).

Table 4.



Spatial allocation of demographic data to exposure grids was based on the smallest geographic unit for which census data were available. We used GIS software (ArcGIS9; ESRI, Redlands, CA) to map the demographic data to grids. Eight population variables from 1980 and one population variable from 1990 and 2000 were renormalized after the spatial allocation to insure consistency across census topics (e.g., population by race was normalized by the total population; population by sex, age, and race was normalized for consistency with population by race and population by sex). Population and other demographic parameters were estimated for the intracensus years by linear interpolation of the gridded data for 1980, 1990, and 2000.

Data analysis. **Data structure.** The data consist of 195 geographic units (grids) with quarterly measurements from 1983 through 2001 that include 14,040 records and 72 quarters for children birth to 19 years of age. We calculated the proportion of asthma-related hospital discharges as the number of asthma-related hospital discharges in each grid in each quarter divided by the total population birth to 19 years of age in the corresponding grid and quarter. After removal of nine outliers, we used data for quarters 2 and 3 only (7,011 observations).

There were no missing values for the proportion of asthma-related discharges or quarterly O_3. Among the 47 covariates considered, 35 had no missing values. Among the 12 remaining covariates, the proportion of missing values ranged from 0.4% to 6.2%.

Statistical models. We denote the observed data structure by $O = [W–(71), A–(71, Y–(72)]$ representing quarterly

measurements from time 0 to 72 of the confounders, O_3 levels and proportion of asthma-related hospital discharges: *a*) The history of O_3 is denoted by $A\text{–}(71) = [A(0),\ldots,A(71)]$, and $A(t)$ represents the O_3 level measured at time t; *b*) the history of asthma-related hospital discharges as a percentage of the total area-specific population is denoted by $Y\text{–}(72) = [Y(1), \ldots, Y(72)]$, and $Y(t)$ represents the proportion of asthma discharges measured at time t; and *c*) the history of potential time-dependent confounders of the effect of O_3 on asthma-related hospital discharges is denoted by $W\text{—}(K) = [W(0),\ldots,W(K)]$, where $W(t)$ is a multivariate vector of potential confounders measured at time t: socioeconomic and demographic variables, co-pollutants, and meteorologic variables.

Our modeling approach aims at the investigation of the effect of $A(t-1)$ on $Y(t)$. In this study, the outcome at time t [$Y(t)$] and exposure at time $t-1$ [$A(t-1)$] are actually measured during the same quarter, which does not violate the time-ordering assumption on which are based valid causal inferences (the exposure precedes the outcome). Because we consider the effect of O_3 on asthma-related hospital discharges collected during quarters 2 and 3 only, we thus have 36 outcomes of interest rather than 72.

A typical assumption that is often not stated explicitly is that the observed data consist of n independent and identically distributed observations from the random variable O with distribution P. In this analysis, we make the assumption that the observed data consist of $n = 195$ random variables O_i that describe each spatial/geographic unit i, $i = 1,\ldots,n$, each with distribution P_i. Under this assumption, it follows that mutual independence between the random variables O_i, conditional on the exposure regimen, is a reasonable approximation [see Supplemental Material for additional details (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)].

We chose to investigate the effect of O_3 on the asthma-related hospital discharge proportion for quarterly exposure to O_3 only; that is, we did not consider the effect of an O_3 history over multiple quarters. This decision was motivated by our view that most of the effect of O_3 could be captured by the exposure period of only one quarter—by estimation of the effect of O_3 during a given quarter on the outcome during that same quarter in the seasons with the highest levels of O_3. Because the experimental units are geographic areas rather than individuals, the population in the units was constantly changing over the 18-year study period; however, within a given quarter, the population was relatively stable. Another reason for selection of the short exposure period relates to power (sample size, $n = 195$) for identification of effects that extend over a longer exposure period (Neugebauer et al. 2007).

We estimated this effect of O_3 on the proportion of asthma-related hospital discharges with two approaches: the traditional method of regression of the proportion of asthma-related hospital discharges on O_3 and confounder; and a method based on history-restricted marginal structural models (HRMSMs) (Neugebaueret al. 2007). In contrast to the usual MSM approach, HRMSMs allow the investigator to specify the time interval over which the history of exposure is to be considered—a critical issue for this analysis.

For both approaches, working models considered were semiparametric linear models. The rationale for use of linear models is presented in the Supplemental Material (online at http://www.ehponline.org/members/2008/10497/suppl.pdf).

The deletion/substitution/addition (DSA) algorithm was used for all model selections required for the traditional approach and the nuisance parameters in the HRMSM approach (Sinisi and van der Laan 2004). This is a data-adaptive model selection procedure based on cross-validation that relies on deletion, substitution, and addition moves to search through a large space of possible polynomial models. The criterion for model selection is based not on p-values but on a loss function (empirical and cross-validated residual sum of squares). The DSA procedure is publicly available as an R package (http://www.stat.berkeley.edu/~laan/Software/). All 7,011 observations were provided to all DSA runs. The DSA assumes that data are missing at random when searching for the best predictive linear model of the proportion of asthma-related hospital discharges.

Traditional regression approach. The traditional approach to estimate the effect of $A(t-1)$ on $Y(t)$ is to regress the outcome, $Y(t)$, on the exposure, $A(t-1)$, and all confounders. Potential confounders are: $W\text{—}(t-1) = [W(1),\ldots,W(t-1)]$, $Y\text{–}(t-1)$, and $A\text{–}(t-1)$. Under the assumption of no unobserved confounders, this approach allows the investigation of the effects of O_3 at each quarter, $A(t-1)$, on $Y(t)$, conditional on the past confounders in the regression model. It is realistic to assume that O_3 levels before quarter t [i.e., $A\text{–}(t-1)$] do not affect the outcome in quarter t; thus, we did not consider them as confounders. Similarly, we did not consider past quarter discharges [i.e., $Y\text{–}(t-1)$]. Among all potential covariates $W\text{—}(t-1)$, we only considered as potential confounders all same-quarter covariates $W(t-1)$ and only copollutants and meteorologic variables from the previous quarter and previous year included in $W(t-2)$ and $W(t-5)$. This allowed us to maximize control of possible long-term trends in other pollutants on the current quarter's outcome. Forty-seven remaining covariates were identified as potential confounders of the effect of O_3 at quarter $t-1$ on the proportion of asthma-related hospital discharges at quarter t. Among these 47 covariates, only 29 were considered in the analysis, based on their univariate association with the proportion of asthma-related hospital discharges and O_3 levels [see Supplemental Material, Table S1 (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]; this subset of 29 potential confounders is denoted with $W\text{—} \times (t-1)$.

We selected a pooled model for $E[Y(t)|A(t-1), W\text{—} \times (t-1)]$ across time with the DSA [see Supplemental Material (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. The standard errors for the coefficients in the selected model were obtained with the generalized estimation equation procedure (semiparametric modeling with the independence correlation structure).

This traditional approach does not answer directly our original question of interest: the population-level effect of $A(t-1)$ on $Y(t)$; indeed, this method provides the estimate of the effect conditional on confounders $W\text{—} \times (t-1)$ which only correspond with the population-level effect estimate of interest when confounders are not effect modifiers.

HRMSM. To obtain an estimate of the population-level, causal effect of O_3 on the proportion of asthma-related hospital discharges, we applied an HRMSM (Neugebaueret al. 2007). HRMSMs have been developed to address situations where only part of the exposure history is relevant [for details, see Supplemental Material (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. The exposure period considered is a single quarter as opposed to the entire exposure history.

We implemented two estimators of HRMSM causal parameters: the inverse probability of treatment weighted (IPTW) and G-computation. Confidence intervals (CIs) and *p*-values for the two estimates were obtained with 10,000 bootstrap iterations, where resampling was based on the 195 independent grids.

Results

Characteristics of the total population who resided in the study domain (Figure 1) over the 84 quarters (1980–2000) are summarized in Table 1. For a summary of the characteristics of the population of asthma discharges from birth to 19 years of age for quarters 2 and 3 for 1983–2000, see Supplemental Material, Table S4 (online at http://www.ehponline.org/members/2008/10497/suppl.pdf).

O_3 concentrations declined steadily over the entire study period [Supplemental Material, Figure S8_a (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. Median 1-hr maximum and 8-hr average median O_3 for quarters 2–3 declined across all grids (Figure 2). Median 1-hr maxima also declined in quarters 1 and 4 [Supplemental Material, Table S5 (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. Substantial declines were seen for the other pollutants as well [see Supplemental Material, Table S5, Figure S8_b (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. The distribution of the quarterly population was skewed toward areas at the lower two-thirds of the quarterly O_3 distributions [see Supplemental Material, Figure S9 (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. During 1980–2000, 25.7% of the gridded, quarterly, average 1-hr maximum O_3 concentrations exceeded the level of California's daily 1-hr standard (90 ppb), and 8.2% exceeded the federal daily 1-hr standard of 0.12 ppm. For quarters 2 and 3 and years 1983 through 2000, 47.5% and 13.2% of the quarterly, average, 1-hr maximum O_3 concentrations exceeded the California and federal daily 1-hr standard, respectively (California EPA 2008; U.S. EPA 2000).

The median 1-hr and 8-hr maximum average O_3 levels were highly correlated ($r = 0.99$) (Table 2). During 1980–2000, O_3 concentrations showed moderate correlation with PM_{10} and little correlation with the other pollutants. O_3 and PM_{10} are correlated on a quarterly averaging time, because wind-blown dust and resuspended road-dust emissions cause relatively high PM_{10} levels during the dry season when O_3 levels also are high.

In the conventional regression model, the identical model was selected when O_3 was forced into the model or when the DSA was free to choose any variable (Table 3). Of the seven [of 29; see Supplemental Material, Table S1 (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)] other variables selected into the models, none was another pollutant (Table 3) [see Supplemental Material for details of model selection (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)]. Thus, it is unlikely that the association is confounded by other pollutants. In addition, time was not selected as a main effect or interaction variable—an observation indicating that the unit effect of O_3 on the proportion of asthma-related discharges was constant over the study period, despite the decline in the levels of O_3 and all other pollutants measured. The estimated effect of a 10-ppb increase in the quarterly average 1-hr maximum O_3 was 1.4 discharges per 105 age-eligible population (95% CI, 0.71–2.09 per 105 population). The final model was used to predict the proportion of discharges at the median O3 concentration (87.7 ppb) over all grids and all quarters (3.12× 10–4). A 10-ppb increase above this level is estimated to lead to a 4.6% increase in the proportion of discharges (3.26× 10–4).

To determine the extent to which time contributed to confounding, the DSA was run first only with time variables. When the time variables selected by the DSA were forced into a model that also forced in O_3 into the same model, no other variables were selected by the DSA. This indicates that the demographic variables included in the models in Table 3 were capturing the overall temporal confounding related to population demographic and other unmeasured time-varying factors. This is seen clearly in Figure 3.The model with only time variables shows a clear temporal trend in hospital discharges. In contrast, the model with O_3 and demographic variables shows a nearly constant proportion of hospital discharges over the study quarters.

To provide population-level estimates of pollutant effects, we used G-computation and IPTW to fit an HRMSM. Treatment models (models that relate cofounders to quarterly O_3 concentrations and include other confounding variables) on which IPTW estimation relies [Supplemental Material (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)] demonstrated that the experimental treatment assignment assumption was not tenable. We applied a diagnostic tool to assess the bias in the IPTW estimator due to the experimental treatment assignment (ETA) violation (Wang et al. 2006) and showed a 76% bias in comparison to the G-computation estimate (Table 4). Therefore, we relied on the G-computation estimator. The interpretation of the MSM parameter estimate is as follows: If, contrary to fact, the population experienced a 10-ppb increase in quarterly O_3, then hospital admissions would increase by 1.4×10^5 age-eligible population at any given quarter. This would represent the same effect estimated by the conventional regression analysis. In other words, the results from the MSM and conventional analyses, in this particular analysis, give identical parameter estimates because there are no interaction terms in the conventional model.

Discussion

The most recent U.S. EPA synthesis of ambient O_3 health effects concludes that children with asthma suffer acute adverse health consequences at current ambient levels of O_3 (U.S. EPA 2006). Among these adverse outcomes, asthma-related hospital discharges are based on some of the least consistent data (see Figure 7-9, U.S. EPA 2006). In some studies, asthma discharges are not separated from other respiratory diseases of childhood (e.g., Burnett et al. 2001). Although some of the inconsistency likely relates to differences in populations and pollutant mixtures, some of it also could relate to the relatively short time periods (Atkinsonet al. 1999a, 1999b) and special circumstances (Friedmanet al. 2001) under which the data were collected and the inability to separate O_3 effects from those of other pollutants (Tolbertet al. 2000) The present ecologic study addresses these problems through evaluation of the relation between hospital discharges for asthma for infants, children, and adolescents and changes in warm-season ambient O_3 concentrations in a large, ethnically/racially diverse region of Southern California over 18 years (1983–2000). This region has seen changing

pollutant levels and population structure over both time and space during the study period. Of note is the decline in the percentage of native-born residents, from 40% in 1980 to 30% in 2000, and the decline in the percentage who listed their primary race/ethnicity as Caucasian, from approximately 80% in 1980 to approximately 60% in 2000 [see Supplemental Material for additional details (online at http://www.ehponline.org/members/2008/10497/suppl.pdf)].

Our data indicate that, despite consistent and substantial declines in ambient warm-season O_3 concentrations in the area of study (Figure 3A), there has been a time-independent, constant effect of ambient levels of O_3 on quarterly hospital discharge rates for asthma. For example, we estimate that the average effect of a 10-ppb mean increase in mean quarterly 1-hr maximum O_3 over the 18-year median of 87.7 ppb was a 4.6% increase (point estimate) in quarterly hospital discharges for asthma (increase from 3.12 to 3.26×10^{-4} age-eligible population) over a time period in which the median age-eligible population was approximately 4 million persons. Moreover, from a regulatory policy perspective, if the national 8-hr maximum were set at 75 ppb instead of 70 ppb (~ 6.6 ppb difference in the 1-hr max), our results suggest that there could be an excess of O_3-season, asthma-related hospital admissions for children in the study area of approximately 3.0% (point estimate) above what could be expected at a more protective standard. Further, our data indicate that the O_3-related asthma discharges (the pollutant mixture remaining the same) would be affected by changes in demography that likely will occur; and caution needs to be exercised in terms of extrapolation into the future.

Several features of our analysis strengthen the quantitative estimates and the apparent lack of time dependence of the O_3 effect:

First, we used a very flexible, multiple cross-validation model fitting algorithm in which the constraints on the model were as follows: *a*) maximum model size of 10 variables; *b*) maximum power of any individual variable (includes time) of 3; and *c*) a maximum of two-way interactions between the 29 covariates considered, such that the sum of powers of each covariate in the interaction term is ≤ 3. Thus, the flexibility of the models allowed the description of complex associations between changing demography, meteorologic conditions, and all temporal confounders for which time was a surrogate. A direct by-product of this flexible model fitting is that the form of the O_3–hospital discharge relation was free to take any polynomial form over time. This approach is similar in flexibility to model fitting with spline functions.

Second, the 24-hr concentrations of PM_{10}, NO_2, and CO could enter the model at equivalent levels of complexity as O_3 and any other covariate and in interaction with time. Thus, we did not start with the *a priori* assumption that warm-season O_3 would be the only or the most important component of the four pollutants for which we warm-season data.

Third, we ran our analysis 10 separate times, each time with a different split for cross validation (equivalent to 50 splits of the data). All model runs selected O_3 and no other pollutant, and the identical model with covariates was selected 8 of 10 times (Table 3).

Fourth, we used an MSM approach to investigate the marginal (population-level) effects of O_3 on the outcome (Robins et al. 2000). This approach approximates what would have been observed if we could have randomized all of the spatial units at each time point to a quarterly mean O_3 concentration. The results of this analysis indicated that the conventional statistical association model, in this particular analysis, was equivalent to the G-computation estimates of the HRMSM parameters—an observation that is not surprising, given that there were no interactions in the association model. Therefore, under certain assumptions noted above, the O_3 parameter (Table 3) can be interpreted as a causal, unconditional (i.e., not stratum specific) population-level effect estimate. In other words, if, contrary to fact, the median quarterly average 1-hr maximum increased by 10 ppb in all geographic units, the quarterly average hospital discharge rate would be expected to increase by 1.4 discharges/10^5 age-eligible population. This causal interpretation relies on the counterfactual framework embodied in HRMSMs (Neugebaueret al. 2007), particularly the assumption of no unmeasured confounders. The fact that, in our analyses, the association between O_3 hospital discharges can be interpreted further as the population-level effect estimate of O_3 based on the G-computation estimator of an HRMSM relies on the critical assumption that the conventional associational model selected with the DSA algorithm is correctly specified (particularly the absence of interaction terms between O_3 and covariates), the assumption of correct model specification is embodied in all analyses of observational data. The inference for this causal effect estimate was obtained by bootstrap (without consideration of additional variability introduced by the model selection procedure as is the case with virtually all reports of conventional analyses). We are exploring alternate causal estimators of causal parameters that do not rely on the ETA assumption to validate the results presented in this paper to further verify the validity of the inference, and a preliminary assessment of this latter analysis is supportive. The full results of this alternative analysis are the subject of a subsequent paper.

Finally, the results demonstrate that the addition of O_3 and demographic variables to our analyses removed all of the time trend in the hospital discharge data (Figure 3). Finally, although we included discharges with a primary diagnosis of pneumonia or acute sinusitis, we do not think that this has biased our results. Our estimate of the median quarterly discharge rate for asthma is at the lower end of such estimates for all or part of the age range that we included (National Center for Health Statistics 2004).

It is difficult to compare our results with other studies because we used a different time reference—3-month intervals—in contrast to a daily time metric in most other studies (Burnettet al. 2001; Friedmanet al. 2001). The most important factor that governed the choice of the time metric related to the fact that, for practical purposes, O_3 is an outdoor pollutant whose indoor concentrations are determined by household ventilation (open windows, use of air conditioners) (Gonzales et al. 2003). Because people of all ages spend most of their days indoors (Wiley et al. 1991a, 1991b), we reasoned that a 3-month interval, based on typical patterns of O_3 concentrations to which people would be exposed during their times out of doors, would provide a more stable population-level estimate than would be the case for shorter time intervals, such as days or weeks. Several consequences stemmed from this choice. Because most studies of the health effects of short-term exposures to O_3 indicate that O_3 impacts on health occur within a few days after exposures (Galanet al. 2003; Mortimer et al. 2002), we did not feel that it was justified to lag population exposure by 3 months (i.e., one quarter). Therefore, we related O_3 concentration in a given quarter to hospital discharges in that quarter. On its face, this would appear to violate

the requirement for preservation of temporal sequence. However, given that we used average hospital discharges at the end of a quarter, this choice is valid. Furthermore, each of the 195 spatial units was assigned its spatially specific average quarterly discharge rate and O_3 concentration, and the data were treated as a repeated-measures problem over the 36 quarters; we have accounted for differences in the mean exposure over space and time. In this regard, some daily time-series studies may have violated the temporality assumption in that their designation of lag 0 often includes the day of hospital admission. To be sure that longer-term trends for other pollutants did not confound our O_3 exposure estimates, we considered previous quarter and previous year PM_{10}, NO_2, and CO.

The potential for spatial correlation to result in incorrect variance estimates for exposure outcome measures in time series studies of health effects of air pollutants has been noted (Ramsay et al. 2003a, 2003b). Although we did not perform a time-series analysis, we did address the issue of spatial correlation by not assuming that the data for each unit are obtained from independent draws from a common distribution but rather from each of 195 distributions whose similarity can be explained by close geographic proximity, conditional on the exposure regimen, and thus the independence assumption is reasonable.

Although we report the results as "O_3-related effects," O_3 is likely to be the best marker (of the pollutants available for analysis) for the gaseous oxidant species produced by the complex photochemistry that occurs in the SoCAB during the warm months of the year and involves oxides of nitrogen and hydrocarbons, largely from mobile source emissions. O_3 is the most abundant oxidant in the urban atmosphere; however, the mixture also includes peroxyacetylnitrate, hydrogen peroxide, organic peroxides, and the hydroxyl, hydroperoxy, and many organic peroxy radicals (Atkinson 1997). Several epidemiologic studies have shown that the oxidant properties of ambient air contribute to adverse health outcomes in persons with and without asthma (Grievink et al. 1998; Romieu et al. 1996, 1998, 2002). For example, Romieu et al. (2002) studied asthmatics in Mexico City and demonstrated that among the pollutant measurements for SO_2, PM_{10}, NO_2, and O_3, O_3 was most closely associated with decrements in lung function in children and were reversed by antioxidant vitamin supplementation. Relevant to our study, the effects were most marked in those with severe asthma—the pool of subjects out of which hospital admissions are most likely to occur. The findings in these studies have been supported by controlled O_3 exposure studies in which subjects were placed on diets supplemented with antioxidant vitamins and vegetable oils (Samet et al. 2001) and studies of airways reactivity after controlled O_3 exposure (Trenga et al. 2001).

In summary, we conducted exhaustive analyses to address many of the outstanding issues related to reported associations between O_3 and use of hospital services for asthma. Although additional work is ongoing to buttress the causal interpretation that we have given to our results, our data support and extend other observations that ambient O_3 (highly oxidant, ambient, warm-season environments) causes increases in hospital admissions in children with asthma. Moreover, the linearity of the relation that we observed indicates that these excess asthma hospital discharges can be expected to continue at levels of air quality experienced in southern California.

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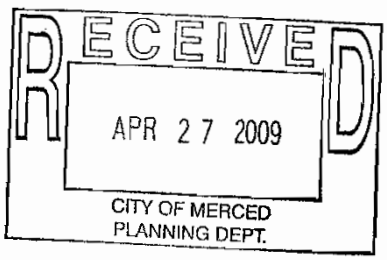
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Ischemic and Thrombotic Effects of Dilute Diesel-Exhaust Inhalation in Men with Coronary Heart Disease

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ABSTRACT

BACKGROUND

Exposure to air pollution from traffic is associated with adverse cardiovascular events. The mechanisms for this association are unknown. We conducted a controlled exposure to dilute diesel exhaust in patients with stable coronary heart disease to determine the direct effect of air pollution on myocardial, vascular, and fibrinolytic function.

METHODS

In a double-blind, randomized, crossover study, 20 men with prior myocardial infarction were exposed, in two separate sessions, to dilute diesel exhaust (300 μg per cubic meter) or filtered air for 1 hour during periods of rest and moderate exercise in a controlled-exposure facility. During the exposure, myocardial ischemia was quantified by ST-segment analysis using continuous 12-lead electrocardiography. Six hours after exposure, vasomotor and fibrinolytic function were assessed by means of intraarterial agonist infusions.

RESULTS

During both exposure sessions, the heart rate increased with exercise ($P<0.001$); the increase was similar during exposure to diesel exhaust and exposure to filtered air ($P=0.67$). Exercise-induced ST-segment depression was present in all patients, but there was a greater increase in the ischemic burden during exposure to diesel exhaust (−22±4 vs. −8±6 millivolt seconds, $P<0.001$). Exposure to diesel exhaust did not aggravate preexisting vasomotor dysfunction, but it did reduce the acute release of endothelial tissue plasminogen activator ($P=0.009$; 35% decrease in the area under the curve).

CONCLUSIONS

Brief exposure to dilute diesel exhaust promotes myocardial ischemia and inhibits endogenous fibrinolytic capacity in men with stable coronary heart disease. Our findings point to ischemic and thrombotic mechanisms that may explain in part the observation that exposure to combustion-derived air pollution is associated with adverse cardiovascular events. (ClinicalTrials.gov number, NCT00437138.)

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THE WORLD HEALTH ORGANIZATION (WHO) estimates that air pollution is responsible for 800,000 premature deaths worldwide each year.[1] Short-term exposure to air pollution has been associated with increases in cardiovascular morbidity and mortality, with deaths due to ischemia, arrhythmia, and heart failure.[2] In a large cohort study from the United States, Miller et al. recently reported that long-term exposure to air pollution increases the risk of death from cardiovascular disease by 76%.[3] These associations are strongest for fine particulate air pollutants (particulate matter of less than 2.5 μm in aerodynamic diameter [$PM_{2.5}$]), of which the combustion-derived nanoparticulate in diesel exhaust is an important component.[4] Substantial improvements in air quality have occurred in the developed world over the past 50 years, yet the association between $PM_{2.5}$ and mortality has no apparent threshold and is evident below current air-quality standards.[5]

Preclinical models of exposure to particulate air pollution demonstrate accelerated atherosclerotic plaque development[6] and increased in vitro[7] and in vivo[8] platelet aggregation. Epidemiologic and observational clinical studies suggest that exposure to air pollution may worsen symptoms of angina,[9] exacerbate exercise-induced myocardial ischemia,[10,11] and trigger acute myocardial infarction.[12,13] These clinical findings are limited by imprecision in the measurement of pollution exposure, the effect of potential confounding environmental and social factors, and the lack of mechanistic data.[14] Controlled exposures to air pollutants can help address these shortcomings by providing a precisely defined exposure in a regulated environment that facilitates investigation with validated biomarkers and surrogate measures of cardiovascular health. Using a carefully characterized exposure system, we have previously shown that exposure to dilute diesel exhaust in healthy volunteers causes lung inflammation,[15] depletion of airway antioxidant defenses,[16] and impairment of vascular and fibrinolytic function.[17]

To our knowledge, there have been no controlled exposures in patients with coronary heart disease, an important population that may be particularly susceptible to the adverse cardiovascular effects of air pollution. We assessed the effect of inhalation of dilute diesel exhaust on myocardial, vascular, and fibrinolytic function in a population of patients with stable coronary heart disease.

METHODS

SUBJECTS

Twenty men with stable coronary artery disease participated in this study, which was performed with the approval of the local research ethics committee, in accordance with the Declaration of Helsinki, and with the written informed consent of all participants.

All the men had proven coronary heart disease, with a previous myocardial infarction (>6 months before enrollment) treated by primary angioplasty and stenting, and were receiving standard secondary preventive therapy. Men with angina pectoris (Canadian Cardiovascular Society class ≥2), a history of arrhythmia, diabetes mellitus, uncontrolled hypertension, or renal or hepatic failure, as well as those with unstable coronary disease (acute coronary syndrome or symptoms of instability 3 months before enrollment), were excluded. All eligible volunteers were invited to a prestudy screening for exercise stress testing; subjects who were unable to achieve stage 2 of the Bruce protocol or who had marked changes on an electrocardiogram (left bundle-branch block, early ST-segment depression >2 mm) and those in whom hypotension developed were excluded. Current smokers and men with asthma, substantial occupational exposure to air pollution, or an intercurrent illness were also excluded from the study.

STUDY DESIGN

Using a randomized, double-blind, crossover study design, we evaluated the subjects in two 8 a.m. sessions at least 2 weeks apart. In each session, the subjects were exposed to controlled amounts of dilute diesel exhaust or filtered air. Each subject was exposed for 1 hour in an exposure chamber, as previously described.[15] During each exposure, the subjects performed two 15-minute periods of exercise on a bicycle ergometer separated by two 15-minute periods of rest. For each subject, the ergometer workload was calibrated to achieve a ventilation of 15 liters per minute per square meter of body-surface area to ensure a similar exposure on both occasions. The workload was constant for both exposures and was equivalent to stage 2 of the Bruce protocol (range, 110 to 150 watts; 5 to 7 metabolic equivalents). All subjects were fitted with 12-lead Holter electrocardiographic monitors (Medical Lifecard 12 Digital Holter Recorder, Del Mar Reynolds). In accordance with

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previous exposure studies in healthy volunteers, vascular assessments were made 6 to 8 hours after exposure to diesel exhaust or filtered air.[17]

DIESEL-EXHAUST EXPOSURE

The diesel exhaust was generated from an idling Volvo diesel engine (Volvo TD45, 4.5 liters, 4 cylinders, 680 rpm) from low-sulfur gas-oil E10 (Preem), as described previously.[15] More than 90% of the exhaust was shunted away, and the remainder diluted with filtered air heated to 20°C (relative humidity approximately 50%) before being fed into a whole-body exposure chamber (3.0 m by 3.0 m by 2.4 m) at a steady-state concentration.

The chamber was monitored continuously for pollutants, with exposures standardized with the use of nitrogen oxide concentrations to deliver a particulate matter concentration of 300 μg per cubic meter (median particle diameter, 54 nm; range, 20 to 120). There was little variation between exposures in the mean (±SE) number of particles ($1.26\pm0.01\times10^6$ particles per cubic centimeter) or in the concentrations of nitrogen oxide (4.45±0.02 ppm), nitrogen dioxide (1.01±0.01 ppm), nitric oxide (3.45±0.03 ppm), carbon monoxide (2.9±0.1 ppm), and total hydrocarbon (2.8±0.1 ppm). The predominant polycyclic aromatic hydrocarbons (approximately 90% of the total) were phenanthrene, fluorene, 2-methylfluorene, dibenzothiophene, and different methyl-substituted phenanthrenes. Only a minor fraction of polycyclic aromatic hydrocarbons (3.5%) was associated with particulate matter: 0.04% total particulate matter and 0.06% particulate-matter organic fraction. The concentration of particulate matter of less than 10 μm in aerodynamic diameter (PM_{10}) in the exposure chamber exceeded the WHO air-quality standard of 50 μg per cubic meter by a factor of 6, and the nitrogen dioxide concentration exceeded the WHO standard of 0.105 ppm by a factor of 10.[18]

VASCULAR STUDY

All subjects underwent brachial-artery cannulation with a 27-standard wire-gauge steel needle. After a 30-minute baseline saline infusion, subjects were given infusions of acetylcholine at rates of 5, 10, and 20 μg per minute (endothelium-dependent vasodilator, Clinalfa), bradykinin at rates of 100, 300, and 1000 pmol per minute (endothelium-dependent vasodilator that releases tissue plasminogen activator [t-PA], Clinalfa), and sodium nitroprusside at rates of 2, 4, and 8 μg per minute (endothelium-independent vasodilator, David Bull Laboratories); each infusion was given for 6 minutes. Infusions of the three vasodilators were separated by 20-minute saline infusions and given in a randomized order. Therapy with angiotensin-converting–enzyme inhibitors was withdrawn

Table 1. Baseline Characteristics of the 20 Subjects with Coronary Heart Disease.*

Characteristic	Value
Age (yr)	60±1
Smoking history (no. of subjects)	
Nonsmoker	12
Former smoker	8
Current smoker	0
Hypertension (no. of subjects)	8
Height (cm)	173±6
Weight (kg)	79±3
Body-mass index	27±1
Time since index infarction (mo)	35±4
Coronary angiographic findings	
No. of diseased vessels	
1	13
2	6
3	1
Culprit lesion (no. of subjects)	
Left anterior descending coronary artery	14
Circumflex coronary artery	4
Right coronary artery	2
Cholesterol (mg/dl)	
Total	173±6
LDL	100±8
HDL	48±2
Triglycerides (mg/dl)	128±23
Fasting glucose (mg/dl)	102±6
Medications (no. of subjects)	
Aspirin	20
Statin	18
Beta-blocker	15
ACE inhibitor or angiotensin-receptor blocker†	4

* Plus–minus values are means ±SE. The body-mass index is the weight in kilograms divided by the square of the height in meters. LDL denotes low-density lipoprotein, HDL high-density lipoprotein, and ACE angiotensin-converting enzyme. To convert the values for cholesterol to millimoles per liter, multiply by 0.02586. To convert the values for triglycerides to millimoles per liter, multiply by 0.01129. To convert the values for glucose to millimoles per liter, multiply by 0.05551.

† ACE inhibitor therapy was withdrawn 7 days before each vascular study. All other regular medications were continued throughout the study.

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Table 2. Effect of Exercise on Heart Rate and ST Segment in the 20 Subjects during Exposures to Filtered Air and Diesel Exhaust.*

Characteristic	Filtered Air	Diesel Exhaust	P Value†
Exercise phase 1			
Heart rate — bpm			
Baseline	63±2	61±2	0.24
Maximum	87±3	86±3	0.67
Maximum ST-segment change (μV)			
Lead II	−28±13	−56±10	0.03
Lead V_2	−28±10	−41±12	0.18
Lead V_5	−14±8	−33±9	0.04
Change in ischemic burden (mVsec)			
Lead II	−11±5	−23±4	0.004
Lead V_2	−13±5	−21±6	0.04
Lead V_5	−4±3	−12±4	0.01
Exercise phase 2			
Heart rate (bpm)			
Baseline	67±2	65±2	0.35
Maximum	91±3	87±3	0.12
Maximum ST-segment change (μV)			
Lead II	−17±15	−49±12	0.006
Lead V_2	−18±12	−41±13	0.04
Lead V_5	−7±9	−28±10	0.02
Change in ischemic burden (mVsec)			
Lead II	−8±6	−22±4	0.0007
Lead V_2	−11±5	−20±6	0.02
Lead V_5	−2±3	−12±5	0.006

* Plus–minus values are means ±SE; mVsec denotes millivolt seconds.
† P values were calculated with Student's t-test.

7 days before each vascular study, because it augments bradykinin-induced release of endothelial t-PA.[19] All other medications were continued throughout the study.

Forearm blood flow was measured in both arms by venous occlusion plethysmography with the use of mercury-in-Silastic strain gauges, as described previously.[20] Heart rate and blood pressure in the noninfused arm were monitored at intervals throughout each study while the subject was in the supine position, with the use of a semiautomated, noninvasive oscillometric sphygmomanometer.

FIBRINOLYTIC AND INFLAMMATORY MARKERS

Blood (10 ml) was withdrawn into acidified buffered citrate (Stabilyte tubes, Biopool International) for t-PA assays and into citrate (BD Vacutainer) for plasminogen activator inhibitor type 1 (PAI-1) assays. Plasma t-PA and PAI-1 antigen concentrations were determined by means of enzyme-linked immunosorbent assays (TintElize t-PA, Biopool EIA; Coaliza PAI-1; and Chromogenix AB). Serum C-reactive protein concentrations were measured with an immunonephelometric assay (BN II nephelometer, Dade Behring).

DATA ANALYSIS

Electrocardiographic recordings were analyzed with the use of the Medical Pathfinder Digital 700 Series Analysis System (Del Mar Reynolds). ST-segment deviation was calculated by comparing the ST segment during each 15-minute exercise test with the average ST segment for the 15-minute period immediately before the start of the exposure. The ST-segment amplitude was determined at the J point plus 80 msec. The ischemic burden during each exercise test was calculated as the product of the change in ST-segment amplitude and the duration of exercise. Leads II, V_2, and V_5 were selected a priori for ST-segment analysis to reflect separate regions of myocardium. The maximum ST-segment depression and ischemic burden were determined for these leads individually and as a composite.

Plethysmographic data and net t-PA release were determined as described previously.[20,21]

STATISTICAL ANALYSIS

Continuous variables are reported as means ±SE. Analysis of variance with repeated measures and a two-tailed Student's t-test were performed as appropriate with the use of GraphPad Prism software. A two-sided P value of less than 0.05 was considered to indicate statistical significance.

RESULTS

Subjects were all middle-aged men with predominantly single-vessel coronary artery disease (Table 1). They reported no symptoms of angina and had no major arrhythmias during exposure or in the subsequent 24 hours.

MYOCARDIAL ISCHEMIA

The heart rate increased with exercise during exposures to diesel exhaust and filtered air ($P<0.001$ for both comparisons with the baseline rates; $P=0.67$ for the comparison of rates during exposure to diesel exhaust and during exposure to filtered

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air) (Table 2). Myocardial ischemia was detected during exercise in all subjects, with greater maximum ST-segment depression during exposure to diesel exhaust than during exposure to filtered air (Table 2 and Fig. 1A and 1B) ($P<0.05$). The ischemic burden induced by exercise was greater during exposure to diesel exhaust (Fig. 1C).

VASOMOTOR FUNCTION

There were no significant differences in resting heart rate, blood pressure, or baseline blood flow in the noninfused forearm between or during the two study visits. Although there was a dose-dependent increase in blood flow with each vasodilator ($P<0.001$ for all comparisons), neither endothelium-dependent nor endothelium-independent vasodilatation was affected by inhalation of diesel exhaust (Fig. 2). Comparison of these data with the findings in a contemporary reference population of healthy male volunteers (mean age, 53±4 years) showed impaired vasodilatation in response to acetylcholine ($P=0.02$) but not to sodium nitroprusside (Fig. 2).

FIBRINOLYTIC AND INFLAMMATORY MARKERS

There were no significant differences in basal plasma concentrations of t-PA (10.5±1.0 and 9.5±1.0 ng per milliliter, respectively) or its endogenous inhibitor, PAI-1 (18.8±3.0 and 17.0±2.0 ng per milliliter, respectively), 6 hours after exposure to either diesel exhaust or filtered air. Likewise, leukocyte, neutrophil, and platelet counts and serum C-reactive protein concentrations were not altered at 6 or 24 hours by exposure to diesel exhaust or filtered air. Bradykinin caused a dose-dependent increase in plasma t-PA concentrations (data not shown) and net t-PA release (Fig. 3) in the infused arm ($P<0.001$ for both comparisons) that was suppressed after exposure to diesel exhaust ($P=0.009$; 35% decrease in the area under the curve).

DISCUSSION

We have demonstrated that transient exposure to dilute diesel exhaust, at concentrations occurring in urban road traffic, exacerbates exercise-induced myocardial ischemia and impairs endogenous fibrinolytic capacity in men with coronary heart disease. These findings provide a plausible explanation for the epidemiologic observation that exposure to air pollution is associated with adverse cardiovascular events.

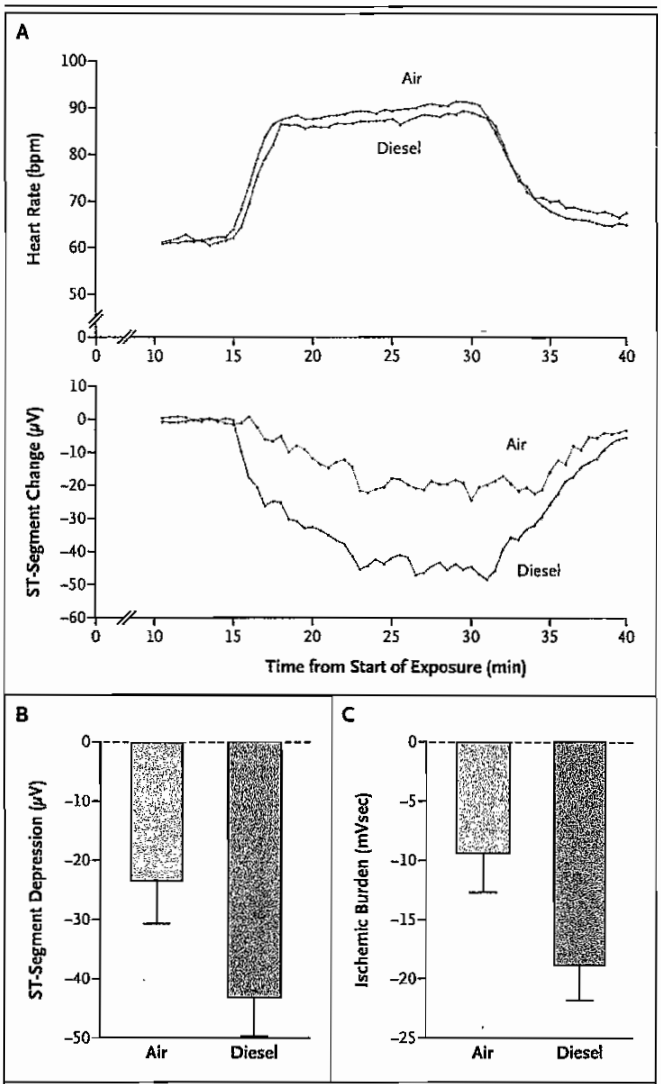


Figure 1. Myocardial Ischemia during 15-Minute Intervals of Exercise-Induced Stress and Exposure to Diesel Exhaust or Filtered Air in the 20 Subjects.

Panel A shows the average change in the heart rate and in the ST segment in lead II. Panel B shows the maximum ST-segment depression during inhalation of diesel exhaust as compared with filtered air ($P=0.003$), and Panel C shows the total ischemic burden during inhalation of diesel exhaust as compared with filtered air ($P<0.001$); the values in Panels B and C are averages of the values in leads II, V_2, and V_5. In all three panels, red indicates exposure to diesel exhaust, and blue exposure to filtered air. T bars denote standard errors, and mVsec millivolt seconds.

Concentrations of particulate matter can regularly reach levels of 300 μg per cubic meter in heavy traffic, in occupational settings, and in the world's largest cities.[22] A major proportion of this

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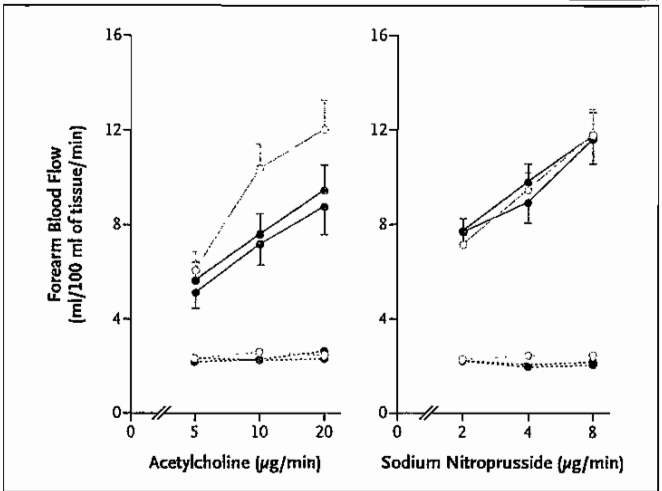


Figure 2. Forearm Blood Flow 6 to 8 Hours after Exposures to Diesel Exhaust and Filtered Air.

Values for infused (solid lines) and noninfused (dashed lines) forearm blood flow are shown for 17 subjects after exposure to diesel exhaust (red) and after exposure to filtered air (blue), as well as for a reference population of matched healthy controls (orange), during intrabrachial infusion of acetylcholine or sodium nitroprusside. P<0.001 for dose response to both drugs in the infused arm. Among the 17 subjects, P=0.54 for exposure to diesel exhaust versus filtered air during infusion of acetylcholine, and P=0.56 during infusion of sodium nitroprusside. For the comparison of the subjects with healthy controls, P=0.02 during acetylcholine infusion, and P=0.72 during sodium nitroprusside infusion.

mass is attributable to combustion-derived nanoparticles from traffic, ranging from 20% at remote monitoring sites[23] to 70% in a road tunnel.[24] Exposure to 300 μg of particulate matter per cubic meter for 1 hour increases a person's average exposure over a 24-hour period by only 12 μg per cubic meter. Changes of this magnitude occur on a daily basis, even in the least polluted cities, and are associated with increases in the rate of death from cardiorespiratory disorders.[25] Our model is therefore highly relevant, in terms of both the composition and the magnitude of exposure, to the assessment of short-term health effects in men.

Given potential safety concerns, we recruited patients who had stable and symptomatically well-controlled coronary heart disease, with good exercise tolerance on formal stress testing. The study participants were closely monitored throughout the exposure and reported no adverse effects. Despite similar changes in the heart rate during exposure to diesel exhaust and to filtered air, we documented asymptomatic myocardial ischemia that was increased by a factor of up to three after inhalation of diesel exhaust. This reproducible effect was present despite extensive use of maintenance beta-blocker therapy in patients without limiting angina. Thus, we have established that inhalation of diesel exhaust has an immediate, proischemic effect, and we believe this provides an important mechanism for the observed increase in myocardial infarction in the hour after exposure to traffic.[13]

Small areas of denudation and thrombus deposition are common findings on the surface of atheromatous plaques and are usually subclinical. Rosenberg and Aird have postulated that vascular-bed–specific defects in hemostasis exist and that propagation of coronary thrombosis is critically dependent on the local fibrinolytic balance.[26] The magnitude and rapidity of t-PA release from the vascular endothelium regulate the generation of plasmin and thus determine the efficacy of endogenous fibrinolysis.

We have previously reported impaired t-PA release in healthy volunteers 6 hours after inhalation of diesel exhaust, although this effect was not seen 2 hours after exposure.[17] We have now confirmed similar reductions in acute t-PA release 6 hours after inhalation of diesel exhaust in patients with coronary heart disease. This delayed effect on endogenous fibrinolysis cannot explain our findings of immediate myocardial ischemia but is consistent with the observations of Peters and colleagues, who reported a second peak in the incidence of myocardial infarction 5 to 6 hours after exposure to traffic.[13] Preclinical thrombotic models also lend support to our findings. Nemmar and colleagues reported that in a hamster model, instillation of diesel-exhaust particulate into the lungs increases venous and arterial thrombus formation at sites of vascular injury.[27] Taken together, these findings indicate an important thrombotic effect of diesel-exhaust inhalation that may promote coronary thrombosis.

Although we found important adverse effects of diesel exhaust on vascular fibrinolytic function, we did not detect an effect on vasomotor function. However, vasomotor function was assessed 6 hours after exposure and 5 hours after we documented an increase in the ischemic burden. We have previously demonstrated that exposure to diesel exhaust impairs vasomotor function in healthy volunteers.[17] This effect was most marked at 2 hours but was still present 6 hours after exposure. Therefore, we cannot exclude the possibil-

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ity of a detrimental vasomotor effect in patients at an earlier point in time.

Patients with coronary heart disease are known to have impaired endothelial function,[28] and we confirm the presence of endothelial dysfunction in our patients. This may have hindered our ability to demonstrate a further impairment of vascular function after exposure to diesel exhaust. In addition, we performed our assessments while the subjects were taking medications that are known to influence endothelial vasomotor function.[29] Furthermore, Brook and colleagues reported that air pollution does not have an effect on endothelium-dependent vasodilatation.[30]

We have identified two distinct and potentially synergistic adverse cardiovascular effects of air pollution in patients with coronary heart disease. These effects may contribute to the increased incidence of myocardial infarction after exposure to traffic. However, the precise mechanisms by which diesel-exhaust inhalation induces these ischemic and thrombotic effects have not been established in our study and will need to be determined in future work.

Our findings are consistent with epidemiologic studies showing associations between ambient particulate air pollution and increased myocardial ischemia during formal exercise testing.[10,11] Myocardial ischemia occurs as a consequence of reduced myocardial oxygen supply, increased demand, or both. We hypothesize that oxidative stress and microvascular dysfunction in the resistance vessels of the myocardium may, in part, explain the adverse ischemic effects of exposure to dilute diesel exhaust. In vitro studies, animal models, and studies of exposures in humans have clearly established the oxidant and proinflammatory nature of combustion-derived particulate matter.[31] Indeed, the pattern of vascular dysfunction in our previous studies suggested that oxidative stress and reduced nitric oxide availability may play a role in mediating the adverse vascular effects of diesel-exhaust inhalation.[17]

Diesel exhaust is a complex mixture of gases and particles, and from our findings, we cannot rule out a nonparticulate cause of the adverse cardiovascular effects. However, on the basis of epidemiologic studies,[32] particulate matter is thought to be responsible for the majority of the adverse health effects of air pollution.[33] This view is supported by the recent observations of Miller and colleagues, who found that cardiovascular outcomes were strongly associated with long-term exposure to particulate matter but not with gaseous pollutants.[3] Ambient nitrogen dioxide can be considered a surrogate for pollution from traffic, but it has little adverse effect in controlled-chamber studies, even at the exposure levels in our study.[34] We therefore suggest that the cardiovascular effects described here are mediated primarily by the particulates in diesel exhaust and not by its other components. This argues for the use of diesel-exhaust particle traps to limit the adverse health effects of traffic emissions. However, the causative role of particulates must first be definitively established, and the efficacy of particle traps confirmed.

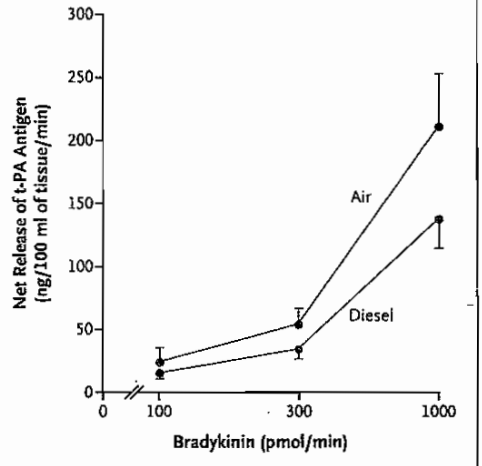


Figure 3. Release of Tissue Plasminogen Activator (t-PA) Antigen 6 to 8 Hours after Exposures to Diesel Exhaust and Filtered Air in 17 Subjects.

As compared with filtered air (blue), inhalation of diesel exhaust (red) reduced the net release of t-PA antigen (calculated as the product of forearm plasma flow and the difference in t-PA concentrations between the two arms) by 35% (P=0.009).

Brief exposure to dilute diesel exhaust increases myocardial ischemia and impairs endogenous fibrinolytic capacity in men with stable coronary heart disease. Our findings suggest mechanisms for the observation that exposure to combustion-derived air pollution is associated with adverse cardiovascular events, including acute myocardial infarction. Environmental health policy interventions targeting reductions in urban air pollution should be considered in order to decrease the risk of adverse cardiovascular events.

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ORIGINAL ARTICLE

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The Effect of Air Pollution on Lung Development from 10 to 18 Years of Age

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ABSTRACT

Background Whether exposure to air pollution adversely affects the growth of lung function during the period of rapid lung development that occurs between the ages of 10 and 18 years is unknown.

Methods In this prospective study, we recruited 1759 children (average age, 10 years) from schools in 12 southern California communities and measured lung function annually for eight years. The rate of attrition was approximately 10 percent per year. The communities represented a wide range of ambient exposures to ozone, acid vapor, nitrogen dioxide, and particulate matter. Linear regression was used to examine the relationship of air pollution to the forced expiratory volume in one second (FEV_1) and other spirometric measures.

Results Over the eight-year period, deficits in the growth of FEV_1 were associated with exposure to nitrogen dioxide (P=0.005), acid vapor (P=0.004), particulate matter with an aerodynamic diameter of less than 2.5 μm ($PM_{2.5}$) (P=0.04), and elemental carbon (P=0.007), even after adjustment for several potential confounders and effect modifiers. Associations were also observed for other spirometric measures. Exposure to pollutants was associated with clinically and statistically significant deficits in the FEV_1 attained at the age of 18 years. For example, the estimated proportion of 18-year-old subjects with a low FEV_1 (defined as a ratio of observed to expected FEV_1 of less than 80 percent) was 4.9 times as great at the highest level of exposure to $PM_{2.5}$ as at the lowest level of exposure (7.9 percent vs. 1.6 percent, P=0.002).

Conclusions The results of this study indicate that current levels of air pollution have chronic, adverse effects on lung development in children from the age of 10 to 18 years, leading to clinically significant deficits in attained FEV_1 as children reach adulthood.

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There is mounting evidence that air pollution has chronic, adverse effects on pulmonary development in children. Longitudinal studies conducted in Europe[1,2,3] and the United States[4,5,6] have demonstrated that exposure to air pollution is associated with reductions in the growth of lung function, strengthening earlier evidence[7,8,9,10,11,12] based on cross-sectional data. However, previous longitudinal studies have followed young children for relatively short periods (two to four years), leaving unresolved the question of whether the effects of air pollution persist from adolescence into adulthood. The Children's Health Study[13] enrolled children from 12 southern California communities representing a wide range of exposures to ambient air pollution. We documented the children's respiratory growth from the ages of 10 to 18 years. Over this eight-year period, children have substantial increases in lung function. By the age of 18 years, girls' lungs have nearly matured, and the growth in lung function in boys has slowed considerably, as compared with the rate in earlier adolescence.[14] We analyzed the association between long-term exposure to ambient air pollution and the growth in lung function over the eight-year period from the ages of 10 to 18 years. We also examined whether any observed effect of air pollution on this eight-year growth period results in clinically significant deficits in attained lung function at the age of 18 years.

Methods

Study Subjects

In 1993, the Children's Health Study recruited 1759 fourth-grade children (average age, 10 years) from elementary schools in 12 southern California communities as part of an investigation of the long-term effects of air pollution on children's respiratory health.[6,12,13] Data on pulmonary function were obtained by trained field technicians, who traveled to study schools annually from the spring of 1993 through the spring of 2001 to perform maximal-effort spirometric testing of the children. Details of the testing protocol have been published previously.[12] We analyzed three measures of pulmonary function: forced

vital capacity (FVC), forced expiratory volume in the first second (FEV_1), and maximal midexpiratory flow rate (MMEF). Pulmonary-function tests were not performed on any child who was absent from school on the day of testing, but such a child was still eligible for testing in subsequent years. Children who moved away from their recruitment community were classified as lost to follow-up and were not tested further. From the initial sample of the 1759 children in 1993, the number of children available for follow-up was 1414 in 1995, 1252 in 1997, 1031 in 1999, and 747 in 2001, reflecting the attrition of approximately 10 percent of subjects per year.

A baseline questionnaire, completed at study entry by each child's parents or legal guardian, was used to obtain information on the children's characteristics, including race, presence or absence of Hispanic ethnic background, level of parental education, presence or absence of a history of asthma diagnosed by a doctor, exposure to maternal smoking in utero, and household exposure to gas stoves, pets, and environmental tobacco smoke. Questions administered at the time of annual pulmonary-function testing were used to update information on asthma status, personal smoking status, and exposure to environmental tobacco smoke. The distribution of baseline characteristics of all study subjects and of two subgroups defined according to the length of follow-up (all eight years or less than eight years) is shown in the Supplementary Appendix (available with the full text of this article at www.nejm.org). The length of follow-up was significantly associated with factors related to the mobility of the population, including race, presence or absence of Hispanic ethnic background, presence or absence of exposure to environmental tobacco smoke, and parents' level of education. However, the length of follow-up was not significantly associated with baseline lung function or the level of exposure to air pollution, suggesting that the loss to follow-up did not differ with respect to the primary variables of interest.

The study protocol was approved by the institutional review board for human studies at the University of Southern California, and written informed consent was provided by a parent or legal guardian for all study subjects. We did not obtain assent from minor children, since this was not standard practice when the study was initiated.

Air-Pollution Data

Air-pollution–monitoring stations were established in each of the 12 study communities and provided continuous data, beginning in 1994. Each station measured average hourly levels of ozone, nitrogen dioxide, and particulate matter with an aerodynamic diameter of less than 10 μm (PM_{10}). Stations also collected two-week integrated-filter samples for measuring acid vapor and the mass and chemical makeup of particulate matter with an aerodynamic diameter of less than 2.5 μm ($PM_{2.5}$). Acid vapor included both inorganic acids (nitric and hydrochloric) and organic acids (formic and acetic). For statistical analysis, we used total acid, computed as the sum of nitric, formic, and acetic acid levels. Hydrochloric acid was excluded from this sum, since levels were very low and close to the limit of detection. In addition to measuring $PM_{2.5}$, we determined the levels of elemental carbon and organic carbon, using method 5040 of the National Institute for Occupational Safety and Health.[15] We computed annual averages on the basis of average levels in a 24-hour period in the case of PM_{10} and nitrogen dioxide, and a two-week period in the case of $PM_{2.5}$, elemental carbon, organic carbon, and acid vapor. For ozone, we computed the annual average of the levels obtained from 10 a.m. to 6 p.m. (the eight-hour daytime average) and of the one-hour maximal levels. We also calculated long-term mean pollutant levels (from 1994 through 2000) for use in the statistical analysis of the lung-function outcomes.

Statistical Analysis

The outcome data consisted of the results of 5454 pulmonary-function tests of 876 girls and 5300 tests of 883 boys over the eight-year period. We adopted a two-stage regression approach to relate the longitudinal pulmonary-function data for each child to the average air-pollution levels in each study community.

The first-stage model was a regression of each pulmonary-function measure (values were log-transformed) on age to obtain separate, community-specific average growth curves for girls and boys. To account for the growth pattern during this period, we used a linear spline model[14] that consisted of four straight lines over the age intervals of younger than 12 years, 12 to 14 years, 14 to 16 years, and older than 16 years, constrained to be connected at the three "knot" points. The model included adjustments for log values for height; body-mass index (the weight in kilograms divided by the square of the height in meters); the square of the body-mass index; race; the presence or absence of Hispanic ethnic background, doctor-diagnosed asthma, any tobacco smoking by the child in the preceding year, exposure to environmental tobacco smoke, and exercise or respiratory tract illness on the day of the test; and indicator variables for the field technician and the spirometer. In addition to these covariates, random effects were included to account for the multiple measurements contributed by each subject. An analysis of residual values confirmed that the assumptions of the model had been satisfied. The first-stage model was used to estimate the mean and variance of the growth in lung function over the eight-year period in each of the 12 communities, separately for girls and boys.

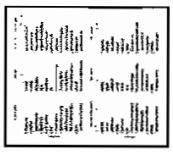
The second-stage model was a linear regression of the 24 sex- and community-specific estimates of the growth in lung function over the eight-year period on the corresponding average levels of each air pollutant in each community. Inverses of the first-stage variances were incorporated as weights, and a community-specific random effect was included to account for residual variation between communities. A sex-by-pollutant interaction was included in the model to evaluate whether there was a difference in the effect of a given pollutant between the sexes, and when this value was nonsignificant, the model was refitted to estimate the sex-averaged effect of the pollutant. Pollutant effects are reported as the difference in the growth in lung function over the eight-year period from the least to the most polluted community, with negative differences indicative of growth deficits with increasing exposure. We also considered two-pollutant models obtained by simultaneously regressing the growth in lung function over the eight-year period on pairs of pollutants.

In addition to examining the growth in lung function over the eight-year period, we analyzed the FEV_1 measurements obtained in 746 subjects during the last year of follow-up (average age, 17.9 years) to determine whether exposure to air pollution was associated with clinically significant deficits in attained FEV_1. We defined a low FEV_1 as an attained FEV_1 below 80 percent of the predicted value, a criterion commonly used in clinical settings to identify persons who are at increased risk for adverse respiratory conditions. To determine the predicted FEV_1, we first fitted a regression model for observed FEV_1 (using log-transformed values) with the following predictors: log-transformed height, body-mass index, the square of the body-mass index, sex, race or ethnic group,

asthma status, field technician, and interactions between sex and log-transformed height, sex and asthma, and sex and race or ethnic group. This model explained 71 percent of the variance in the attained FEV_1 level. For each subject, we then computed the predicted FEV_1 from the model and considered subjects to have a low FEV_1 if the ratio of observed to predicted FEV_1 was less than 80 percent. Linear regression was then used to examine the correlation between the community-specific proportion of subjects with a low FEV_1 and the average level of each pollutant from 1994 through 2000. This model included a community-specific random effect to account for residual variation. Regression procedures in SAS software[16] were used to fit all models. Associations denoted as statistically significant were those that yielded a P value of less than 0.05, assuming a two-sided alternative hypothesis.

Results

From 1994 through 2000, there was substantial variation in the average levels of study pollutants across the 12 communities, with relatively little year-to-year variation in the annual levels within each community (Figure 1). From 1994 through 2000, the average levels of ozone were not significantly correlated across communities with any other study pollutant (Table 1). However, correlations between other pairs of pollutants were all significant, ranging from an R of 0.64 ($P<0.05$) for nitrogen dioxide and organic carbon, to an R of 0.97 ($P<0.001$) for PM_{10} and organic carbon. Thus, nitrogen dioxide, acid vapor, and the particulate-matter pollutants can be regarded as a correlated "package" of pollutants with a similar pattern relative to each other across the 12 communities.



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Figure 1. Mean (+SD) Annual Average Levels of Pollutants from 1994 through 2000 in the 12 Study Communities in Southern California.

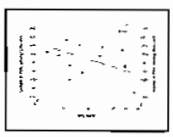
AL denotes Alpine, AT Atascadero, LE Lake Elsinore, LA Lake Arrowhead, LN Lancaster, LM Lompoc, LB Long Beach, ML Mira Loma, RV Riverside, SD San Dimas, SM Santa Maria, and UP Upland. O_3 denotes ozone, NO_2 nitrogen dioxide, and PM_{10} and $PM_{2.5}$ particulate matter with an aerodynamic diameter of less than 10 μm and less than 2.5 μm, respectively.

View this table: **Table 1.** Correlation of Mean Air-Pollution Levels from 1994 through 2000 across the 12 Study Communities.
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Among the girls, the average FEV_1 increased from 1988 ml at the age of 10 years to 3332 ml at the age of 18 years, yielding an average growth in FEV_1 of 1344 ml over the eight-year period (Table 2). The corresponding averages in boys were 2082 ml and 4464 ml, yielding an average growth in FEV_1 of 2382 ml over the eight-year period. Similar patterns of growth over the eight-year period were observed for FVC and MMEF (Table 2).

View this table: **Table 2.** Mean Levels of Growth in Pulmonary Function during the Eight-Year Study Period, from 1993 to 2001.
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Although the average growth in FEV_1 was larger in boys than in girls, the correlations of growth with air pollution did not differ significantly between the sexes, as shown for nitrogen dioxide in Figure 2. The sex-averaged analysis, depicted by the regression line in Figure 2, demonstrated a significant negative correlation between the growth in FEV_1 over the eight-year period and the average nitrogen dioxide level ($P=0.005$). The estimated difference in the average growth in FEV_1 over the eight-year period from the community with the lowest nitrogen dioxide level to the community with the highest nitrogen dioxide level, represented by the slope of the plotted regression line in Figure 2, was −101.4 ml.



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Figure 2. Community-Specific Average Growth in FEV_1 among Girls and Boys During the Eight-Year Period from 1993 to 2001 Plotted against Average Nitrogen Dioxide (NO_2) Levels from 1994 through 2000.

Estimated differences in the growth of FEV_1, FVC, and MMEF during the eight-year period with respect to all pollutants are summarized in Table 3. Deficits in the growth of FEV_1 and FVC were observed for all pollutants, and deficits in the growth of MMEF were observed for all but ozone, with several combinations of outcome variables and pollutants attaining statistical significance. Specifically, for FEV_1 we observed significant negative correlations between the growth in this variable over the eight-year period and exposure to acid vapor ($P=0.004$), $PM_{2.5}$ ($P=0.04$), and elemental carbon ($P=0.007$), in addition to the above-mentioned correlation with nitrogen dioxide. As with FEV_1, the effects of the various pollutants on FVC and MMEF did not differ significantly between boys

and girls. Significant deficits in FVC were associated with exposure to nitrogen dioxide (P=0.05) and acid vapor (P=0.03), whereas deficits in MMEF were associated with exposure to nitrogen dioxide (P=0.02) and elemental carbon (P=0.04). There was no significant evidence that ozone, either the average value obtained from 10 a.m. to 6 p.m. or the one-hour maximal level, was associated with any measure of lung function. In two-pollutant models for any of the measures of pulmonary function, adjustment for ozone did not substantially alter the effect estimates or significance levels of any other pollutant (data not shown). In general, two-pollutant models for any pair of pollutants did not provide a significantly better fit to the data than the corresponding single-pollutant models; this was not surprising, given the strong correlation between most pollutants.

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Table 3. Difference in Average Growth in Lung Function over the Eight-Year Study Period from the Least to the Most Polluted Community.

The association between pollution and the growth in FEV_1 over the eight-year period remained significant in a variety of sensitivity analyses (Table 4). For example, estimates of the effect of acid vapor and elemental carbon (model 1 in Table 4) changed little with adjustment for in-utero exposure to maternal smoking (model 2), presence in the home of a gas stove (model 3) or pets (model 4), or parental level of education (model 5). To account for possible confounding by short-term effects of air pollution, we fitted a model that adjusted for the average ozone, nitrogen dioxide, and PM_{10} levels on the three days before each child's pulmonary-function test. This adjustment also had little effect on the estimates of the long-term effects of air pollution (model 6). Table 4 also shows that the effects of pollutants remained large and significant in the subgroups of children with no history of asthma (model 7) and those with no history of smoking (model 8). The effects of pollutants were not significant among the 457 children who had a history of asthma or among the 483 children who had ever smoked (data not shown), although the sample sizes in these subgroups were small. Model 9 demonstrates that the extremes in pollutant levels did not drive the observed associations; in other words, we found similar effect estimates after eliminating the two communities with the highest and lowest levels of each pollutant. Finally, model 10 shows the effects of pollutants in the subgroup of subjects who underwent pulmonary-function testing in both 1993 and 2001 (i.e., subjects who participated in both the first and last year of the study). The magnitudes of effects in this subgroup were similar to those in the entire sample (model 1), suggesting that observed effects of pollutants in the entire sample cannot be attributed to biased losses to follow-up across communities. These sensitivity analyses were also applied to the other pollutants and to FVC and MMEF, with similar results.

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Table 4. Sensitivity Analysis of the Effects of Acid Vapor and Elemental Carbon on Growth in FEV_1 over the Eight-Year Study Period.

Pollution-related deficits in the average growth in lung function over the eight-year period resulted in clinically important deficits in attained lung function at the age of 18 years (Figure 3). Across the 12 communities, a clinically low FEV_1 was positively correlated with the level of exposure to nitrogen dioxide (P=0.005), acid vapor (P=0.01), PM_{10} (P=0.02), $PM_{2.5}$ (P=0.002), and elemental carbon (P=0.006). For example, the estimated proportion of children with a low FEV_1 (represented by the regression line in Figure 3) was 1.6 percent at the lowest level of exposure to $PM_{2.5}$ and was 4.9 times as great (7.9 percent) at the highest level of exposure to $PM_{2.5}$ (P=0.002). Similar associations between these pollutants and a low FEV_1 were observed in the subgroup of children with no history of asthma and the subgroup with no history of smoking (data not shown). A low FEV_1 was not significantly correlated with exposure to ozone in any group.



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Figure 3. Community-Specific Proportion of 18-Year-Olds with a FEV_1 below 80 Percent of the Predicted Value Plotted against the Average Levels of Pollutants from 1994 through 2000.

The correlation coefficient (R) and P value are shown for each comparison. AL denotes Alpine, AT Atascadero, LE Lake Elsinore, LA Lake Arrowhead, LN Lancaster, LM Lompoc, LB Long Beach, ML Mira Loma, RV Riverside, SD San Dimas, SM Santa Maria, and UP Upland. O_3 denotes ozone, NO_2 nitrogen dioxide, and PM_{10} and $PM_{2.5}$ particulate matter with an aerodynamic diameter of less than 10 μm and less than 2.5 μm, respectively.

Discussion

The results of this study provide robust evidence that lung development, as measured by the growth in FVC, FEV_1, and MMEF from the ages of 10 to 18 years, is reduced in children exposed to higher levels of ambient air pollution. The strongest associations were observed between FEV_1 and a correlated set of pollutants, specifically nitrogen dioxide, acid vapor, and elemental carbon. The effects of these pollutants on FEV_1 were similar in boys and girls and remained significant among children with no history of asthma and among those with no history of smoking, suggesting that most children are susceptible to the chronic respiratory effects of breathing polluted air. The magnitude of the observed effects of air pollution on the growth in lung function during this age interval was similar to those that have been reported for exposure to maternal smoking[17,18] and smaller than those reported for the effects of personal smoking.[17,19]

Cumulative deficits in the growth in lung function during the eight-year study period resulted in a strong association between exposure to air pollution and a clinically low FEV_1 at the age of 18 years. In general, lung development is essentially complete in girls by the age of 18 years, whereas in boys it continues into their early 20s, but at a much reduced rate. It is therefore unlikely that clinically significant deficits in lung function at the age of 18 years will be reversed in

either girls or boys as they complete the transition into adulthood. Deficits in lung function during young adulthood may increase the risk of respiratory conditions — for example, episodic wheezing that occurs during a viral infection.[20] However, the greatest effect of pollution-related deficits may occur later in life, since reduced lung function is a strong risk factor for complications and death during adulthood.[21,22,23,24,25,26,27]

Deficits in lung function were associated with a correlated set of pollutants that included nitrogen dioxide, acid vapor, fine-particulate matter ($PM_{2.5}$), and elemental carbon. In southern California, the primary source of these pollutants is motor vehicles, either through direct tailpipe emissions or downwind physical and photochemical reactions of vehicular emissions. Both gasoline- and diesel-powered engines contribute to the tons of pollutants exhausted into southern California's air every day, with diesel vehicles responsible for disproportionate amounts of nitrogen dioxide, $PM_{2.5}$, and elemental carbon. In the current study, however, we could not discern the independent effects of pollutants because they came from common sources and there was a high degree of intercorrelation among them; similar difficulties have also been encountered in other studies of lung function and air-pollutant mixtures.[1,2,9,28,29,30] Since ozone is also formed during photochemical reactions involving fuel-combustion products, one might expect ozone to be correlated with the other study pollutants and therefore to show similar associations with lung function. However, the Children's Health Study was specifically designed to minimize the correlation of ozone with other pollutants across the 12 study communities. Thus, although ozone has been convincingly linked to acute health effects in many other studies,[11] our results provide little evidence that ambient ozone at current levels is associated with chronic deficits in the growth of lung function in children. Only a few other studies have addressed the long-term effects of ozone on lung development in children, and results have been inconsistent.[31] Although we found little evidence of an effect of ozone, this result needs to be interpreted with caution given the potential for substantial misclassification of exposure to ozone.[32,33]

The mechanism whereby exposure to pollutants could lead to reduced lung development is unknown, but there are many possibilities. Our observation of associations between air pollution and all three measures of lung function — FVC, FEV_1, and MMEF — suggests that more than one process is involved. FVC is largely a function of the number and size of alveoli, with differences in volume primarily attributable to differences in the number of alveoli, since their size is relatively constant.[34] However, since the postnatal increase in the number of alveoli is complete by the age of 10 years, pollution-related deficits in the growth of FVC and FEV_1 during adolescence may, in part, reflect a reduction in the growth of alveoli. Another plausible mechanism of the effect of air pollution on lung development is airway inflammation, such as occurs in bronchiolitis; such changes have been observed in the airways of smokers and of subjects who lived in polluted environments.[35,36]

A strength of our study was the long-term, prospective follow-up of a large cohort, with exposure and outcome data collected in a consistent manner throughout the study period. As in any epidemiologic study, however, the observed effects could be biased by underlying associations of the exposure and outcome to some confounding variables. We adjusted for known potential confounders, including personal characteristics and other sources of exposure to pollutants, but the possibility of confounding by other factors still exists. Over the eight-year follow-up period, approximately 10 percent of study subjects were lost to follow-up each year. Attrition is a potential source of bias in a cohort study if loss to follow-up is related to both exposure and outcome. However, we did not see evidence that the loss of subjects was related to either baseline lung function or exposure to air pollution. In addition, we observed significant associations between air pollution and lung growth in the subgroup of children who were followed for the full eight years of the study, with effects that were similar in magnitude to those in the group as a whole, thus making loss of subjects an unlikely source of bias.

We have shown that exposure to ambient air pollution is correlated with significant deficits in respiratory growth over an eight-year period, leading to clinically important deficits in lung function at the age of 18 years. The specific pollutants that were associated with these deficits included nitrogen dioxide, acid vapor, $PM_{2.5}$, and elemental carbon. These pollutants are products of primary fuel combustion, and since they are present at similar levels in many other areas,[37,38] we believe that our results can be generalized to children living outside southern California. Given the magnitude of the observed effects and the importance of lung function as a determinant of morbidity and mortality during adulthood, continued emphasis on the identification of strategies for reducing levels of urban air pollutants is warranted.

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Source Information

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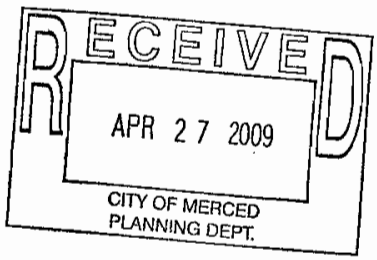
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Association between Air Pollution and Lung Function Growth in Southern California Children

Results from a Second Cohort

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A cohort of 1,678 Southern California children, enrolled as fourth graders in 1996, was followed for 4 years to determine whether the growth in lung function of the children was associated with their exposure to ambient air pollutants. These subjects comprised the second cohort of fourth grade children participating in the Children's Health Study. Significant deficits in lung function growth rate were associated with exposure to acid vapor, NO_2, particles with aerodynamic diameter less than 2.5 μm ($PM_{2.5}$), and elemental carbon. For example, the average annual growth rates of maximal midexpiratory flow and forced expiratory volume in 1 second were reduced by approximately 11% ($p = 0.005$) and 5% ($p = 0.03$), respectively, across the observed range of acid exposure. Exposure to acid vapor was also associated with reductions in the ratio of maximal midexpiratory flow to forced vital capacity ($p = 0.02$), whereas exposure to ozone was correlated with reduced growth in peak flow rate ($p = 0.006$). Larger deficits in lung function growth rate were observed in children who reported spending more time outdoors. These findings provide important replication of our previous findings of an effect of air pollution on lung function growth that were based on the first fourth-grade cohort from the Children's Health Study (*Am J Respir Crit Care Med* 2000;162:1383–1390).

Keywords: lung function growth; children; air pollution

In a recent report, we described an association in children between long-term exposure to outdoor air pollutants and reductions in the growth of lung function (1). The data were obtained from the Children's Health Study (CHS), a 10-year investigation of children's respiratory health in 12 Southern California communities. On the basis of data on 1,498 children who entered the CHS as fourth graders in 1993 and who were followed for 4 years until 1997 (Cohort 1), we found a nearly 10% reduction in the growth rate per year of FEV_1 and maximal midexpiratory flow (MMEF) in the most polluted communities compared with that in the least polluted communities. The pollutants linked to these reductions were particles with aerodynamic diameter less than 10 μm (PM_{10}), $PM_{2.5}$, NO_2, and inorganic acid vapor. We were unable to disentangle the independent effects of these pollutants due to their high degree of correlation across communities. No significant associations were observed between lung function growth and ozone. Two other studies, one conducted in Austria (2) and the other in Poland (3), have also reported associations between ambient air pollutants and lung function growth in children. Collectively, these studies strengthen earlier evidence (4–7) that long-term exposure to air pollution can produce chronic health effects.

The design of the CHS has provided us the opportunity to attempt replication of our earlier findings. In 1996, we enrolled a second cohort of 2,081 fourth grade children (Cohort 2) from the same 12 study communities. Data collection protocols were the same as those used for Cohort 1. This report focuses on the relationship between air pollution and lung function development of the children in Cohort 2 over the 4-year period from 1996 to 2000. Side-by-side comparisons of pollutant-effect estimates from Cohorts 1 and 2 will also be provided.

METHODS

Study Subjects

Details of the CHS community selection, subject recruitment, and study design have been published previously (7, 8). Cohort 2 consisted of 2,081 fourth grade children (average age, 9.9 years) enrolled in 1996 from 12 Southern California communities. Baseline information for each child, including medical history and housing characteristics, was obtained via questionnaires filled out by a parent or guardian. In the spring of 1996, and every spring thereafter, a team of CHS field technicians traveled to study schools to measure participants' lung function. A rolling-seal spirometer (Spiroflow; P.K. Morgan Ltd., Gillingham, UK) was used to obtain up to seven maximal forced expiratory maneuvers on each child. A more detailed description of the pulmonary function testing protocol has been reported previously (7). A total of 1,678 children had at least two pulmonary function tests (PFT) from 1996 to 2000 and had complete data on all adjustment variables (described below). Outcome measures analyzed in this report include FVC, FEV_1, MMEF (also known as $FEF_{25-75\%}$), the ratio MMEF/FVC, and peak expiratory flow rate (PEFR). The study protocol was approved by the institutional review board for human studies at the University of Southern California, and consent was provided by parents for all study subjects.

Air Pollution Data

Air pollution monitoring stations were in place in each of the 12 study communities for the duration of subject follow-up, and pollution levels were monitored continuously throughout each study year. Stations measured hourly concentrations of ozone (O_3), PM_{10}, and NO_2 and obtained filter-based 2-week integrated samples for measuring $PM_{2.5}$ and acid vapor. The latter included both inorganic (nitric, hydrochloric) and organic (formic, acetic) acids. For statistical analysis, we created an acid vapor metric as the sum of nitric, formic, and acetic acid concentrations. Hydrochloric acid was excluded from this sum because the concentrations over a 2-week period were very low and close to the detection limit. In addition to measuring $PM_{2.5}$ mass, we determined concentrations of elemental carbon (EC) and organic carbon (OC) using the NIOSH 5040 method (9). The $PM_{2.5}$ filter was also analyzed for concentrations of nitrate, sulfate, and ammonium, but

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these levels were so highly correlated with $PM_{2.5}$ mass across communities that we chose not to include them in this report. We computed the annual average of the 24-hour (O_3, PM_{10}, NO_2) or 2-week ($PM_{2.5}$, EC, OC, acid) average concentrations. For O_3, we also computed the annual average of the 10:00 A.M. to 6:00 P.M. average. Analogous hour-specific averages for PM_{10} and NO_2 were not used, as they were highly correlated with their corresponding 24-hour averages. We computed the mean over 4 years (1996–1999) of the annual average concentrations in each community and used these in the statistical analysis of lung function growth.

Statistical Analysis

To investigate the relationship between lung function growth and air pollution, we applied the same analytic approach as that previously applied to Cohort 1 (1). The data consisted of 7,106 PFT obtained over the 4-year period on 1,678 study subjects. We used a 3-level regression modeling approach to investigate variation in lung function growth across the 12 communities in relation to variation in average air quality, with adjustment for individual and time-varying covariates. Details of each regression model are given below.

The first model was a linear regression of 7,106 log-transformed lung function measures on age, to estimate each subject's intercept and growth slope. This model included adjustment for time-varying covariates, including height, body mass index, subject report of doctor-diagnosed asthma and cigarette smoking in the previous year, report of respiratory illness and exercise on the day of the test, and interactions of each of these variables with sex to allow for male–female differences. The models also included barometric pressure, temperature at test time, and sets of indicator variables for field technician and spirometer.

The second model was a linear regression of the 1,678 person-specific adjusted growth slopes from the first model on a set of community indicators, to obtain the mean growth slope for children in each of the 12 communities. Adjustments were made for person-specific covariates, including sex, race/ethnicity, and baseline report of asthma. Residuals from both the first and second linear regression models satisfied the model assumptions of normality and homoscedasticity.

The final model was a linear regression of the 12 community-average lung function growth rates on 4-year community-average pollution level. The parameter of interest was the slope from this third regression, which was reported as the difference in estimated percent growth rate per year between the most and the least polluted communities. Negative pollutant-effect estimates indicate reduced lung function growth with increased exposure. The pollutant-specific range from the least to the most polluted community was used for scaling to facilitate comparison of effect estimates among different pollutants. Each pollutant was analyzed separately for its relationship to lung function growth, and scatterplots were used to display the relationships graphically. We also estimated the effect of each pollutant after adjustment for each of the other pollutants, by regressing the community-average growth rates on pairs of pollutants.

A single mixed model that combined all three of the aforementioned regression models was used to estimate pollutant effects and to test hypotheses. The MIXED procedure in SAS (10) was used to fit the models. A two-sided alternative hypothesis and a 0.05 significance level were assumed in all testing. The primary analyses used all study subjects. However, we also conducted separate analyses in strata defined by time spent outdoors, as this factor was believed *a priori* to be important in determining a given child's exposure to the ambient pollutants under study. Children were asked how much time they spent outdoors between 3:00 P.M. and 6:00 P.M. on each of five weekday afternoons. We classified each child as "more outdoors" or "less outdoors" on the basis of whether the average time spent outdoors over the 5-day period was above or below the median time for all children. We also considered sex, baseline asthma status, and race/ethnicity as possible pollutant-effect modifiers, and we added appropriate interaction terms to the mixed model to test these hypotheses.

In addition to our analysis of Cohort 2, we show pollutant-effect estimates for Cohort 1 for comparison. The lung function and air pollutant data used for Cohort 1 were based on the first 4 years of follow-up of that cohort (1993–1997), as described in our previous report (1). However, that report did not include analysis of EC, as data on EC concentrations have only recently become available. To facilitate direct comparison across cohorts, we scaled pollutant effects for Cohort 1 to the same range as that used for Cohort 2 (i.e., to the difference from the least to the most polluted community over the Cohort 2 study period).

RESULTS

Annual average pollutant levels for each community during the Cohort 2 study period are shown in Figure E1 (*see* online data supplement). Compared with the variation between communities, there was relatively little variation within communities over the 4-year observation period. Table 1 shows pairwise correlations between community average air pollution levels over the study period. Ozone concentrations (both 24-hour and 10 A.M.–6 P.M. average) were not significantly correlated with any other pollutant, with the exception of a negative correlation between 24-hour ozone and NO_2 ($r = -0.60$). However, the remaining pollutants were correlated with one another, with coefficients ranging from $r = 0.58$ (OC with NO_2) to $r = 0.97$ (OC with PM_{10}).

The Cohort 2 sample consisted of roughly equal numbers of males and females and included 52% white non-Hispanics, 32% Hispanics, and approximately 5% each of black, Asian, and other ethnic groups (Table 2). Overall, 14% of subjects reported doctor diagnosis of asthma at baseline, ranging from 8% (Riverside) to 19% (San Dimas). Between the weekday hours of 3:00 P.M. and 6:00 P.M., children spent an average of 1.3 hours outdoors, with most children spending between 0.5 and 2.3 hours outdoors during this time. An average of 4.3 PFT (of a possible 5) was recorded on each study subject.

TABLE 1. CORRELATIONS AMONG COMMUNITY MEAN POLLUTION LEVELS

Pollutant†	O_3	NO_2	Acid Vapor	PM_{10}	$PM_{2.5}$	PM_{10}–$PM_{2.5}$	Elemental Carbon	Organic Carbon
O_3, 10 A.M.–6 P.M.	0.77**	−0.23	0.30	0.13	0.14	0.10	−0.05	0.11
O_3		−0.60*	−0.22	−0.37	−0.39	−0.31	−0.48	−0.34
NO_2			0.83***	0.64*	0.77**	0.46	0.93***	0.58*
Acid vapor‡				0.79**	0.87***	0.63*	0.90***	0.74*
PM_{10}					0.95***	0.95***	0.86***	0.97***
$PM_{2.5}$						0.81**	0.93***	0.89***
PM_{10}–$PM_{2.5}$							0.71*	0.96***
Elemental carbon								0.81**

Definition of abbreviation: PM_{10} = particles with aerodynamic diameter less than 10 μm.
* $p < 0.05$.
** $p < 0.005$.
*** $p < 0.0005$.
† 24-hour average (unless otherwise noted) pollution level from 1996 to 1999.
‡ Acid vapor is the sum of nitric, formic, and acetic acid vapor concentrations.

TABLE 2. CHARACTERISTICS OF THE STUDY POPULATION

	No. of Subjects*	Mean No. of PFTs	Female Sex (%)	Race Distribution, %					Ever Asthma† (%)	No. of Hours Outdoors‡	
				White	Hispanic	Asian	Black	Other		Median	10th, 90th
Alpine	157	4.2	50	76	19	1	0	3	14	1.7	(0.8, 2.6)
Alascadero	144	4.3	44	74	17	1	1	8	18	1.4	(0.7, 2.4)
Lake Elsinore	139	4.2	53	55	32	4	1	6	13	1.4	(0.6, 2.4)
Lake Arrowhead	145	4.3	52	71	22	0	1	6	14	1.1	(0.4, 1.8)
Lancaster	159	3.8	52	51	30	3	10	6	16	1.4	(0.6, 2.3)
Lompoc	147	4.3	47	46	37	9	5	3	10	1.1	(0.3, 2.1)
Long Beach	133	4.2	44	33	22	14	23	8	15	1.2	(0.5, 2.3)
Mira Loma	125	4.3	51	40	54	2	1	2	15	1.2	(0.6, 2.1)
Riverside	126	4.3	55	41	39	1	11	8	8	1.4	(0.6, 2.6)
San Dimas	141	4.5	52	48	36	10	1	5	19	1.1	(0.3, 2.3)
Santa Maria	133	4.0	51	20	62	9	2	7	13	1.1	(0.5, 2.4)
Upland	129	4.4	50	66	18	9	5	3	12	1.2	(0.3, 2.0)
All	1,678	4.3	50	52	32	5	5	6	14	1.3	(0.5, 2.3)

Definition of abbreviation: PFT = pulmonary function test.
* Number of subjects with at least two PFTs from 1996 to 2000.
† Doctor-diagnosed asthma at baseline.
‡ Number of hours spent outdoors on weekdays between 3:00 P.M. and 6:00 P.M.; values are the median and the 10th and 90th percentiles.

Over the 4-year study period, FEV_1 increased at an average rate of 11.8% per year in the cohort, with equivalent growth rates in males and females. However, the average FEV_1 growth rates varied across the 12 communities, from 11.0 to 12.4%. Figure 1 shows a plot of the community-specific growth rates versus the corresponding 4-year average pollutant concentrations. There was a significant negative correlation between FEV_1 growth rates and acid vapor ($r = -0.55$, $p = 0.03$). The predicted growth rates, depicted by the plotted regression line, decreased from 12.1 to 11.5% across the range of observed acid concentrations. This absolute difference of 0.6% corresponds to a relative reduction of 5% in average FEV_1 growth rate for those exposed to the highest compared with those exposed to the lowest observed acid concentration (i.e., 0.6%/12.1%). Negative correlations were also observed between FEV_1 growth rates and the other pollutants, but none achieved statistical significance. Analogous plots are shown for MMEF growth in Figure 2. MMEF growth rates were negatively correlated with concentrations of acid vapor ($p = 0.005$), NO_2 ($p = 0.02$), $PM_{2.5}$ ($p = 0.05$), and EC ($p = 0.04$). The predicted MMEF growth rates declined from approximately 11.6 to 10.3% across the range of observed acid concentrations, with this absolute difference of 1.3% corresponding to a relative reduction of 11%.

Table 3 shows the estimated absolute differences in growth rates from the most to the least polluted community for the five PFT measures and for all pollutants. Although most pollutant-effect estimates were negative for FVC, none achieve statistical significance. The associations of FEV_1 and MMEF with acid vapor shown in Figures 1 and 2, respectively, also held for nitric and formic acids separately and to a smaller extent for acetic acid. The ratio MMEF/FVC was correlated with NO_2 ($p = 0.04$), acid vapor ($p = 0.02$), and nitric ($p = 0.01$) and formic acids ($p = 0.02$). Each pollutant-effect estimate for MMEF/FVC (e.g., −0.96% for acid vapor) was approximately equal to the difference between the corresponding pollutant-effect estimates for MMEF (e.g., −1.28%) and FVC (e.g., −0.33%). The predicted PEFR growth declined by 1.2% across the range of 10 A.M.–6 P.M. O_3 ($p = 0.006$). None of the PFT measures was significantly associated with 24-hour O_3, PM_{10}, PM_{10}–$PM_{2.5}$, or OC. Adjustment for indoor sources of air pollution, including a gas stove, any pet, a cat, a dog, or a tobacco-smoking parent in the home, did not alter any pollutant-effect estimate by more than 10% of its unadjusted values (data not shown). We therefore concluded that any differences among communities in the prevalence of these indoor sources of air pollution did not confound the ambient pollutant-effect estimates. Additionally, there was no significant evidence of pollutant-effect modification by sex, ethnicity, or asthma status. As an example of the similarity in pollutant-effect estimates by asthma status, the decline in FEV_1 growth rate across the observed range of acid vapor was 0.50% in individuals with asthma and 0.63% in individuals without asthma, a difference that was not statistically significant ($p = 0.75$).

In two-pollutant models for FEV_1, effect estimates for acid vapor remained negative after adjustment for any other pollutant (Table 4, third row). On the other hand, adjustment for acid (Table 4, third column) substantially changed the univariate estimates (Table 4, main diagonal) of all other pollutants except for O_3. Table 5 shows similar two-pollutant analysis of MMEF. Here again, estimates of the acid vapor–effect remained negative with adjustment for any other pollutant, whereas adjustment for acid altered the effect estimate of every other pollutant. For example, the estimated univariate NO_2 effect (−1.10%) dropped in magnitude (0.03%) and became nonsignificant with adjustment for acid. For both FEV_1 and MMEF, the only two-pollutant model in which both pollutants were statistically significant predictors of growth included 10 A.M.–6 P.M. O_3 and NO_2, indicating that these pollutants might each contribute independently to reduced lung function growth. For example, the estimated effects on MMEF from this two-pollutant model were −1.11% ($p = 0.02$) for O_3 (Table 5, row 1, column 2) and −1.31% ($p = 0.003$) for NO_2 (Table 5, row 2, column 1). In additional models, inclusion of an O_3-by-NO_2 interaction did not significantly improve model fit for either FEV_1 or MMEF.

The directions and magnitudes of pollutant effects observed in Cohort 2 were generally comparable to those observed in Cohort 1 (Table 6). As an example, for FEV_1, the acid-effect estimates in Cohorts 1 and 2 were −0.82% ($p = 0.01$) and −0.63% ($p = 0.03$), respectively, and the corresponding acid-effect estimates for MMEF were −1.16% ($p = 0.02$) and −1.28% ($p = 0.005$), respectively. For all combinations of PFT and pollutant shown in Table 6, we formally tested whether the pollutant-effect estimates were different between the two cohorts; no significant differences were detected.

In each cohort, the strength of the pollutant effects was greater in children who reported spending more time out-

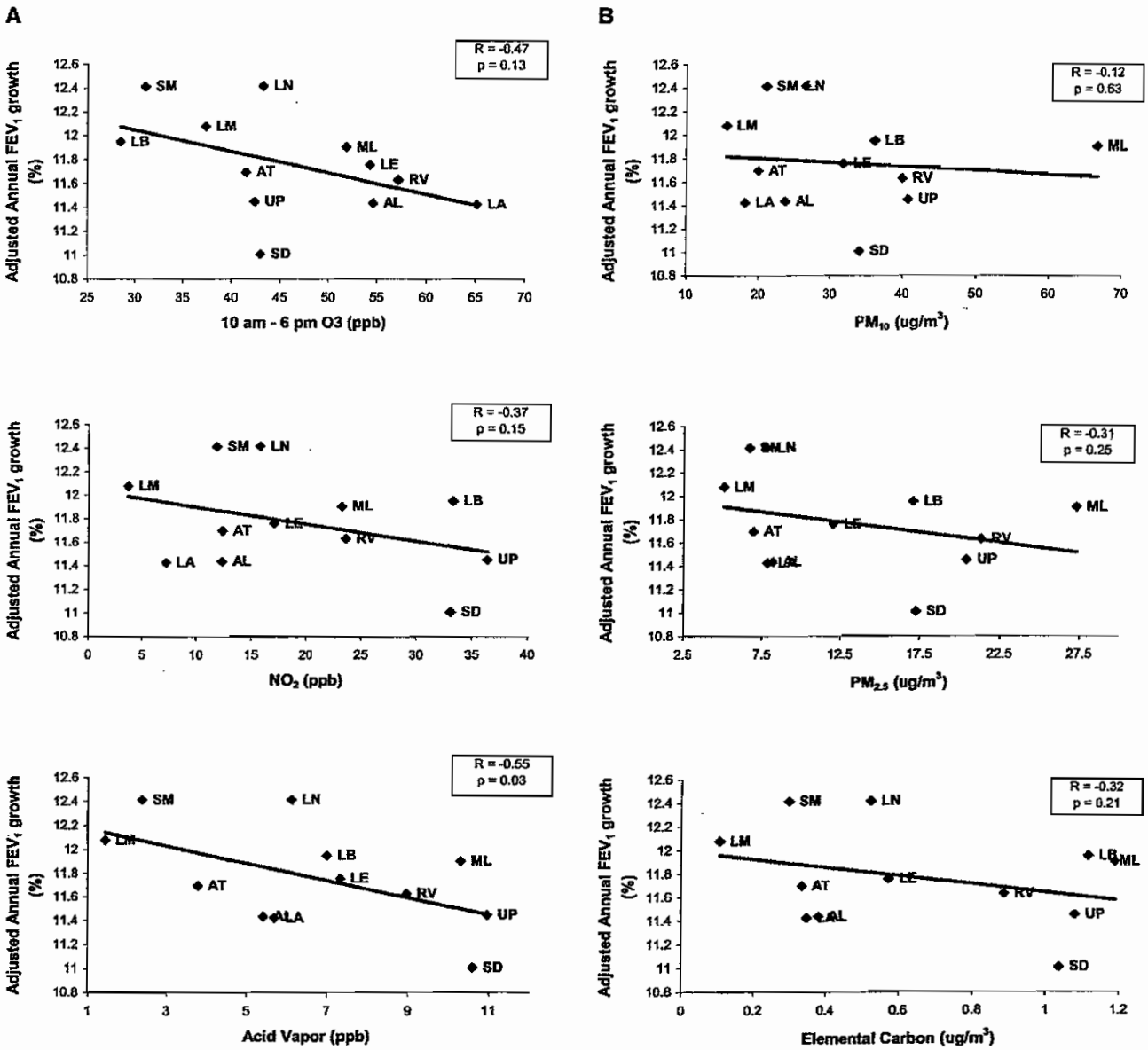


Figure 1. Adjusted average annual FEV_1 growth rates in the 12 communities versus the mean pollutant concentrations over the study period. AL = Alpine; AT = Atascadero; LE = Lake Elsinore; LA = Lake Arrowhead; LN = Lancaster; LM = Lompoc; LB = Long Beach; ML = Mira Loma; RV = Riverside; SD = San Dimas; SM = Santa Maria; UP = Upland.

doors (Table 7). For example, across the range of acid vapor, FEV_1 growth rates in the more-outdoors children declined by 1.1% in Cohort 1 ($p = 0.02$) and by 1.0% in Cohort 2 ($p = 0.002$). The corresponding declines in growth rate in the less-outdoors children were only 0.4% in Cohort 1 ($p = 0.18$) and 0.3% in Cohort 2 ($p = 0.45$). Several other statistically significant associations between PFT growth and pollutants were observed in the more-outdoors children, whereas no significant associations were observed in the more-indoors children.

DISCUSSION

The results, based on the second fourth-grade cohort from the CHS, provide further evidence that ambient levels of air pollution in southern California have a detrimental effect on lung function growth in children. These findings are in general agreement with the results that were based on the first fourth-grade cohort (1). Also replicated from the Cohort 1 analysis is the finding of larger pollutant effects in children who reported spending more time outdoors. The replication of a previous result and the observation of a larger health effect in those who were more exposed are results that support a causal association. Additional studies in other populations are needed to further assess causal relationships.

Across cohorts and lung function measures, we observed significant associations with several of the pollutants, including both particles and gases. Although the correlations among pollutants were generally high, some trends emerged from the analysis of the two cohorts. For example, fine particles ($PM_{2.5}$) and the EC portion of $PM_{2.5}$ generally showed stronger associations

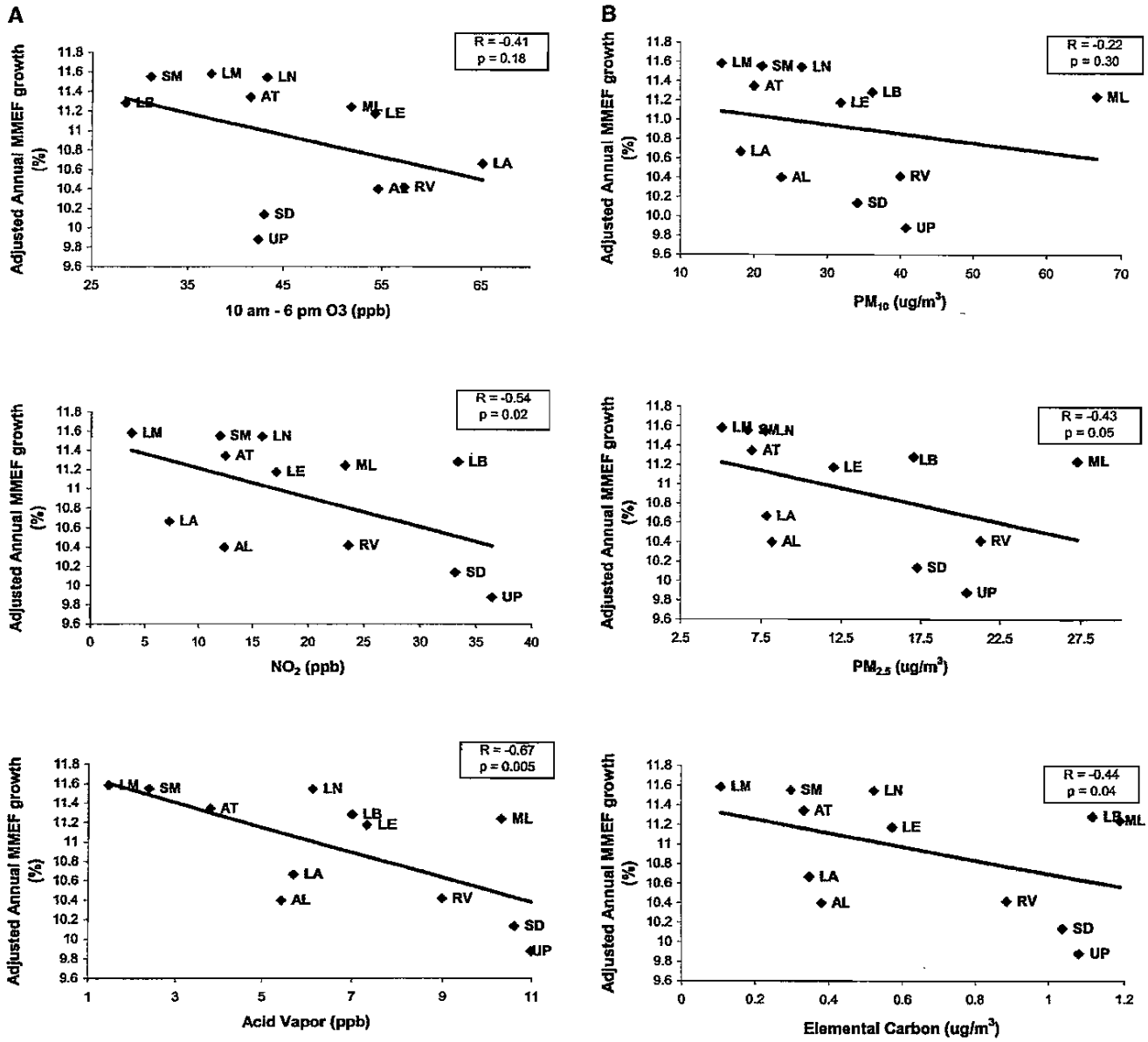


Figure 2. Adjusted average annual MMEF growth rates in the 12 communities versus the mean pollutant concentrations over the study period. AL = Alpine; AT = Atascadero; LE = Lake Elsinore; LA = Lake Arrowhead; LN = Lancaster; LM = Lompoc; LB = Long Beach; ML = Mira Loma; RV = Riverside; SD = San Dimas; SM = Santa Maria; UP = Upland.

with lung function growth than did PM_{10}, PM_{10}–$PM_{2.5}$, and OC. Associations with PM_{10} observed in Cohort 1 were not replicated in Cohort 2. For PM_{10}, as well as for PM_{10}–$PM_{2.5}$ and OC, Mira Loma had very high levels relative to the other communities (Figures 1 and 2). As an example of how this one community influenced the Cohort 2 results, elimination of Mira Loma from the analysis of MMEF changed the PM_{10}-effect estimate from −0.67% ($p = 0.30$, Table 3) to −2.32% ($p = 0.01$). However, we had no *a priori* reason to exclude Mira Loma from the analysis, and we therefore relied on the full 12-community analysis for our inferences. Of the gaseous pollutants, associations with acid vapor and NO_2 observed in Cohort 1 were replicated in Cohort 2. However, the associations observed with ozone in Cohort 2 were not previously observed in Cohort 1.

A major source of ambient EC in Southern California is the combustion of diesel fuel (11, 12). The observed associations with EC may therefore indicate a more general association between lung function and exposure to diesel exhaust particles. A previous study of children in the Netherlands also provided evidence of a relationship between diesel exhaust particles and reduced lung function. Specifically, reductions in FEV_1, MMEF, and PEFR were associated with exposure to two proxies for diesel emissions, including truck-traffic on nearby roads and levels of black smoke (13). Given that EC largely resides in the fine particle fraction of PM and thus is transported much like a gas, concentrations of EC in any given location will depend on a combination of both local and upwind sources of diesel exhaust particles.

Our finding of an association in Cohort 2 between ozone and PEFR, and between ozone and other lung function measures in children spending more time outdoors, also has some support from prior studies. In a study of Swiss children, expo-

TABLE 3. DIFFERENCE IN ANNUAL PERCENT GROWTH RATES FROM THE LEAST TO THE MOST POLLUTED COMMUNITY

Pollutant[§]	Differences in Growth Rate[†] FVC % (95% CI)	FEV_1 % (95% CI)	MMEF % (95% CI)	MMEF/FVC % (95% CI)	PEFR % (95% CI)
O_3, 10 A.M.–6 P.M.	−0.33 (−0.90, 0.24)	−0.55 (−1.27, 0.16)	−0.80 (−1.94, 0.36)	−0.44 (−1.39, 0.52)	−1.21 (−2.06, −0.36)[†]
O_3	−0.10 (−0.73, 0.54)	−0.17 (−1.00, 0.67)	−0.09 (−1.41, 1.24)	0.02 (−0.99, 1.04)	−0.65 (−1.77, 0.49)
NO_2	−0.23 (−0.76, 0.29)	−0.48 (−1.12, 0.17)	−1.10 (−2.00, −0.20)*	−0.88 (−1.71, −0.04)*	−0.17 (−1.18, 0.84)
Acid vapor	−0.33 (−0.82, 0.17)	−0.63 (−1.21, −0.05)*	−1.28 (−2.16, −0.40)[‡]	−0.96 (−1.77, −0.14)*	−0.74 (−1.62, 0.14)
Nitric	−0.36 (−0.84, 0.13)	−0.71 (−1.25, −0.17)[†]	−1.41 (−2.29, −0.53)[‡]	−1.06 (−1.87, −0.24)*	−0.76 (−1.62, 0.12)
Formic	−0.39 (−0.89, 0.11)	−0.70 (−1.28, −0.12)*	−1.41 (−2.32, −0.49)[‡]	−1.03 (−1.88, −0.18)*	−0.62 (−1.58, 0.35)
Acetic	−0.28 (−0.84, 0.28)	−0.56 (−1.24, 0.13)	−1.17 (−2.14, −0.20)*	−0.89 (−1.78, 0.02)	−0.80 (−1.77, 0.17)
PM_{10}	−0.03 (−0.68, 0.62)	−0.21 (−1.04, 0.64)	−0.67 (−1.92, 0.59)	−0.63 (−1.63, 0.38)	−0.42 (−1.60, 0.77)
$PM_{2.5}$	−0.14 (−0.67, 0.40)	−0.39 (−1.06, 0.28)	−0.94 (−1.87, 0.00)*	−0.78 (−1.62, 0.06)	−0.44 (−1.41, 0.55)
PM_{10}–$PM_{2.5}$	0.11 (−0.58, 0.80)	0.07 (−0.83, 0.98)	−0.19 (−1.60, 1.24)	−0.29 (−1.36, 0.08)	−0.30 (−1.57, 0.99)
EC	−0.17 (−0.67, 0.33)	−0.40 (−1.02, 0.23)	−0.92 (−1.78, −0.05)*	−0.74 (−1.53, 0.05)	−0.20 (−1.15, 0.76)
OC	0.01 (−0.67, 0.70)	−0.15 (−1.04, 0.75)	−0.55 (−1.90, 0.83)	−0.55 (−1.61, 0.52)	−0.36 (−1.62, 0.91)

Definition of abbreviations: CI = confidence interval; EC = elemental carbon; MMEF = maximal midexpiratory flow; OC = organic carbon; PEFR = peak expiratory flow rate.
* $p < 0.05$.
† $p < 0.01$.
‡ $p < 0.005$.
§ All pollutant-effect estimates are based on single-pollutant models. Differences in average annual percent growth rates are shown per increase in annual average of 36.6 ppb of O_3 (10 A.M.–6 P.M.), 39.8 ppb of O_3, 32.7 of NO_2, 9.5 ppb of acid vapor, 3.5 ppb of nitric acid, 1.8 ppb of formic acid, 5.0 ppb of acetic acid, 51.5 μg/m³ of PM_{10}, 22.2 μg/m³ of $PM_{2.5}$, 29.1 μg/m³ of PM_{10}–$PM_{2.5}$, 1.1 μg/m³ of EC, and 10.2 μg/m³ of OC.

sure to outdoor ozone was associated with significant reduction in peak flow after 10 minutes of heavy exercise (14). A similar study of children in the Netherlands observed a negative correlation between post-training peak flow and ozone on the day before the experiment, but it found no association with ozone concentration during exercise (15, 16). In a study of children with mild asthma in Mexico City, decreases in evening peak flow were associated with both same-day and previous-day concentrations of 1-hour maximum ozone (17). A number of summer camp studies, performed in different geographic locations by several research teams, have reported acute decrements in PEFR or FEV_1 associated with exposure to ambient O_3 (18–24). The longer-term effect of exposure to ambient ozone on children's lung function was investigated by Austrian researchers (2). They obtained repeated PFT over a 3-year period from children in nine Austrian cities and reported associations between ozone and reduced growth in FEV_1 and FVC. Collectively, these studies indicate that ozone might have both short- and long-term effects on children's lung function.

Of all the pollutants studied, acid vapor showed the most consistent effect on lung function growth in Cohort 2 and across both cohorts. There are some prior reports on the relationship between acid air pollutants and lung function, although the results are, in general, equivocal. Koenig and coworkers demonstrated reductions in pulmonary function after exposure to high concentrations of nitric acid (25) and with exposure to nitric or sulfuric acid in combination with oxidants (26). However, similarly conducted studies were unable to replicate these results (27, 28). A study of Dutch schoolchildren reported associations between pulmonary function in children and same-day concentrations of nitrous acid that exists in equilibrium with nitric acid (29). In a cross-sectional study of children in 24 North American cities, Raizenne and coworkers (30) showed decrements in FVC and FEV_1 with increased exposure to acid sulfate aerosol. No prior studies, though, have investigated the longitudinal effects of acid exposure on the developing lungs of children.

Acid vapor in our study was defined as the sum of nitric, formic, and acetic acids concentrations, each of which was individually associated with decreased lung function growth. The two-pollutant models in Cohort 2 indicated that adjustment for any other pollutant did not qualitatively change the estimated acid effect. Thus, it does not appear that the observed acid effect is simply due to its being correlated with another of the observed pollutants. In fact, the reverse is indicated, specifically that the univariate associations of other pollutants (e.g., NO_2, $PM_{2.5}$) with FEV_1 and MMEF may be

TABLE 4. DIFFERENCE IN ANNUAL FEV_1 PERCENT GROWTH RATES FROM THE LEAST TO THE MOST POLLUTED COMMUNITY, TWO-POLLUTANT MODELS

Main Pollutant[‡]	Adjustment Pollutant O_3 (10 A.M.–6 P.M.)	NO_2	Acid Vapor	PM_{10}	$PM_{2.5}$	EC
O_3, 10 A.M.–6 P.M	**−0.55**	−0.71*	−0.38	−0.54	−0.50	−0.57
NO_2	−0.62*	**−0.48**	0.21	−0.64	−0.44	−0.64
Acid vapor	−0.53	−0.80	**−0.63***	−1.34[†]	−1.27*	−1.43*
PM_{10}	−0.13*	0.29	1.10	**−0.21**	2.40*	0.91
$PM_{2.5}$	−0.33	−0.05	0.76	−2.26*	**−0.39**	0.01
EC	−0.42	0.16	0.86	−1.01	−0.41	**−0.40**

Definition of abbreviations: EC = elemental carbon; PM_{10} = particles with aerodynamic diameter less than 10 μm.
* $p < 0.05$.
† $p < 0.01$.
‡ Each row gives effect estimates for the indicated pollutant after adjustment for the pollutant listed at the top of the column. Boldface estimates are from the single-pollutant models shown in Table 3. *See* Table 3 footnote for the description of units.

TABLE 5. DIFFERENCE IN ANNUAL MMEF PERCENT GROWTH RATES FROM THE LEAST TO THE MOST POLLUTED COMMUNITY, TWO-POLLUTANT MODELS

Main Pollutant[§]	Adjustment Pollutant					
	O_3 (10 A.M.–6 P.M.)	NO_2	Acid Vapor	PM_{10}	$PM_{2.5}$	EC
O_3, 10 A.M.–6 P.M	**−0.80**	−1.11*	−0.40	−0.73	−0.65	−0.83
NO_2	−1.31†	**−1.10***	0.03	−1.30*	−0.96	−1.45*
Acid vapor	−1.18*	−1.31	**−1.28‡**	−2.33†	−2.14*	−2.44*
PM_{10}	−0.57	0.36	1.63	**−0.67**	3.98*	1.38
$PM_{2.5}$	−0.86†	−0.18	1.02	−3.97	**−0.94***	−0.20
EC	−0.94*	0.36	1.25	−1.85*	−0.74†	**−0.92***

Definition of abbreviations: EC = elemental carbon; MMEF = maximal midexpiratory flow.
* $p < 0.05$.
† $p < 0.01$.
‡ $p < 0.005$.
§ Each row gives effect estimates for the indicated pollutant after adjustment for the pollutant listed at the top of the column. Boldface estimates are from the single-pollutant models shown in Table 3. *See* Table 3 footnote for the description of units.

due to the correlation of these pollutants with acid vapor. However, we cannot rule out the possibility that some pollutant(s) we did not measure is responsible for the observed health effects and that acid vapor is simply our best marker of that pollutant or pollutant mixture. More specifically, acid vapor concentration may be our best indicator of downwind transport coupled with atmospheric chemical processes. This conjecture is supported by the observation that acid vapor is the pollutant we studied that most clearly distinguishes the four communities downwind of the greater Los Angeles area (Mira Loma, Riverside, San Dimas, Upland) from the remaining eight communities (*see* Figure E1 or Figure 1). Whether acid vapor is causally related to reduced lung function development or whether it is simply our best marker for another causative substance or mixture, this pollutant deserves further study.

Generally speaking, children in a community with high pollution will be more likely than children in a lower-pollution community to be exposed to short-term episodes of very high concentrations of pollutants. In southern California, concentrations of most of the pollutants we studied are highest in the afternoon hours, and therefore children who spend time outdoors during this time may receive a substantially higher dose to their lungs on a polluted day than children who remain indoors. At least 70% of the subjects reported having a home air conditioner in our polluted communities, a factor that can further increase the discrepancy between indoor and outdoor concentrations of ozone and some other pollutants. Prior reports, some of which have been summarized previously in this article, indicate that short-term exposure to high pollution can have acute effects on respiratory symptoms and lung function. A study of children in Poland has shown a link between repeated respiratory symptoms and reduced lung function growth (31). Our observations of reduced lung function growth with increasing annual average pollution level may thus be a consequence of repeated acute respiratory events after short-term increases in pollution levels. Our finding of larger deficits in children who reported spending more time outdoors in the afternoon adds some support to this possibility. However, additional study is needed to investigate the temporal relationship between acute respiratory events and lung function development.

In summary, the observed associations in this second fourth-grade cohort of the CHS generally replicated the findings from the first CHS fourth-grade cohort. Analysis of Cohort 2 showed the strongest associations with acid vapor. The observed pollutant-effect estimates were larger for MMEF than for the other PFT measures. This finding, in conjunction with significant associations between pollution and the volume-corrected measure, MMEF/FVC, indicates that long-term pollution exposure may affect the development of small airways in the lung. Further follow-up of CHS participants will allow determination of whether pollution-related deficits in lung function growth persist into adulthood, resulting in lower maximal attained lung function, and perhaps, leading to increased risk of respiratory illness.

TABLE 6. DIFFERENCE IN ANNUAL PERCENT GROWTH RATES FROM THE LEAST TO THE MOST POLLUTED COMMUNITY: COMPARISON OF COHORTS 1 AND 2

PFT	Pollutant†	Cohort 1 (*n* = 1,457‡, %, 95% CI)	Cohort 2 (*n* = 1,678‡, %, 95% CI)
FVC	O_3, 10 A.M.–6 P.M.	−0.22 (−0.77, 0.33)	−0.33 (−0.90, 0.24)
	NO_2	−0.46 (−0.92, 0.00)	−0.23 (−0.76, 0.29)
	Total acid	−0.55 (−0.97, −0.11)*	−0.33 (−0.82, 0.17)
	PM_{10}	−0.60 (−1.18, −0.01)*	−0.03 (−0.68, 0.62)
	$PM_{2.5}$	−0.42 (−0.86, 0.03)	−0.14 (−0.67, 0.40)
	EC	−0.49 (−0.88, −0.09)*	−0.17 (−0.67, 0.33)
FEV_1	O_3, 10 A.M.–6 P.M.	−0.32 (−1.14, 0.50)	−0.55 (−1.27, 0.16)
	NO_2	−0.66 (−1.34, 0.02)	−0.48 (−1.12, 0.17)
	Total acid	−0.82 (−1.44, −0.19)*	−0.63 (−1.21, −0.05)*
	PM_{10}	−0.94 (−1.78, −0.10)*	−0.21 (−1.04, 0.64)
	$PM_{2.5}$	−0.63 (−1.28, 0.02)	−0.39 (−1.06, 0.28)
	EC	−0.71 (−1.30, −0.12)*	−0.40 (−1.02, 0.23)
MMEF	O_3, 10 A.M.–6 P.M	−0.43 (−1.64, 0.80)	−0.80 (−1.94, 0.36)
	NO_2	−0.92 (−1.95, 0.12)	−1.10 (−2.00, −0.20)*
	Total acid	−1.16 (−2.12, −0.19)*	−1.28 (−2.16, −0.40)***
	PM_{10}	−1.41 (−2.61, −0.21)*	−0.67 (−1.92, 0.59)
	$PM_{2.5}$	−0.94 (−1.88, 0.01)	−0.94 (−1.87, 0.00)*
	EC	−1.07 (−1.94, −0.19)*	−0.92 (−1.78, −0.05)*
PEFR	O_3, 10 A.M.–6 P.M	−0.36 (−1.34, 0.63)	−1.21 (−2.06, −0.36)**
	NO_2	−0.82 (−1.62, −0.02)*	−0.17 (−1.18, 0.84)
	Total acid	−1.00 (−1.75, −0.25)**	−0.74 (−1.62, 0.14)
	PM_{10}	−1.27 (−2.15, −0.37)**	−0.42 (−1.60, 0.77)
	$PM_{2.5}$	−0.82 (−1.55, −0.09)*	−0.44 (−1.41, 0.55)
	EC	−0.89 (−1.57, −0.20)*	−0.20 (−1.15, 0.76)

Definition of abbreviations: CI = confidence interval; EC = elemental carbon; MMEF = maximal midexpiratory flow; PEFR = peak expiratory flow rate; PFT = pulmonary function test.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.005$.
† All pollutant-effect estimates are based on single-pollutant models. Differences in average annual percent growth rates are shown per increase in annual average of 36.6 ppb of O_3 (10 A.M.–6 P.M.), 39.8 ppb of O_3, 32.7 of NO_2, 9.5 ppb of acid vapor, 3.5 ppb of nitric acid, 1.8 ppb of formic acid, 5.0 ppb of acetic acid, 51.5 $\mu g/m^3$ of PM_{10}, 22.2 $\mu g/m^3$ of $PM_{2.5}$, 29.1 $\mu g/m^3$ of PM_{10}–$PM_{2.5}$, 1.1 $\mu g/m^3$ of EC, and 10.2 $\mu g/m^3$ of OC.
‡ Cohort 1 includes children enrolled in 1993 as fourth graders and followed through 1997. Cohort 2 includes children enrolled in 1996 as fourth graders and followed through 2000. The results shown for Cohort 2 are equivalent to those shown in Table 3.

TABLE 7. DIFFERENCE IN ANNUAL PERCENT GROWTH RATES FROM THE LEAST TO THE MOST POLLUTED COMMUNITY

		Cohort 1				Cohort 2			
		More Outdoors†		Less Outdoors		More Outdoors†		Less Outdoors	
		Difference in Growth‡		Difference in Growth		Difference in Growth‡		Difference in Growth	
PFT	Pollutant‡	%	*(95% CI)*	%	*(95% CI)*	%	*(95% CI)*	%	*(95% CI)*
FVC	O_3, 10 A.M.–6 P.M.	−0.02	(−0.70, 0.66)	−0.05	(−0.55, 0.45)	−0.69	(−1.26, −0.11)*	−0.07	(−0.93, 0.80)
	NO_2	−0.45	(−1.01, 0.12)	−0.14	(−0.63, 0.36)	−0.44	(−0.99, 0.12)	−0.15	(−0.92, 0.62)
	Acid vapor	−0.43	(−1.01, 0.15)	−0.25	(−0.75, 0.25)	−0.63	(−1.13, −0.13)*	−0.12	(−0.88, 0.64)
	PM_{10}	−0.35	(−1.10, 0.42)	−0.52	(−1.10, 0.07)	−0.44	(−1.11, 0.22)	0.32	(−0.60, 1.24)
	$PM_{2.5}$	−0.23	(−0.80, 0.35)	−0.32	(−0.76, 0.12)	−0.47	(−0.99, 0.06)	0.14	(−0.65, 0.93)
	EC	−0.43	(−0.94, 0.08)	−0.28	(−0.73, 0.16)	−0.44	(−0.94, 0.08)	0.01	(−0.73, 0.75)
FEV_1	O_3, 10 A.M.–6 P.M.	−0.31	(−1.44, 0.83)	−0.06	(−0.71, 0.60)	−0.83	(−1.66, 0.00)	−0.35	(−1.25, 0.56)
	NO_2	−0.96	(−1.83, −0.08)*	−0.36	(−0.97, 0.26)	−0.82	(−1.56, −0.08)*	−0.21	(−1.03, 0.61)
	Acid vapor	−1.10	(−1.94, −0.25)*	−0.44	(−1.07, 0.20)	−1.01	(−1.65, −0.38)***	−0.31	(−1.11, 0.49)
	PM_{10}	−1.12	(−2.24, 0.01)	−0.65	(−1.39, 0.09)	−0.63	(−1.60, 0.35)	0.20	(−0.80, 1.21)
	$PM_{2.5}$	−0.74	(−1.63, 0.14)	−0.49	(−1.05, 0.07)	−0.80	(−1.51, −0.08)*	−0.01	(−0.86, 0.84)
	EC	−0.97	(−1.72, −0.21)*	−0.40	(−0.97, 0.17)	−0.74	(−1.44, −0.03)*	−0.09	(−0.87, 0.71)
MMEF	O_3, 10 A.M.–6 P.M.	−0.67	(−2.54, 1.23)	0.28	(−1.09, 1.66)	−0.58	(−2.09, 0.95)	−0.97	(−2.52, 0.61)
	NO_2	−1.59	(−2.95, −0.20)*	−0.72	(−2.09, 0.66)	−1.48	(−2.84, −0.11)*	−0.51	(−1.92, 0.93)
	Acid vapor	−1.83	(−3.20, −0.43)*	−0.66	(−2.07, 0.76)	−1.35	(−2.65, −0.03)*	−0.99	(−2.28, 0.32)
	PM_{10}	−2.05	(−3.69, −0.37)*	−0.89	(−2.53, 0.78)	−0.54	(−2.14, 1.09)	−0.64	(−2.36, 1.12)
	$PM_{2.5}$	−1.46	(−2.70, −0.20)*	−0.71	(−1.96, 0.55)	−0.95	(−2.26, 0.39)	−0.74	(−2.16, 0.70)
	EC	−1.74	(−2.98, −0.49)**	−0.57	(−1.83, 0.70)	−1.03	(−2.29, 0.25)	−0.54	(−1.89, 0.82)
PEFR	O_3, 10 A.M.–6 P.M.	−0.94	(−2.48, 0.63)	0.31	(−0.79, 1.42)	−1.62	(−2.93, −0.29)*	−0.87	(−2.09, 0.37)
	NO_2	−1.42	(−2.52, −0.30)*	−0.36	(−1.46, 0.75)	−0.52	(−1.98, 0.96)	0.38	(−0.77, 1.55)
	Acid vapor	−1.74	(−2.82, −0.66)***	−0.32	(−1.45, 0.82)	−1.27	(−2.51, −0.01)*	−0.01	(−1.18, 1.17)
	PM_{10}	−1.81	(−3.11, −0.49)**	−0.87	(−2.19, 0.46)	−0.71	(−2.41, 1.03)	0.22	(−1.21, 1.66)
	$PM_{2.5}$	−1.33	(−2.34, −0.31)*	−0.47	(−1.47, 0.54)	−0.73	(−2.12, 0.69)	0.13	(−1.08, 1.35)
	EC	−1.36	(−2.34, −0.37)**	−0.41	(−1.42, 0.61)	−0.52	(−1.88, 0.86)	0.41	(−0.69, 1.52)

Definition of abbreviations: CI = confidence interval; EC = elemental carbon; MMEF = maximal midexpiratory flow; PEFR = peak expiratory flow rate; PFT = pulmonary function test.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.005$.

† More/less outdoors is based on reported time spent outdoors during weekday afternoons. Subjects were split into the two groups on the basis of the median of reported time outdoors with each cohort.

‡ All pollutant-effect estimates are based on single-pollutant models. Differences in average annual percent growth rates are shown per increase in annual average of 36.6 ppb of O_3 (10 A.M.–6 P.M.), 39.8 ppb of O_3, 32.7 of NO_2, 9.5 ppb of acid vapor, 3.5 ppb of nitric acid, 1.8 ppb of formic acid, 5.0 ppb of acetic acid, 51.5 μg/m³ of PM_{10}, 22.2 μg/m³ of $PM_{2.5}$, 29.1 μg/m³ of PM_{10}–$PM_{2.5}$, 1.1 μg/m³ of EC, and 10.2 μg/m³ of OC.

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The Effects of Ambient Air Pollution on School Absenteeism Due to Respiratory Illnesses

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We investigated the relations between ozone (O_3), nitrogen dioxide (NO_2), and respirable particles less than 10 μm in diameter (PM_{10}) and school absenteeism in a cohort of 4th-grade school children who resided in 12 southern California communities. An active surveillance system ascertained the numbers and types of absences during the first 6 months of 1996. Pollutants were measured hourly at central-site monitors in each of the 12 communities. To examine acute effects of air pollution on absence rates, we fitted a two-stage time-series model to the absence count data that included distributed lag effects of exposure adjusted for long-term pollutant levels. Short-term change in O_3, but not NO_2 or PM_{10}, was associated with a substantial increase in school absences from both upper and lower respiratory illness. An increase of 20 ppb of O_3 was associated with an increase of 62.9% [95% confidence interval (95% CI) = 18.4–124.1%] for illness-related absence rates, 82.9% (95% CI = 3.9–222.0%) for respiratory illnesses, 45.1% (95% CI = 21.3–73.7%) for upper respiratory illnesses, and 173.9% (95% CI = 91.3–292.3%) for lower respiratory illnesses with wet cough. The short-term effects of a 20-ppb change of O_3 on illness-related absenteeism were larger in communities with lower long-term average PM_{10} [223.5% (95% CI = 90.4–449.7)] compared with communities with high average levels [38.1% (95% CI = 8.5–75.8)]. Increased school absenteeism from O_3 exposure in children is an important adverse effect of ambient air pollution worthy of public policy consideration. (Epidemiology 2001;12:43–54)

Keywords: air pollution, ozone, respiratory illnesses and children, school absenteeism.

Ambient air pollutants including ozone (O_3), nitrogen dioxide (NO_2), and respirable particles less than 10 μm in diameter (PM_{10}) contribute to the occurrence of respiratory symptoms and diseases including increased occurrence and severity of symptoms, transient changes in lung function, and increased respiratory infections, more visits to physicians and emergency rooms and increased hospital admissions, and changes in lung function and increased mortality.[1–5] Consideration of a broader group of outcomes, such as school absenteeism, provides a more comprehensive assessment of the adverse impact of ambient air pollution.[6,7]

Illness-related school absenteeism is an important but insufficiently studied outcome in children, a group identified as especially sensitive to the adverse effects of ambient air pollution.[8] Illness-related absences are common events that represent a broad spectrum of morbidity from mild transient illnesses to the most severe and prolonged illnesses that require emergency room visits or hospital admissions.[9] Although most absences are associated with illnesses at the low end of the morbidity spectrum, an absence indicates an illness of sufficient severity to affect the child's daily functioning, as well as child and family coping strategies.[9–13]

Population-based studies show that absence rates vary by school, age, grade, and gender, and are affected by family structure, function, and other social factors.[14,15] Although the non-health-related influences on absenteeism limit its usefulness as a measure of the adverse effects of air pollution, the majority of school absences are illness related and attributable to either respiratory infections or gastroenteritis, suggesting that illness is the dominant factor for school absenteeism.[10,14] Because the

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effects of air pollution on school absences are likely to be due to increases in respiratory illnesses, respiratory illness-related absenteeism can be an important and relatively specific integrative outcome for the assessment of the effects of air pollution on children.

Most research on the effects of air pollution on children's health has focused on self-reported symptoms, indices of respiratory infections derived from clinical visits, medical records reviews, and lung function as outcome measures.[6,16] Few studies have examined the effects of ambient air pollution on school absenteeism, and none has examined the effects on respiratory-related absences in school-aged children residing in communities with large variations in pollutant levels.

The Children's Health Study (CHS) offers an opportunity to investigate the effects of three ambient pollutants, O_3, PM_{10}, and NO_2, on school absenteeism with a focus on respiratory illness-related absences.[17] We conducted a substudy within the CHS cohort, the Air Pollution and Absence Study, and examined data on type-specific absence incidence collected by an active surveillance system for a cohort of 4th-grade school children 9–10 years of age who attended schools in the 12 CHS study communities during January through June 1996.

Subjects and Methods

Study Design

The CHS is a 10-year longitudinal study that includes school children who reside in 12 communities within a 200-mile radius of Los Angeles that were selected to represent the broadest range in concentration of the ambient pollutants of interest. Details on the design, site selection, subject recruitment, and assessment of health effects are reported elsewhere.[17] In this report, we focus on school absences among 2,081 children in the 4th grade during the first 6 months of 1996.

Participant Characteristics

Sociodemographic information, indoor exposures, and medical histories were obtained from questionnaires completed by parents or guardians at study entry in the fall of 1995. Environmental tobacco smoke (ETS) exposure was classified as exposure to a current household smoker or not. The subset of participants with asthma was defined using parent-reported history of physician-diagnosed asthma. Children with wheezing were defined as having any lifetime history of wheezing. Information regarding the number of hours spent outdoors over a 1-week period was collected by self-administered questionnaire. Children were stratified into "more outdoors" or "less outdoors" groups on the basis of whether they were above or below the median number of hours spent outside (11.25 hours).

Absence Surveillance

We collected school absence reports from the 27 elementary schools attended by the newly recruited 4th-grade children for the period January 1 through June 30, 1996. Of the 2,081 children in the 4th-grade group, 2,068 were eligible for the absence surveillance because they were enrolled in the CHS at the beginning of the surveillance period. Of these 2,068 children, we excluded 135 from the analysis for the following reasons: 32 withdrew from the study, 90 changed schools during the study period, and 13 did not have absence data because of administrative errors.

Daily absence information was collected using two methods depending on school confidentiality policies. In 12 schools, attendance reports for entire classrooms were collected, and study staff identified absences for participating students. In the remaining 15 schools, school staff members supplied subject-specific absence reports based on lists of subjects provided to them at the beginning of the surveillance period. Study staff requested that absence reports be completed every 2–4 weeks, with the interval depending on the availability of personnel and electronic data systems at individual schools. We defined an absence as a day or an adjacent series of school days in which a participant did not attend school when the school was in session. Over the period of study, we ascertained 8,971 absences.

We established an active surveillance system to collect information about the reasons for absences; we categorized absences as illness-related and non-illness-related (these included injuries) and classified illness-related absences into gastrointestinal (GI) and respiratory categories. School reports classified absences with nonstandard codes including indicators for non-illness-related absences. Non-illness-related absences were not investigated by telephone interviews. Using school reports, study staff assigned daily absence reports to one of two categories: (1) non-illness related and (2) potentially illness related. To ensure adequate parental recall of events associated with the absence of interest, interviews were conducted only for absences that were reported within 4 weeks of occurrence. Of the 3,294 absences reported within 4 weeks, 536 were classified as non-illness absences on the basis of school reports, and 2,758 absences required telephone follow-up.

Telephone interviews were conducted in English or Spanish by trained interviewers using a standardized protocol. Parents were contacted after each absence that was reported within 4 weeks to inquire whether the absence was illness related and if so, what the symptoms were; what the physician diagnoses were, if any; and what medications were used for the reported illness. The interviewers used a list of symptoms to categorize respiratory illnesses (runny nose and sneezing, fever, sore throat, cough, wet cough, dry cough, earache, wheezing, and asthma attack) in addition to stomach problems; head and muscle aches with fatigue; rash or skin problems; watery, itchy, or burning eyes; allergies; and other symptoms. Repeat interviews were conducted for approximately 5% of absences for quality-control purposes.

Each illness-related absence was classified as respiratory or nonrespiratory on the basis of the reported symptoms. We defined a respiratory illness as an illness that included one or more of the following symptoms: runny

nose/sneezing, sore throat, cough (any, wet, or dry), earache, wheezing, or asthma attack. Respiratory absences were further classified into non-mutually exclusive categories of upper respiratory illness and/or as one of two types of lower respiratory illness (LRI): LRI with wet cough or LRI with wet cough/wheeze/asthma. We defined an upper respiratory illness as a respiratory illness with one or more of the following symptoms: runny nose/sneezing, sore throat, and earache. GI illnesses included illnesses with "stomach problems" such as vomiting and diarrhea as one of the reported symptoms.

Absence Incidence Rates

We categorized each absence day as an incident or prevalent absence day using absence reports and school calendars to identify the days each school was in session. We defined an incident absence as an absence that followed attendance on the preceding school day. We defined a prevalent absence day as an absence that occurred after an absence on the preceding school day. The date of an absence occurrence was assigned to the incident day of each series of absence days.

We used the daily number of incident absences in each community and the corresponding daily number of children at risk for an absence in each community to calculate daily community-specific incident absence rates. We defined the number of students attending a school as the number of participants enrolled in a school on a day that the school was in session less the number of prevalent absences. We calculated daily community-specific incidence rates of absence by pooling the data from the reporting schools in each community and dividing the community-specific number of incident absences by the number of students attending schools in that community on the day of interest. The average incidence rate for school absences was computed for each community by averaging daily rates and for the entire cohort by averaging across days and communities. Stratified rates (for example, by asthma status) were calculated by identifying the number of absences and number of students at risk within each stratum and calculating daily community-specific rates and average rates as described.

On the basis of data collected by the active surveillance system, absences were divided into three mutually exclusive outcomes: non-illness-related absences, illness-related absences, and absences of unknown type (due to failure to obtain necessary classification information). Because some absences were of unknown type, the type-specific absence incidence rates were adjusted for ascertainment failure. To adjust the type-specific incident absence rates, we calculated a daily community-specific information success ratio, which we defined as the daily proportion of timely absence reports in each community for which sufficient information was obtained to assign the absence as illness related or non-illness related. This success ratio was then smoothed over time using a very rough smoother (using 10 degrees of freedom). The smoothing was intended to reduce the random fluctuation due to the limited number of events on each day within a community but in such a way that it did not substantially alter the overall trend in the data or the observed values. A symptom-specific incidence rate corrected for ascertainment is of the form: (number of incident cases)/(number at risk × smoothed success ratio).

Assessment of Air Pollution Levels

Levels for O_3, PM_{10}, and NO_2 were measured continuously with hourly averaging at central-site monitors in each of the 12 communities.[18] We calculated the daily 1-hour maximum O_3, the 24-hour average of O_3, and the 10 am–6 pm average of O_3, as well as the 24-hour averages of PM_{10} and NO_2. We focused on the 10 am–6 pm average of O_3 because it is an index of exposure during the temporal peak of ozone and outdoor activity. The 24-hour averages of PM_{10} and NO_2 were used because they lack the temporal peak exhibited by O_3. The monitoring program also reported daily 24-hour average, 24-hour maximum, and 24-hour minimum temperatures at each of the 12 monitoring locations. To assess the effects of long-term average levels of O_3, PM_{10}, and NO_2 on acute effects, we divided communities into high and low groups for each pollutant on the basis of its ranking on average levels for 1995. The high and low groups included the same communities for PM_{10} and NO_2.

Statistical Methods

To examine acute effects of each air pollutant on the rate of absences, we fitted a two-stage time-series model to the absence count data.[19–23] Letting $\mu_c(t)$ denote the expectation of these absence counts and $R_c(t)$ denote the number of children at risk in community c on day t, the first-stage Poisson log-linear model has the form

$$\text{Stage 1: } \ln[\mu_c(t)] = \ln(R_c(t)) + s(t) + b_c + d_c[X_c(t) - X_c] + \gamma Z_c(t)$$

where b_c denotes the average absence rate in community c, adjusted for the effects of time-dependent covariates $Z_c(t)$ (for example, temperature, day of the week), and d_c is the within-community slope of the regression of change in daily absence rates with change in daily pollution $X_c(t)$ centered at the 6-month average for the study period X_c. The centering assumes a log-linear relation between the pollutants and absences. Here, $s(t)$ denotes a smooth function of time to account properly for autocorrelation and long- and short-term time trends in the multiple time series of counts. We use 5 degrees of freedom for the 6-month period to remove any temporal cycles of up to 2 weeks.[20] The first-stage model was also adjusted for day of the week (with Friday as the reference day) and temperature (24-hour average, daily minimum, and daily maximum). The offset term, $R_c(t)$, in the Poisson model was adjusted by using a smoothed version of the success ratio as described above.

Because the effects of pollutant exposure on a given day are likely to occur over several days, we fit models

that allowed acute effects to be distributed over time. To account for a lag structure of the pollution effect, we modified the first-stage model by including community-specific polynomial distributed lag terms[24–27] leading to a model of the form:

$$\ln[\mu_c(t)] = \ln[R_c(t)] + s(t) + b_c + \gamma Z_c(t) + \Sigma_k g_{ck} \Sigma_j [X_c(t-j) - X_c] j^k$$

where $j = 1, ..., L$, $d_{cj} = \Sigma_k g_{ck} j^k$, and $k = 0, ..., D$, implying that the effects of each of the previous L days are distributed over subsequent days following a polynomial function of degree D. Appropriate values for L and D are optimally selected by comparing the Akaike Information Criterion[22,28] of the models based on a grid of L and D values assuming the same D and L values for all communities. This assumption is based on biological considerations indicating that the effects of pollutants should have the same lag structure in different communities in the Los Angeles region. The quantity $d_{cj} = \Sigma_k g_{ck} j^k$ is then interpretable as the polynomially smoothed estimate of the effect of air pollution on lagged j days, and their sum $d_c = \Sigma_j d_{cj}$ is the overall effect of pollution over the entire lag period. The estimates of d_{cj} and their variance estimates are then recovered through the explicit relation between d_{cj} and g_{ck}.[26]

The first-stage regression is followed by an ecologic linear regression model given by:

$$\text{Stage 2: } d_c = \delta_0 + \delta X_c + \eta_c$$

The stage 2 regression takes the sum of the lagged community-specific effects, d_c, and the appropriate variance estimates from stage 1. The parameter δ_0, the mean of the within-community slopes d_c, serves as an aggregated acute-effect estimate and is the quantity of primary interest for testing acute effects of air pollutants. Because long-term pollution levels may affect responses to acute changes in exposure level, the stage 2 model includes long-term average levels of any of the pollutants of interest and allows modification of the community-specific slopes for the acute effects by long-term average pollution levels. The parameter δ characterizes the modifying effect of the long-term average pollution levels on the relation between change in absences and change in daily within-community pollution levels. Note that we use the deviation of the daily exposure values, $X_c(t)$, from X_c in the first-stage model to make the within- and between-community comparisons of pollution effects independent. The second-stage "ecologic" regression is weighted by the inverses of the variances of d_c.

Using this framework, we fitted separate models for three pollutants; O_3 (24-hour average, daily maximum, and 10 am–6 pm daily average), PM_{10} (24-hour average), and NO_2 (24-hour average). To account for effects of long-term ambient pollutant levels, regression models were fitted and the overall summary of acute effect of a pollutant across communities was estimated, adjusted for the 1995 community-specific average levels of a pollutant. The estimate of δ_0 provides an overall summary of the acute effects from January through June 1996, adjusted for 1995 average levels of pollution or any other community-specific ecologic factor.

To assess further whether long-term average pollutant levels modify the acute effects of a pollutant, stratified models were fit using categories of high- and low-pollution communities. For any given number of strata, S, the stage 2 model becomes $d_c = \delta_{0s} + \eta_c$, where $s = 1, \ldots S$ and summary estimates are obtained as above. Strata of communities were formed on the basis of rankings using 1995 average pollution levels. We divided communities into high and low based on long-term average levels of O_3 and PM_{10} or NO_2.

Results

The distribution of sociodemographic characteristics, medical conditions, ETS exposure, and outdoor activity varied among the communities (Table 1). The average daily incidence rate for all types of absences combined was 3.07 per 100 student-days based on an average daily attendance of 1,502 students (Table 2). Average daily absence rates were highest in Lake Gregory and lowest in Upland. Although the method of absence reporting by schools varied by community (Table 1), the method of school attendance reporting did not appear to have a large influence on incidence rates.

The subset of absences that was reported in a timely enough manner to be eligible for the active surveillance system was an unbiased sample of absences occurring on all days (Table 2). The distribution of determinants of absences and the average daily rates for all types of absences on days that were reported within 4 weeks did not differ substantially from the distribution and average rates on days ascertained over the period of study. The crude average daily rates per 100 participants were 1.07 for non-illness-related absences, 1.34 for illness-related absences, and 0.61 for absences of unknown type (Table 3). The daily information success ratio averaged 0.81, and exceeded 0.72, for all subgroups.

The ascertainment-adjusted daily rate for illness-related absences was higher than for non-illness-related absences for all participants combined (Table 4). Lake Gregory had the highest adjusted daily rate for illness-related absences, and Long Beach had the lowest rate. Illness-related absences were primarily due to respiratory illnesses, most of which had upper respiratory symptoms (Table 4). Adjusted daily rates of absences for respiratory illness, upper respiratory illness, LRI with wet cough/wheeze/asthma, and LRI with wet cough varied among communities and among ethnic and education groups. Rates of absences for respiratory illness and upper respiratory illness were twice as high in Lake Gregory compared with rates in Long Beach. Children with asthma, wheezing, and ETS exposure had higher absence rates for all categories of respiratory illness than children without asthma, wheezing, or ETS exposure. Adjusted absence rates for GI illness did not vary as substantially as rates for respiratory illness by children's asthma status, wheezing status, or ETS exposure (Table 4). Absences

TABLE 1. Percentage Distributions of Sociodemographic Characteristics and Selected Medical History and Exposures among Participants, Air Pollution, and Absence Study, January through June 1996

Community Reporting	N	Males	Race/Ethnicity					Parent Education*				Conditions				Reporting Method†	
			White	Hispanic	African American	Asian	Other Race	<12th Grade	12th Grade	Some College/ Technical School	4 Years College	Postgraduate	Asthma	Wheeze	ETS	Outdoor Activity >11.25 Hours	Subject-Specific Reporting	Whole Grade
Alpine	177	49.7	73.4	20.9	0	0.6	4.5	7.9	20.3	49.2	10.7	9.0	13.6	33.9	16.4	57.6	0	100.0
Lake Elsinore	171	47.4	52.0	33.9	2.3	2.9	6.4	18.1	21.1	38.0	11.1	4.1	11.1	31.6	21.1	45.0	45.6	54.4
Lake Gregory	164	52.4	71.3	22.0	0.6	0	5.5	9.8	19.5	50.6	7.3	8.5	14.6	35.4	29.9	29.9	24.4	75.6
Lancaster	176	47.2	49.4	31.3	10.8	2.3	5.1	17.6	18.2	44.9	6.8	8.0	16.5	34.7	24.4	52.3	100.0	0
Lompoc	166	49.4	44.0	36.1	6.6	9.0	4.2	12.7	19.3	48.8	9.6	5.4	10.8	29.5	19.9	33.1	34.3	65.7
Long Beach	158	54.4	32.3	23.4	21.5	13.9	8.2	10.8	19.6	39.2	13.3	12.0	13.9	27.8	20.3	38.0	66.5	33.5
Mira Loma	152	48.0	40.8	52.6	2.0	1.3	2.6	27.0	24.3	31.6	7.9	1.3	14.5	34.2	24.3	42.8	100.0	0
Riverside	152	49.3	40.1	40.8	10.5	1.3	5.9	15.1	23.0	32.9	9.2	17.1	11.8	26.3	12.5	52.6	0	100.0
San Dimas	162	48.8	48.8	35.2	1.9	8.6	5.6	6.2	15.4	53.7	10.5	9.3	18.5	30.9	17.3	38.9	0	100.0
Atascadero	157	56.1	72.6	17.2	1.9	1.3	7.0	4.5	17.8	50.3	8.9	17.2	19.7	43.3	13.4	50.3	0	100.0
Santa Maria	156	49.4	22.4	62.8	0.6	7.1	3.2	21.2	22.4	30.8	7.1	5.1	12.2	19.2	12.8	34.6	100.0	0
Upland	144	47.2	66.7	17.4	4.2	7.6	4.2	2.1	7.6	46.5	22.9	20.8	11.8	27.8	8.3	34.0	100.0	0
Total	1,935	49.9	51.4	32.7	5.2	4.6	5.2	12.8	19.1	43.2	10.3	9.7	14.1	31.3	18.6	42.6	46.9	53.1

ETS = environmental tobacco smoke.
* Refers to parent/guardian who completed the subject's baseline questionnaire.
† Reporting methods included schools that provided lists of whole grades and those that provided study subject-specific reports.

due to GI illness showed a different pattern among ethnic groups and communities from that of respiratory illnesses, with Alpine having approximately 2.5-fold higher rates than Santa Maria and Long Beach.

Air Pollution

The patterns of O_3, NO_2, and PM_{10} varied markedly within and among the communities (Figure 1). The average 10 am–6 pm ozone was highest in Riverside and lowest in Long Beach. The communities with the largest daily variations were Mira Loma, Riverside, and San Dimas, with daily levels ranging from lower than the levels observed in unpolluted regions to greater than 150 ppb.

The 24-hour average PM_{10} varied by approximately the same magnitude as O_3; however, several of the towns with the higher O_3 had lower PM_{10} (Figure 1). Mira Loma had the highest level and largest range in 24-hour average PM_{10}, and several communities had median levels below 20 $\mu g/m^3$. The 24-hour average NO_2 levels varied among the communities, and some communities (Lake Gregory and Lompoc) had very low levels (Figure 1). Long Beach, which had low O_3, had comparatively high NO_2. Lompoc, Santa Maria, and Atascadero had lower levels of all three of the pollutants of interest. The communities showed a large range of long-term average pollutant levels on the basis of 1995 pollution levels (Table 5). The same six communities were in the high stratum for both NO_2 and PM_{10}.

Time-Series Regression

We found that a 30-day lag period with a cubic polynomial-constrained distributed lag model best described the data for all absences, non-illness-related absences, and respiratory absences for all three pollutant metrics of interest. A 15-day lag period provided the best fit for upper and lower respiratory absences for all three of the pollutant metrics.

Ozone

Average O_3 for 10 am–6 pm was strongly associated with illness-related absences and especially respiratory absences. The summary estimates of the percentage increase in absence rates associated with O_3 on each of the 30 lag days are shown scaled to a 20-ppb change in O_3, a change that is less than the smallest range in any of the 12 communities during the 6-month period of study (Figure 2). The acute effects of O_3 were increased at a 3-day lag, peaked at a 5-day lag, and subsequently showed a slow decrease. Overall estimates of the effect of acute change in O_3 on absences are obtained by summing the area under the distributed lag curve over the 30-day lag period. Daily 1-hour peak O_3 produced the same overall results as analyses using the 10 am–6 pm average O_3.

A 20-ppb increase in O_3 was associated with a 62.9% absence rate increase for illness, 82.9% increase for respiratory illnesses, 45.1% increase for upper respiratory illnesses, 173.9% increase for LRI with wet cough, and

TABLE 2. Average Daily Absence Incidence Rates per 100 Children-Days and Average Number of Children at Risk per Day on All Days and Days with Active Surveillance for Type of Absence by Selected Participant Characteristics, Air Pollution and Absence Study, January through June 1996

	All Days			Active Surveillance Days		
	Absence Rate/100	Average No. Children at Risk/Day	%	Absence Rate/100	Average No. Children at Risk/Day	%
All	3.07	1,502.2	100.0	3.02	996.4	100.0
Sex						
Females	3.08	751.2	50.0	3.10	500.9	50.3
Males	3.06	751.0	50.0	2.93	495.4	49.7
Ethnicity/race						
Missing	2.40	12.5	0.8	2.04	8.0	0.8
White, non-Hispanic	3.13	776.5	51.7	3.10	498.7	50.1
Hispanic	3.16	483.1	32.2	3.20	327.6	32.9
Black (African-American)	1.84	82.0	5.5	2.02	61.7	6.2
Asian/Pacific Isle	2.00	71.2	4.7	1.29	50.2	5.0
Other	3.62	78.1	5.2	3.89	51.0	5.1
Education of signer						
Missing	3.14	71.2	4.7	2.97	45.1	4.5
<12th grade	3.59	182.5	12.1	3.73	124.9	12.5
12th grade	3.25	287.2	19.1	3.19	189.9	19.1
Some college/technical school	3.16	651.4	43.4	3.05	426.9	42.8
4 years of college	2.45	159.2	10.6	2.96	110.0	11.0
Postgraduate	2.39	150.8	10.0	2.35	99.9	10.0
Community						
Alpine	3.23	158.6	10.6	3.22	116.0	11.6
Lake Elsinore	3.78	109.3	7.3	3.82	93.6	9.4
Lake Gregory	4.34	129.1	8.6	4.36	105.3	10.6
Lancaster	3.06	128.4	8.5	3.10	90.3	9.1
Lompoc	2.84	151.4	10.1	3.17	106.1	10.7
Long Beach	2.35	149.7	10.0	2.37	124.2	12.5
Mira Loma	3.30	149.5	10.0	3.35	143.1	14.4
Riverside	2.97	151.5	10.1	2.94	143.8	14.4
San Dimas	2.80	159.7	10.6	2.50	86.0	8.6
Atascadero	2.82	134.6	9.0	3.06	103.7	10.4
Santa Maria	2.83	112.9	7.5	2.57	83.0	8.3
Upland	2.29	143.0	9.5	2.36	114.6	11.5
Diagnosed asthma						
Missing	3.15	45.4	3.0	3.24	30.5	3.1
No	2.98	1,243.3	82.8	2.94	827.1	83.0
Yes	3.65	213.5	14.2	3.61	138.7	13.9
Reported wheeze						
Missing	2.55	89.6	6.0	2.73	61.3	6.2
No	2.88	943.2	62.8	2.81	630.2	63.2
Yes	3.55	469.4	31.2	3.55	304.9	30.6
Any ETS						
Missing	3.17	49.7	3.3	3.02	32.8	3.3
No	2.93	1,181.0	78.6	2.86	786.4	78.9
Yes	3.67	271.5	18.1	3.72	177.2	17.8
7-day outdoor activities						
Missing	3.66	174.2	11.6	3.61	117.2	11.8
≤11.25 hours	3.04	863.3	57.5	3.03	580.0	58.2
>11.25 hours	3.10	638.9	42.5	3.00	416.4	41.8
School report method						
Whole grade	3.19	793.4	52.8	3.03	464.0	46.6
Participants	3.12	721.2	48.0	3.08	545.8	54.8

ETS = environmental tobacco smoke.

68.4% increase for LRI with wet cough/wheeze/asthma (Table 6). To determine the sensitivity of our estimates to the amount of smoothing used to remove seasonal variation, we refitted the models using 3 degrees of freedom and found that the estimates were essentially unchanged. For example, the effect of ozone on respiratory absences changed from an 82.9% increase to an 81.3% increase. Ozone-related increases in all absences and illness-related absences were larger in communities with lower levels of NO_2 or PM_{10} than in communities with higher levels of NO_2 or PM_{10} (Table 7). The acute effects of O_3 on respiratory illness-related absenteeism were also larger in communities with lower long-term average PM_{10} (454.9%) compared with communities with high average PM_{10} (42.9%).

PM_{10} AND NO_2

Daily 24-hour PM_{10} was associated with all absences (Table 6). However, increased daily PM_{10} was only associated with increases in non-illness-related absences. A change of 10 $\mu g/m^3$ in PM_{10} was associated with a 22.8% increase in all types of school absences combined and with a 97.7% increase in non-illness-related ab-

TABLE 3. Average Crude Daily Absence Incidence Rates per 100 Children-Days and Performance Characteristics of the Active Surveillance System by Selected Participant Characteristics, Air Pollution and Absence Study, January to June 1996

	Absence Rate/100			Information Success	
	Crude Non-Illness	Crude Any Illness	Unknown Type	Mean Success Ratio	Range
All	1.07	1.34	0.61	0.81	0.70–0.99
Sex					
Females	1.10	1.40	0.59	0.81	0.68–0.99
Males	1.05	1.27	0.61	0.81	0.65–0.99
Ethnicity/race					
Missing	1.25	0.07	0.73	0.72	0.57–0.93
White/non-Hispanic	1.03	1.42	0.65	0.82	0.70–0.99
Hispanic	1.15	1.35	0.70	0.81	0.57–0.99
Black (African-American)	1.05	0.71	0.26	0.81	0.59–0.93
Asian/Pacific Isle	0.39	0.81	0.10	0.82	0.67–0.94
Other	1.66	1.65	0.58	0.81	0.43–1.01
Education of signer					
Missing	1.01	1.20	0.76	0.81	0.56–0.96
<12th grade	1.46	1.37	0.89	0.80	0.49–0.91
12th grade	1.08	1.56	0.55	0.80	0.44–0.92
Some college/technical school	1.09	1.36	0.60	0.82	0.69–0.99
4 years of college	1.33	1.23	0.40	0.82	0.56–0.94
Postgraduate	0.67	1.20	0.47	0.81	0.54–0.97
Community					
Alpine	0.92	1.43	0.87	0.75	0.57–1.00
Lake Elsinore	1.34	1.80	0.67	0.84	0.44–1.02
Lake Gregory	1.47	1.83	1.06	0.76	0.54–0.94
Lancaster	1.14	1.24	0.73	0.82	0.67–1.02
Lompoc	0.88	1.74	0.55	0.83	0.66–0.99
Long Beach	1.16	0.81	0.40	0.85	0.75–0.97
Mira Loma	1.20	1.58	0.56	0.82	0.72–0.89
Riverside	0.87	1.37	0.69	0.76	0.55–0.90
San Dimas	0.78	1.19	0.52	0.82	0.69–0.92
Atascadero	1.01	1.32	0.72	0.80	0.30–0.96
Santa Maria	0.77	1.29	0.51	0.81	0.57–0.95
Upland	0.79	1.19	0.37	0.86	0.74–0.99
Diagnosed asthma					
Missing	1.44	1.19	0.61	0.81	0.58–0.95
No	1.08	1.26	0.60	0.81	0.70–0.99
Yes	1.02	1.88	0.71	0.81	0.61–0.97
Reported wheeze					
Missing	0.90	0.88	0.95	0.80	0.61–0.95
No	1.03	1.23	0.55	0.81	0.70–0.99
Yes	1.24	1.68	0.63	0.81	0.65–0.97
Any ETS					
Missing	1.37	0.98	0.68	0.79	0.44–0.94
No	1.00	1.28	0.59	0.81	0.70–0.99
Yes	1.29	1.79	0.65	0.81	0.65–0.95
7-day outdoor activities					
Missing	1.32	1.57	0.71	0.82	0.62–0.99
≤11.25 hours	1.10	1.35	0.58	0.81	0.44–0.99
>11.25 hours	1.05	1.36	0.58	0.81	0.65–0.90
School report method					
Whole grade	1.15	1.22	0.66	0.79	0.56–0.91
Participants	1.08	1.41	0.58	0.83	0.70–0.99

ETS = environmental tobacco smoke.

sences, but a 5.7% increase in illness-related absences. Daily PM_{10} was not materially associated with any of the categories of respiratory illness-related absences. NO_2 had only a weak association with school absenteeism (Table 6).

Discussion

We found that day-to-day changes in O_3 were associated with a substantial increase in school absences from both upper and lower respiratory illnesses. Absences were increased 2–3 days after exposure and reached a peak on day 5 after exposure. The short-term effects of O_3 on respiratory illness-related absences are consistent with a large body of evidence on the acute adverse effects of O_3 on children's respiratory health.[3] Exposure to O_3 is known to be associated with increased hospital admissions for respiratory infections among children. Hospital admission ranks as a severe outcome in the range of adverse effects, and most respiratory illnesses do not lead to hospital admission for treatment. School absences due to respiratory illnesses may usefully represent the first tier of adverse effects that are far more common than severe adverse effects.

A limited number of studies have examined the relation between O_3 exposure and school absenteeism. In a study in Mexico City of 111 preschool children, O_3 was associated with higher rates of absenteeism due to respiratory illnesses.[29] Children exposed to more than 130 ppb of O_3 on 2 consecutive days had a 20% increase in the occurrence of preschool-reported respiratory ill-

TABLE 4. Type-Specific Adjusted* Absence Incidence Rates per 100 Children-Days by Selected Participant Characteristics, Air Pollution and Absence Study, January through June 1996

	Adjusted Non-Illness	Adjusted Any Illness	Adjusted Non-Respiratory	Adjusted Respiratory	Adjusted Upper Respiratory	Adjusted Lower Respiratory with Wet Cough	Adjusted Lower Respiratory with Wheeze	Adjusted GI Symptoms
All	1.34	1.64	0.60	1.04	0.93	0.18	0.30	0.63
Sex								
Females	1.36	1.71	0.62	1.09	1.00	0.19	0.30	0.65
Males	1.31	1.56	0.59	0.97	0.86	0.18	0.30	0.61
Ethnicity/race								
Missing	1.71	0.10	0.00	0.10	0.10	0.00	0.00	0.00
White/non-Hispanic	1.27	1.73	0.67	1.06	0.98	0.21	0.33	0.75
Hispanic	1.40	1.65	0.57	1.08	0.98	0.19	0.26	0.57
Black (African-American)	1.35	0.86	0.10	0.75	0.68	0.13	0.47	0.21
Asian/Pacific Isle	0.45	1.00	0.21	0.79	0.68	0.10	0.17	0.14
Other	2.11	2.01	0.89	1.13	1.01	0.25	0.34	0.82
Education of signer								
Missing	1.27	1.49	0.87	0.63	0.58	0.13	0.17	0.76
<12th grade	1.79	1.66	0.44	1.22	0.93	0.21	0.44	0.50
12th grade	1.35	1.90	0.75	1.15	1.01	0.19	0.33	0.70
Some college/technical school	1.35	1.67	0.59	1.07	0.97	0.18	0.31	0.65
4 years of college	1.76	1.47	0.37	1.10	0.99	0.14	0.38	0.48
Postgraduate	0.82	1.46	0.45	1.01	1.01	0.28	0.29	0.63
Community								
Alpine	1.20	1.90	0.91	1.00	0.85	0.19	0.26	0.98
Lake Elsinore	1.67	2.08	0.76	1.32	1.17	0.28	0.56	0.90
Lake Gregory	1.90	2.28	0.88	1.41	1.29	0.30	0.35	0.88
Lancaster	1.42	1.47	0.49	0.98	0.91	0.12	0.24	0.64
Lompoc	1.08	2.09	0.71	1.38	1.24	0.24	0.30	0.73
Long Beach	1.36	0.96	0.24	0.72	0.61	0.21	0.31	0.35
Mira Loma	1.48	1.92	0.86	1.06	0.89	0.24	0.41	0.77
Riverside	1.20	1.82	0.72	1.09	1.06	0.20	0.31	0.85
San Dimas	0.94	1.44	0.31	1.13	0.94	0.16	0.36	0.38
Atascadero	1.27	1.61	0.83	0.78	0.60	0.11	0.28	0.66
Santa Maria	0.93	1.62	0.57	1.05	1.04	0.14	0.24	0.40
Upland	0.92	1.38	0.48	0.90	0.84	0.13	0.26	0.55
Diagnosed asthma								
Missing	1.78	1.49	0.51	0.98	0.91	0.35	0.42	0.63
No	1.34	1.54	0.59	0.95	0.89	0.16	0.20	0.61
Yes	1.25	2.28	0.70	1.58	1.25	0.30	0.89	0.76
Reported wheeze								
Missing	1.15	1.06	0.36	0.70	0.67	0.09	0.11	0.49
No	1.28	1.51	0.63	0.88	0.82	0.14	0.17	0.61
Yes	1.53	2.05	0.61	1.44	1.24	0.28	0.59	0.68
Any ETS								
Missing	1.86	1.23	0.68	0.54	0.40	0.07	0.19	0.64
No	1.22	1.56	0.55	1.01	0.92	0.18	0.28	0.59
Yes	1.62	2.17	0.83	1.35	1.21	0.23	0.46	0.82
7-day outdoor activities								
Missing	1.60	1.93	0.80	1.14	1.08	0.21	0.28	0.79
≤11.25 hours	1.38	1.65	0.63	1.03	0.92	0.18	0.28	0.63
>11.25 hours	1.30	1.66	0.58	1.08	0.97	0.18	0.34	0.64
School report method								
Whole grade	1.45	1.55	0.52	1.03	0.91	0.20	0.31	0.64
Participants	1.33	1.69	0.61	1.08	0.98	0.19	0.32	0.60

GI = gastrointestinal; ETS = environmental tobacco smoke.
* Adjusted for interview failure using the success ratio as described in the methods section.

nesses. Studies of school absenteeism in California failed to find an association with oxidants or other pollutants, but these studies did not assess the effects of daily changes in pollutant levels on respiratory absences.[30] The relations between other air pollutants, such as SO_2, and school absences have also been investigated; however, the effects of O_3 were not examined, because levels were considered too low to have adverse effects.[31] We lack data to investigate further the reasons for the smaller effect of acute changes in O_3 on respiratory illness-related absences in communities with high long-term average PM_{10} levels. One possible explanation is seasonal attenuation of children's responses to air pollution. Seasonal attenuation of the acute lung function response to O_3 exposure during high-pollution months has been reported, suggesting that long-term exposure to elevated levels of PM can affect acute response to O_3.[32,33]

The association of daily 24-hour average PM_{10} with all absences in this study was primarily due to a relation with non-illness-related absences. The small association with illness-related absences was unexpected, because studies have shown that particulate pollution is associated with reduction in lung function, increased rates of acute bronchitis in children, increased incidence of respiratory symptoms, increased emergency room visits and hospitalizations for respiratory disease, and increased mortality.[5,17,34,35] Our study is consistent with a report by Ransom and Pope,[36] who studied the relation between school absenteeism and PM_{10} in Utah Valley for 6 years between 1985 and 1990, using weekly absenteeism data

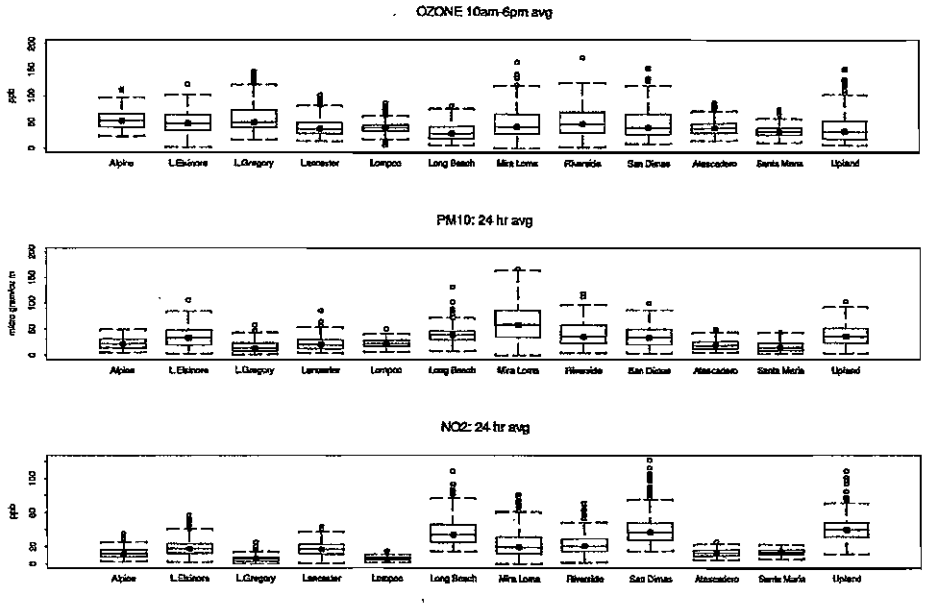


FIGURE 1. Boxplots of 10 am–6 pm average O_3, 24-hour average NO_2, and 24-hour average PM_{10} in study communities (Air Pollution and Absence Study, January 1 through June 30, 1996). In the box plots, the median, first quartile, and third quartiles form the box, and the whiskers depict ±1.5 × interquartile range. Any other extreme values outside of the whiskers are plotted individually.

from one school district and daily data from one elementary school. They observed that a 100 $\mu g/m^3$ increase in the 28-day moving average of PM_{10} was associated with a 40% increase in overall absences and that the effect was larger in younger children. The study did not, however, distinguish between illness and non-illness-related absenteeism. We were unable to investigate directly non-illness absences, because we did not ask about reasons for non-illness absences during interviews. We considered a number of potential sources of bias, such as incomplete control of temporal trends and the effects of temperature and differences in the effects among the communities, by conducting sensitivity analyses. We found the relations were consistent between communities and robust regardless of adjustments for temporal trends and temperature.

Acute effects of NO_2 on school absenteeism were not observed at the levels measured in communities during the period of study. Although NO_2 exposure may be associated with respiratory symptoms, little evidence exists that symptoms from NO_2 exposure result in school absences.[2,4,37] In a study of the relation between air pollution and absenteeism in Helsinki, Ponka[38] reported that mean weekly NO_2 concentrations were associated with absenteeism among adults; however, low ambient temperature accounted for the associations with absences among children in day care centers and school children.[38] In the present study, the lack of association may also reflect the narrow range of NO_2 exposure and possible exposure misclassification due to the use of a central site monitor to assign exposure levels. Misclassification of exposure is likely to be the same on different days within each community, suggesting that misclassification is likely to be nondifferential.[39]

In preliminary analyses, we used a bidirectional case-crossover approach to assess the air pollution and absence relation; however, the time-series analysis provides an analytic framework that efficiently uses all available information and does not have some of the conceptual drawbacks of the case-crossover approach.[40–43] The distributed lag model constrained the

TABLE 5. Annual Average Air Pollution and Community Rankings for Ozone (O_3), Nitrogen Dioxide (NO_2), and Respirable Particles (PM_{10}) Based on 1995 Levels, Children's Health Study, 1995

Community	Annual Mean 10 am–6 pm O_3 (ppb)	Rank	Annual Mean Daily NO_2 (ppb)	Rank	Annual Mean Daily PM_{10} ($\mu g/m^3$)	Rank	Stratum* (O_3, PM_{10}/NO_2)
Santa Maria	31	1	12	3	20	2	LL
Long Beach	33	2	37	10	39	9	LH
Atascadero	43	3	13	4	22	4	LL
Lompoc	45	4	5	1	15	1	LL
Lancaster	48	5	19	6	24	5	LL
Mira Loma	54	6	23	8	65	12	LH
Upland	55	7	45	12	45	11	HH
Lake Elsinore	57	8	20	7	35	7	HH
Alpine	58	9	13	5	24	6	HL
San Dimas	60	10	44	11	37	8	HH
Riverside	62	11	25	9	44	10	HH
Lake Gregory	65	12	7	2	21	3	HL

* Strata were defined by ranking communities on 1995 average pollution levels and dichotomizing communities into high (H) and low (L) groups. LL = low O_3 and low PM_{10} or NO_2, LH = low O_3 and high PM_{10} or NO_2, HL = high O_3 and low PM_{10} or NO_2, and HH = high O_3 and high PM_{10} or NO_2.

TABLE 6. Short-Term Effects of 10 am–6 pm Average Ozone (O_3), 24-Hour Average Respirable Particles (PM_{10}) and 24-Hour Average Nitrogen Dioxide (NO_2) on School Absence Incidence Rates [Percentage Change and 95% Confidence Limits (CL)], Air Pollution and Absence Study, January through June 1996*

	Pollutant					
	O_3		PM_{10}		NO_2	
Type of Absence	% Change	95% CL	% Change	95% CL	% Change	95% CL
All absences	16.3	−2.6, 38.9	22.8	11.6, 35.2	3.4	−30.6, 54.0
Non-illness	21.2	−12.9, 69.0	97.7	72.6, 126.5	34.6	−43.0, 218.2
Illness	62.9	18.4, 124.1	5.7	−12.1, 27.0	−4.6	−42.4, 57.8
Nonrespiratory	37.3	5.7, 78.3	10.2	−14.6, 42.3	−36.8	−69.5, 30.8
Respiratory†	82.9	3.9, 222.0	−4.3	−32.2, 35.0	19.6	−36.2, 124.4
URI	45.1	21.3, 73.7	5.5	−6.8, 19.4	−7.4	−30.3, 23.0
LRI/wc	173.9	91.3, 292.3	−7.7	−49.2, 67.7	−37.5	−73.9, 49.4
LRI/W/A	68.4	43.4, 97.8	−7.1	−34.1, 30.8	5.1	−60.3, 178.0

URI = upper respiratory illness; LRI = lower respiratory illness; wc = wet cough; W/A = wet cough/wheeze or asthma attack.
* Results are reported for 20 ppb O_3, 10 $\mu g/m^3$ PM_{10}, and 10 ppb NO_2. Models are fitted using community-specific polynomial-distributed lag models (degree 3) with 30-day lag period except URI, LRI/wc†, and LRI/W/A had 15-day lag periods.
† Fifteen-day lag periods used.

acute effects of pollutants to follow a polynomial function of air pollution. Based on an objective criterion for choice of the number of lag days, minimizing the Akaike Information Criterion, a cubic polynomial that included either 15 or 30 lag days, best described the lagged effects. Other choices of the lag period length would produce consistent results for the O_3 effect on respiratory illness-related absences. The 15- to 30-day lag periods for the O_3 effects on respiratory illness-related absences are consistent with data from a number of studies showing that effects of air pollution on respiratory health outcomes may persist for up to 5 weeks.[36,44,45]

Our study enrolled and actively followed more than 2,000 4th-grade school children. The active surveillance system and modeling strategy did, however, have some limitations. Although the restriction of absences to those reported within 1 month of occurrence may have introduced bias into our study, it was adopted to minimize any recall bias of absence events by parents. On the basis of the distributions of the study population in the full and restricted sample of absence days, we found little evidence of any selection bias from the restriction. To account for the effects of incomplete ascertainment, we adjusted the denominator of the rates and the offset in the Poisson time-series models for the proportion of absences with information on absence type. To investigate the robustness of our estimates to the assumptions implicit in this adjustment, we conducted sensitivity analyses by limiting the analyses to those days with greater than 70% ascertainment. Restriction to days with nearly complete information had little effect on the magnitude of the associations. To assess further the potential for bias from the variation in ascertainment, we also examined the relations between the daily pollution and callback rates as well as absence rates and callback rates. We found that the community-specific smooth success ratios showed, in general, a weak negative correlation with ozone. Because ozone was positively correlated with absence rates over the period of study, a negative bias toward the null would be expected and cannot explain our ozone results. The correlations for NO_2 and PM_{10} were generally smaller, making the potential for bias less likely.

We also attempted to examine variation in the relations using models stratified by asthma, ETS exposure, or other sociodemographic factors, but were unsuccessful owing to the short length of time series

TABLE 7. Short-Term Effects of Ozone (O_3) [Percentage Change and 95% Confidence Limits (CL)] on School Absence Incidence Rates, Stratified by Long-Term Average 10 am–6 pm O_3 and 24-Hour Average Respirable Particles (PM_{10}) or Nitrogen Dioxide (NO_2),* Air Pollution and Absence Study, January through June 1996†

	Community Ranking							
	Based on O_3				Based on PM_{10}/NO_2			
	Low O_3		High O_3		Low PM_{10} (NO_2)		High PM_{10} (NO_2)	
Type of Absence	% Change	95% CL	% Change	95% CL	% Change	95% CL	% Change	95% CL
All absences	14.0	−16.7, 56.1	16.2	−5.8, 43.3	68.2	25.9, 124.8	6.4	−7.1, 21.9
Non-illness	17.0	−35.3, 111.9	20.1	−19.2, 78.6	49.8	−30.7, 223.7	13.6	−20.3, 61.8
Illness	87.6	8.3, 225.2	48.8	3.0, 115.0	223.5	90.4, 449.7	38.1	8.5, 75.8
Nonrespiratory	29.9	−19.8, 110.6	31.5	−5.6, 83.0	29.6	−32.2, 147.9	31.3	−2.8, 77.4
Respiratory	136.8	−11.5, 533.1	57.7	−18.1, 203.9	454.9	90.0, 1520.0	42.9	−11.2, 130.1

* High and low strata included the same communities for either PM_{10} or NO_2.
† Results are reported for 20 ppb O_3, 10 $\mu g/m^3$ PM_{10}, and 10 ppb NO_2. Models are fitted using community-specific polynomial-distributed lag models (degree 3) with 30-day lag period.

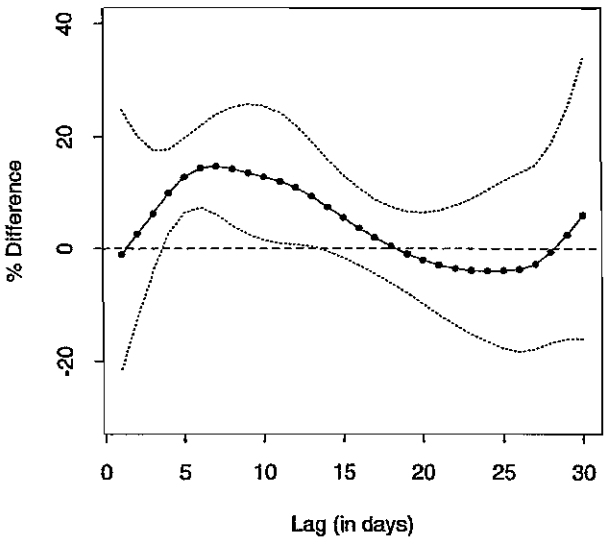


FIGURE 2. Distributed lag estimates and 95% confidence intervals for the effect of 10 am–6 pm O_3 (per 20 ppb) on respiratory illness-related absences (Air Pollution and Absence Study, January 1 through June 30, 1996).

and the low number of events within community-specific strata. Lastly, it was not feasible to examine simultaneously the acute effects of multiple pollutants using the two-stage distributed lag framework developed for this analysis. Future development of a binomial time-series model with a flexible distributed lag structure would provide the framework to include individual-level covariates and multipollutant effects in time-series analyses.

In conclusion, relatively small short-term changes in O_3 were associated with increases in respiratory illness-related school absences in children 9–10 years of age. Because exposures at the levels observed in this study are common, the increase in school absenteeism from respiratory illnesses associated with relatively modest day-to-day changes in O_3 concentration documents an important adverse impact of O_3 on children's health and well-being.

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Association between Air Pollution and Lung Function Growth in Southern California Children

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Average growth of lung function over a 4-yr period, in three cohorts of southern California children who were in the fourth, seventh, or tenth grade in 1993, was modeled as a function of average exposure to ambient air pollutants. In the fourth-grade cohort, significant deficits in growth of lung function (FEV_1, FVC, maximal midexpiratory flow [MMEF], and FEF_{75}) were associated with exposure to particles with aerodynamic diameter less than 10 μm (PM_{10}), $PM_{2.5}$, PM_{10}–$PM_{2.5}$, NO_2, and inorganic acid vapor ($p < 0.05$). No significant associations were observed with ozone. The estimated growth rate for children in the most polluted of the communities as compared with the least polluted was predicted to result in a cumulative reduction of 3.4% in FEV_1 and 5.0% in MMEF over the 4-yr study period. The estimated deficits were generally larger for children spending more time outdoors. In the seventh- and tenth-grade cohorts, the estimated pollutant effects were also negative for most lung function measures, but sample sizes were lower in these groups and none achieved statistical significance. The results suggest that significant negative effects on lung function growth in children occur at current ambient concentrations of particles, NO_2, and inorganic acid vapor.

The acute health consequences of breathing polluted air are well documented, ranging from increased cardiorespiratory morbidity and mortality to increased prevalence of respiratory symptoms and decrements in lung function (1–4). Chronic health effects from exposure to air pollution have been suggested by previous studies, although whether chronic effects occur at current ambient concentrations remains uncertain (1, 2, 5–7). Children may be a particularly vulnerable population because they spend more time outdoors, are generally more active, and have higher ventilation rates than adults (8).

One approach to assessing the potential chronic effects of air pollution is to determine how pollution affects lung function growth. The broad range of air quality in southern California offers the opportunity to investigate the health effects of exposure to several pollutants, including ozone, nitrogen oxides, particles, and acids. In 1993, we initiated a 10-yr prospective study of respiratory health in children from 12 southern California communities. In this report, we examine the longitudinal lung function data from the first 4 yr of follow-up and analyze the relationship between air pollution concentrations and lung function growth.

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METHODS

Study Subjects

Twelve communities within a 200-mile radius of Los Angeles were selected in 1993 based on their historical air pollution levels. In each community, approximately 150 children in grade four, 75 in grade seven, and 75 in grade 10 were selected from public schools. Information concerning medical history, residential history, housing characteristics, and time spent outdoors was obtained by questionnaire. Additional characteristics of the study design have been previously described (6, 7). Spirometric evaluations of the children were conducted annually from 1993 to 1997 for the fourth- and seventh-grade cohorts, and from 1993 to 1995 for the tenth-grade cohort. A total of 3,035 children had at least two evaluations during this period. The study protocol was approved by the institutional review board for human studies at the University of Southern California, and informed written consent was provided by parents for all study subjects.

Pulmonary Function Testing

Pulmonary function tests (PFTs) were performed at schools during the morning and early afternoon hours of spring. Each subject was asked to perform up to seven maximal forced expiratory flow–volume maneuvers using one of six rolling-seal spirometers (Spiroflow; P.K. Morgan Ltd., Gillingham, UK), from which FVC, FEV_1, maximal midexpiratory flow (MMEF), and forced expiratory flow rate at 75% of expired FVC (FEF_{75}) were recorded. A more detailed description and procedures for maneuver selection, spirometer calibration, and quality control have been previously reported (7).

Air Pollution Data

Air pollution monitoring stations were established in each of the 12 communities as a part of the study design, with measurements for all pollutants at all sites available from 1994 onward. All stations monitored hourly concentrations of ozone (O_3), nitrogen dioxide (NO_2), and particles with aerodynamic diameter less than 10 μm (PM_{10}). Two-week integrated samplers were used to measure $PM_{2.5}$ and acid vapor. For statistical analysis, we computed the annual averages of the 24 h averages of O_3, PM_{10}, and NO_2, the annual average of 10:00 A.M. to 6:00 P.M. levels of O_3, the annual averages of the 2-wk averages of $PM_{2.5}$ and inorganic acid vapor ($HCl + HNO_3$), and the difference between annual average PM_{10} and $PM_{2.5}$. In addition, 3-yr mean levels (1994 to 1996) in each community were computed for all pollutants.

Statistical Analysis

Linear regression methods were used to determine whether, over the 4 yr of follow-up, average lung function growth rates of the children in each community were associated with the corresponding average pollutant levels in those communities. The outcome data consisted of 11,536 PFTs recorded from 1993 to 1997 on 3,035 study subjects in the 12 communities. Because lung function increases nonlinearly from childhood through adolescence (9), all analyses were performed separately within grade cohort (fourth, seventh, or tenth grade in 1993). A set of three regression models was used to adequately account for time, subject, and community-specific effects.

The first model was a linear regression of PFT (natural-log transformed) on age, with indicator variables for subject to obtain a separate intercept and growth slope for each child. Adjustment was made for subject- and time-specific covariates, including height (natural-log

TABLE 1
CHARACTERISTICS OF THE STUDY POPULATION

		No. of Subjects*	Mean No. PFTs	Female Sex (%)	Grade Cohort (%)			Ever Asthma (%)	Gas Stove (%)	Passive Smoke (%)	Pets (%)	Time Outdoors† (%)
					4th	7th	10th					
Alpine	(AL)	252	3.8	51	51	25	24	14	46	19	88	51
Atascadero	(AT)	233	3.9	59	49	30	21	22	76	12	91	58
Lake Arrowhead	(LA)	286	3.9	52	52	27	21	14	86	19	86	48
Lake Elsinore	(LE)	258	3.7	45	49	24	27	16	75	30	87	56
Lancaster	(LN)	212	3.6	51	52	26	22	14	89	23	72	54
Lompoc	(LM)	248	3.6	50	39	27	34	12	82	18	78	60
Long Beach	(LB)	257	3.7	53	53	25	22	12	82	15	58	45
Mira Loma	(ML)	262	3.8	52	52	27	21	11	94	27	90	52
Riverside	(RV)	285	3.8	53	49	30	21	16	89	19	76	49
San Dimas	(SD)	252	3.9	53	47	27	26	18	90	21	74	52
Santa Maria	(SM)	248	3.6	52	48	26	26	14	85	18	55	49
Upland	(UP)	242	4.0	49	51	24	25	16	73	13	79	52
All		3,035	3.8	52	50	26	24	15	81	20	78	52

* Number of subjects with at least 2 pulmonary function tests from 1993 to 1997.
† Percent of hours spent outdoors between 2:00 P.M. and 6:00 P.M., over 10 weekdays.

transformed), weight, body mass index, height-by-age interaction, report of asthma activity or cigarette smoking in the previous year, report of recent exercise, and interactions of each of these variables with sex. Also included as adjustment variables were room temperature and barometric pressure on the day of the test, sets of dummy variables for field technician and spirometer. Lung function growth slopes were scaled to a child with average height growth within each cohort.

The second model was a linear regression of the subject-specific adjusted growth slopes estimated from the first model on indicator variables for community, to obtain the annual average lung function growth rate in each community. Adjustment was made for subject-specific covariates, including sex, race/ethnicity (Asian, African-American, non-Hispanic white, Hispanic, other), and baseline report of doctor-diagnosed asthma. Additional variables, including report of hay fever, health insurance, regular vitamin use, and the presence in the home of mildew, pests, cockroaches, house plants, an air conditioner, or water damage were not significantly associated with any lung function growth measure at the 0.15 significance level, making them unlikely confounding variables. Because incorporation of these covariates would reduce sample sizes owing to missing values, they were excluded as adjustment variables in all models. Carpeting in the home was marginally associated with reduced MMEF ($p = 0.09$) and FEF_{75} ($p = 0.09$). Models for these PFTs were estimated both with and without adjustment for carpeting, but in no case did adjustment alter an air pollution effect by more than 3% of the unadjusted estimate. For this reason, and because 7% of subjects would be excluded for missing carpet information, results described in the next section are based on the models without adjustment for this covariate. The residuals from both the first and second regression models satisfied the

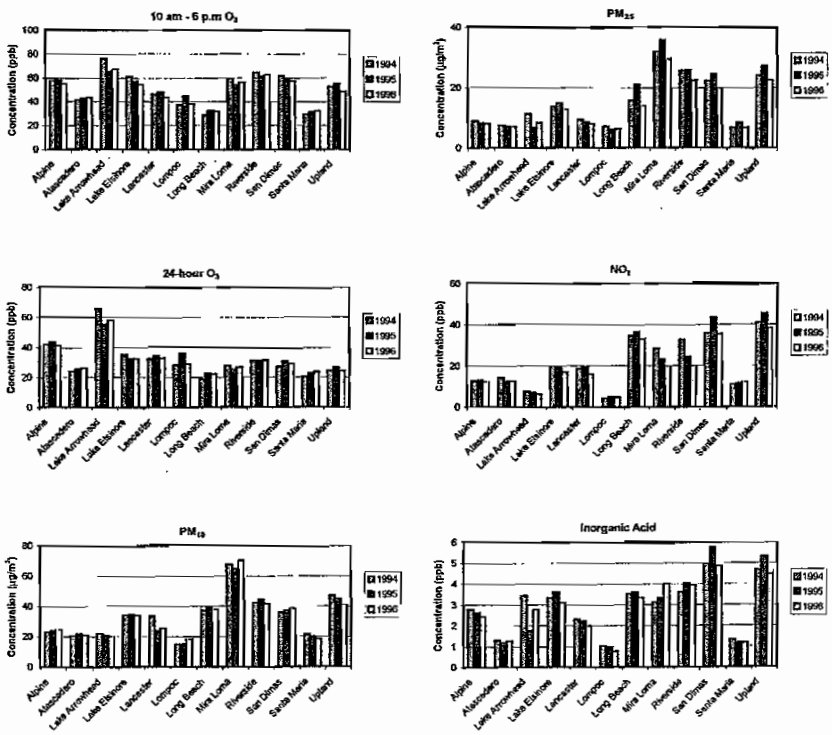


Figure 1. Average annual pollutant concentrations in the 12 study communities.

TABLE 2

CORRELATIONS AMONG COMMUNITY MEAN POLLUTANT LEVELS OVER THE STUDY PERIOD

Pollutant*	O_3	PM_{10}	$PM_{2.5}$	PM_{10}–$PM_{2.5}$	NO_2	Inorganic Acid
O_3 (10 A.M.–6 P.M.)	0.69†	0.28	0.35	0.15	0.06	0.50
O_3	—	−0.32	−0.32	−0.29	−0.49	−0.07
PM_{10}	—	—	0.96‡	0.92‡	0.65§	0.68§
$PM_{2.5}$	—	—	—	0.76†	0.74§	0.79†
PM_{10}–$PM_{2.5}$	—	—	—	—	0.44	0.43
NO_2	—	—	—	—	—	0.87‡

* 24-h average (unless otherwise noted) pollution level from 1994–1996.
† $p < 0.005$.
‡ $p < 0.0005$.
§ $p < 0.05$.

assumptions of normality and homoscedasticity, indicating a good fit of the linear models to the lung function data.

The 12 adjusted community-average lung growth rates from the second model were compared graphically with community mean concentrations of each pollutant, and a third linear regression was used to quantify the change in annual growth per unit increase in pollutant level. The parameter of primary interest was the slope from this third regression. These slopes were reported as the difference in estimated percent growth rate per year between the highest and lowest observed community mean levels of each pollutant, with negative differences indicating reduced growth with increased exposure. In addition to modeling the effect of each pollutant univariately, we considered all possible two-pollutant models, obtained by regressing the community-average lung growth rates on a pair of pollutants simultaneously.

For estimation and testing hypotheses, the three regression models described previously were combined into a single, linear mixed model, so that all parameters were mutually adjusted for one another and the resulting pollution effect estimates properly accounted for the different number of observations provided by each subject. The MIXED procedure in SAS (10) was utilized to fit the models, and a two-sided alternative and 0.05 significance level were used for each hypothesis test.

Additional analyses were conducted to explore the robustness of pollutant effect estimates. Models were also estimated after stratifying the data based on sex, asthma status at baseline, and time spent outdoors. The latter variable was obtained from the baseline questionnaire as the number of weekday hours spent outdoors between 2:00 P.M. and 6:00 P.M. over a 10-weekday period. Responses to this question were used to stratify subjects into either a "more outdoors" or "less outdoors" group, based on whether they fell above or below the mean of 20.8 h (52% of 40 h).

RESULTS

The distribution of subjects with at least two PFTs during the study period is shown in Table 1. The sample included 1,498 fourth-graders in 1993, 802 seventh-graders, and 735 tenth-graders, with an average of 3.8 PFTs per child. Approximately 15% of subjects reported a history of doctor-diagnosed asthma at baseline, a proportion that varied from 11% (Mira Loma) to 22% (Atascadero) across communities. The prevalence of three indoor sources of air pollutants, passive tobacco smoke, gas stove, and the presence of pets, also varied across communities.

There was substantial variation in annual average pollutant concentrations across the 12 communities, with little year-to-year deviation in levels within each community (Figure 1). From least to most polluted community, pollutant concentrations varied by a factor of approximately 2.5 for daytime and 24-h ozone, 4 for PM_{10}, 5 for $PM_{2.5}$, 8 for NO_2, and 5 for inorganic acid. Table 2 shows correlation coefficients between community mean pollutant levels over the study period. Four of the pollutants (PM_{10}, $PM_{2.5}$, NO_2, and inorganic acid) were

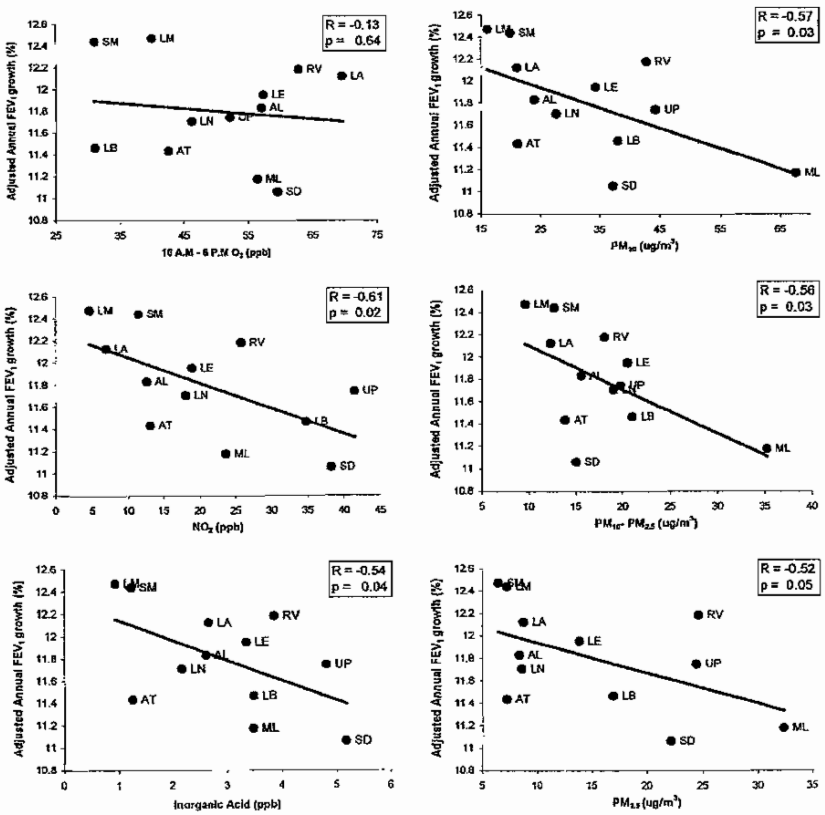


Figure 2. Adjusted average annual FEV_1 growth rates for the fourth-grade cohort in the 12 communities versus the mean pollutant levels over the study period. The two-letter abbreviations for each community are shown in Table 1.

TABLE 3

DIFFERENCE IN ANNUAL PERCENT GROWTH RATES FROM THE LEAST TO MOST POLLUTED COMMUNITY, BY GRADE COHORT

		4th Grade		7th Grade		10th Grade	
		Difference in Growth*		Difference in Growth*		Difference in Growth*	
Pollutant	PFT	%	(95% CI)	%	(95% CI)	%	(95% CI)
O_3 (10–6)	FVC	−0.22	(−0.79, 0.36)	−0.10	(−0.68, 0.47)	0.11	(−0.84, 1.07)
	FEV_1	−0.19	(−0.99, 0.62)	0.20	(−0.41, 0.81)	0.24	(−1.03, 1.54)
	MMEF	−0.24	(−1.41, 0.95)	−0.37	(−2.20, 1.50)	0.29	(−3.50, 4.23)
	FEF_{75}	−0.85	(−2.38, 0.70)	−0.31	(−1.95, 1.35)	0.49	(−3.36, 4.49)
O_3	FVC	0.17	(−0.79, 1.15)	0.39	(−0.51, 1.29)	0.03	(−1.57, 1.65)
	FEV_1	0.56	(−0.73, 1.87)	0.83	(−0.12, 1.79)	0.79	(−1.33, 2.95)
	MMEF	0.96	(−0.84, 2.79)	0.51	(−2.45, 3.56)	0.35	(−5.94, 7.07)
	FEF_{75}	0.69	(−1.88, 3.32)	0.38	(−2.13, 2.95)	1.08	(−5.34, 7.92)
PM_{10}	FVC	−0.58	(−1.14, −0.02)†	−0.45	(−1.03, 0.13)	0.07	(−0.99, 1.13)
	FEV_1	−0.85	(−1.59, −0.10)†	−0.44	(−1.10, 0.23)	−0.46	(−1.84, 0.94)
	MMEF	−1.32	(−2.43, −0.20)†	−0.48	(−2.51, 1.59)	−0.71	(−4.87, 3.63)
	FEF_{75}	−1.63	(−3.14, −0.11)†	−0.50	(−2.26, 1.29)	−1.54	(−5.61, 2.71)
$PM_{2.5}$	FVC	−0.47	(−0.94, 0.01)	−0.42	(−0.89, 0.05)	0.19	(−0.68, 1.07)
	FEV_1	−0.64	(−1.28, 0.01)	−0.32	(−0.88, 0.24)	−0.25	(−1.41, 0.93)
	MMEF	−1.03	(−1.95, −0.09)†	−0.29	(−1.99, 1.44)	−0.17	(−3.66, 3.46)
	FEF_{75}	−1.31	(−2.57, −0.03)†	−0.26	(−1.75, 1.25)	−0.79	(−4.27, 2.82)
PM_{10}–$PM_{2.5}$	FVC	−0.57	(−1.20, 0.06)	−0.35	(−1.02, 0.31)	−0.17	(−1.32, 0.99)
	FEV_1	−0.90	(−1.71, −0.09)†	−0.49	(−1.21, 0.24)	−0.68	(−2.15, 0.81)
	MMEF	−1.37	(−2.57, −0.15)†	−0.64	(−2.83, 1.60)	−1.41	(−5.85, 3.25)
	FEF_{75}	−1.62	(−3.24, 0.04)	−0.74	(−2.65, 1.20)	−2.32	(−6.60, 2.17)
NO_2	FVC	−0.53	(−1.01, −0.05)†	−0.43	(−0.93, 0.07)	−0.23	(−1.13, 0.68)
	FEV_1	−0.77	(−1.41, −0.13)†	−0.41	(−1.00, 0.17)	−0.75	(−1.89, 0.41)
	MMEF	−1.08	(−2.07, −0.08)†	−0.30	(−2.07, 1.49)	−1.13	(−4.68, 2.56)
	FEF_{75}	−1.37	(−2.71, −0.01)†	−0.32	(−1.88, 1.26)	−1.28	(−4.87, 2.44)
Acid	FVC	−0.57	(−1.06, −0.07)†	−0.39	(−0.93, 0.15)	−0.23	(−1.15, 0.70)
	FEV_1	−0.73	(−1.42, −0.03)†	−0.18	(−0.81, 0.44)	−0.65	(−1.84, 0.56)
	MMEF	−1.03	(−2.09, 0.05)	−0.30	(−2.14, 1.57)	−1.31	(−4.93, 2.44)
	FEF_{75}	−1.47	(−2.87, −0.05)†	−0.35	(−1.99, 1.32)	−1.11	(−4.80, 2.71)

* Community-average growth rates were adjusted for the covariates listed in METHODS. Differences in annual percent growth rate are shown per increase in annual average of 38.6 ppb of O_3 (10:00 A.M.–6:00 P.M.), 55 ppb of O_3, 51.5 μg/m³ of PM_{10}, 25.9 μg/m³ of $PM_{2.5}$, 25.6 μg/m³ of PM_{10}–$PM_{2.5}$, 36.8 ppb of NO_2, and 4.3 ppb of inorganic acid vapor.

† $p < 0.05$.

strongly correlated with one another. Coarse thoracic particle level (PM_{10}–$PM_{2.5}$) was significantly correlated with PM_{10} ($r = 0.92$) and $PM_{2.5}$ ($r = 0.76$), but not with any other pollutant. The two O_3 metrics were significantly correlated with each other ($r = 0.69$), but not with any of the remaining pollutants.

In the fourth-grade cohort, FEV_1 increased at an average rate of 11.8% per year during the study period, with comparable growth rates in males (11.7%) and females (11.9%). The average annual FEV_1 growth rates were lower in the seventh-grade (8.0%) and tenth-grade (1.7%) cohorts. In both the seventh- and tenth-grade cohorts, average growth rates for boys (12.3% and 3.3%, respectively) were higher than for girls (4.6% and 0.4%, respectively). The magnitudes and patterns of cohort- and sex-specific growth rates were similar for the other PFTs.

For the fourth-grade cohort, Figure 2 shows the adjusted mean FEV_1 growth rates in each community, plotted against the corresponding mean concentrations of PM_{10}, $PM_{2.5}$, PM_{10}–$PM_{2.5}$, O_3, NO_2, and inorganic acid vapor, with the fitted regression line and correlation coefficient. Across the 12 communities, FEV_1 growth rates ranged from 11.1% (San Dimas) to 12.5% (Lompoc). From the lowest to highest observed concentrations of each pollutant, the predicted differences in annual growth rate were −0.85% for PM_{10} ($p = 0.026$), −0.64% for $PM_{2.5}$ ($p = 0.052$), −0.90% for PM_{10}–$PM_{2.5}$ ($p = 0.030$), −0.77% for NO_2 ($p = 0.019$), and −0.73% for inorganic acid vapor ($p = 0.042$). The slope with 10:00 A.M.–6:00 P.M. average O_3 was negative but nonsignificant. Approximately 35% of the variance in adjusted community-average growth rates was explained by either PM_{10} or NO_2 concentrations. For PM_{10} and PM_{10}–$PM_{2.5}$, the high concentrations in Mira Loma gave this community a large potential influence on the effect estimates. However, elimination of this community from the analysis resulted in slightly larger effect estimates for both PM_{10} (−0.9%) and PM_{10}–$PM_{2.5}$ (−1.2%), although the statistical significance for each was reduced ($p = 0.19$ and $p = 0.18$, respectively) owing to the reduced sample size and range of exposure.

Table 3 shows the corresponding differences in growth rate for all the PFTs in the fourth-, seventh-, and tenth-grade cohorts. In the fourth-grade cohort, significant associations were observed between lung function growth and PM_{10}, $PM_{2.5}$, PM_{10}–$PM_{2.5}$, NO_2, and inorganic acid, with the largest deficits observed for the flow rate measures (MMEF and FEF_{75}). Neither metric of ozone was significantly associated with growth in any of the PFTs. In the seventh- and tenth-grade cohorts, almost all effect estimates for PM_{10}, $PM_{2.5}$, PM_{10}–$PM_{2.5}$, NO_2, and inorganic acid vapor were negative, but the confidence intervals were wide and none of them achieved statistical significance.

The associations observed in the fourth-grade cohort remained significant in a variety of sensitivity analyses. Table 4

TABLE 4

DIFFERENCE IN ANNUAL FEV_1 PERCENT GROWTH RATES FROM THE LEAST TO MOST POLLUTED COMMUNITY FOR PM_{10} AND NO_2, FOURTH GRADE COHORT, FROM A VARIETY OF MODELS

	Ambient PM_{10}		Ambient NO_2	
	Difference in Growth*		Difference in Growth*	
Model	%	(95% CI)	%	(95% CI)
1. Main model†	−0.85	(−1.59, −0.10)‡	−0.77	(−1.41, −0.13)‡
2. 1 + gas stove	−0.88	(−1.63, −0.13)‡	−0.79	(−1.43, −0.15)‡
3. 1 + passive smoke	−0.94	(−1.71, −0.17)‡	−0.83	(−1.50, −0.16)‡
4. 1 + pets	−0.80	(−1.52, −0.08)‡	−0.76	(−1.36, −0.15)‡
5. 1, nonasthmatics only	−0.82	(−1.48, −0.15)‡	−0.68	(−1.30, −0.05)‡
6. 1, asthmatics only	−0.75	(−2.84, 1.38)	−1.39	(−2.96, 0.20)

* *See* footnote to Table 3.
† Equivalent to the results for FEV_1 in fourth graders shown in Table 3.
‡ $p < 0.05$.

shows effect estimates for PM_{10} and NO_2 on FEV_1 from several models, with the corresponding estimates from Table 3 included for comparison (Model 1). Adjustment for gas stove (Model 2), passive smoke (Model 3), or pets (Model 4) resulted in little change in effect estimates or statistical significance. The associations also remained significant in the subset of nonasthmatic children (Model 5). In asthmatic children (Model 6), although the effect estimates were as large for PM_{10} and larger for NO_2, the sample size was small (n = 207) and neither association achieved statistical significance. Analogous sensitivity modeling of the other PFTs produced results similar to those shown for FEV_1.

In two-pollutant models for FEV_1, adjustment for community mean concentration of 10:00 A.M.–6:00 P.M. O_3 had little impact on the effect estimates or significance levels of any other pollutant (Table 5, column 1). The O_3 effect estimates with adjustment for any other pollutant were all close to zero and nonsignificant (Table 5, row 1). In a two-pollutant particle model, both the $PM_{2.5}$ and PM_{10}–$PM_{2.5}$ effect estimates were negative (−0.54 and −0.63, respectively), but each was lower than its corresponding univariate estimate (−0.64 and −0.90, respectively). This reduction of the particle effect estimates in the two-pollutant model is expected given the positive correlation between these pollutants (Table 2). Similarly, the effect estimates for other two-pollutant combinations are less than their corresponding univariate estimates, although in almost all cases they retain their negative sign.

TABLE 5

DIFFERENCE IN ANNUAL FEV_1 PERCENT GROWTH RATES FROM THE LEAST TO THE MOST POLLUTED COMMUNITY, FOURTH-GRADE COHORT, TWO-POLLUTANT MODELS

Main	Adjustment Pollutant					
Pollutant*	O_3 (10–6)	PM_{10}	$PM_{2.5}$	PM_{10}–$PM_{2.5}$	NO_2	Acid
1. O_3 (10–6)	**−0.19**	0.03	0.06	−0.08	0.15	0.24
2. PM_{10}	−0.86†	**−0.85**†	−1.27	−0.54	−0.48	−0.56
3. $PM_{2.5}$	−0.67‡	0.37	**−0.64**‡	−0.54	−0.45	−0.61
4. PM_{10}–$PM_{2.5}$	−0.89†	−0.37	−0.63	**−0.90**†	−0.61	−0.65
5. NO_2	−0.76†	−0.50	−0.60	−0.56	**−0.77**†	−0.65
6. Acid	−0.86†	−0.39	−0.47	−0.50	−0.14	**−0.73**†

* Each row gives effect estimates for the indicated pollutant, after adjustment for the pollutant listed at the top of the column. Boldface estimates are from the single-pollutant models shown in Table 3. *See* Table 3, footnote *, for a description of units.
† $p < 0.05$.
‡ $p < 0.10$.

The magnitude of air pollutant effects in the fourth-grade cohort was greater in those who spent more time outdoors than in those who spent more time indoors (Table 6). For example, the difference in annual FEF_{75} growth rate from highest to lowest NO_2 concentrations was −2.49% (p = 0.02) in more-outdoors children, but only −1.12% (p = 0.35) in less-outdoors children. There were no clear trends in the relationships between lung function growth and ozone as they related to time spent outdoors. In a separate analysis, stratification by sex in the fourth-grade cohort revealed negative effect estimates for particulates, NO_2, and inorganic acid vapor in both males and females (data not shown), with no significant difference in effect between the sexes.

Based on the estimated adjusted annual growth rates in the fourth-grade cohort, Table 7 shows estimates of the cumulative deficit in lung function caused by 4 yr of air pollution exposure. Predicted lung function in 1997 for a child exposed to the highest observed concentrations of PM_{10} or NO_2 since 1993 were between 93.9% and 97.9% of those predicted for the same child exposed to the lowest observed concentrations. The flow rates (MMEF and FEF_{75}) showed larger deficits in predicted lung function than the volume measures (FVC and FEV_1).

TABLE 6

DIFFERENCE IN ANNUAL PERCENT GROWTH RATES FROM LEAST TO MOST POLLUTED COMMUNITY FOR CHILDREN IN THE FOURTH-GRADE COHORT, STRATIFIED BY TIME OUTDOORS

		More Outdoors* (*n* = 532)		Less Outdoors* (*n* = 642)	
		Difference in Growth†		Difference in Growth†	
Pollutant	PFT	%	(95% CI)	%	(95% CI)
O_3 (10–6)	FVC	0.12	(−0.54, 0.78)	−0.05	(−0.63, 0.53)
	FEV_1	−0.11	(−1.19, 0.99)	−0.10	(−0.79, 0.60)
	MMEF	−0.46	(−2.52, 1.64)	0.16	(−1.34, 1.69)
	FEF_{75}	−0.41	(−2.73, 1.98)	−0.76	(−3.15, 1.69)
O_3	FVC	0.41	(−0.60, 1.43)	0.23	(−0.68, 1.14)
	FEV_1	0.91	(−0.64, 2.47)	0.76	(−0.35, 1.87)
	MMEF	1.50	(−1.40, 4.48)	2.16	(−0.26, 4.64)
	FEF_{75}	1.81	(−1.72, 5.47)	1.78	(−1.97, 5.68)
PM_{10}	FVC	−0.24	(−0.91, 0.45)	−0.60	(−1.22, 0.01)
	FEV_1	−0.87	(−1.86, 0.14)	−0.81	(−1.57, −0.03)‡
	MMEF	−1.88	(−3.55, −0.17)‡	−1.20	(−2.86, 0.49)
	FEF_{75}	−2.34	(−4.65, 0.03)	−0.88	(−3.53, 1.83)
$PM_{2.5}$	FVC	−0.17	(−0.74, 0.40)	−0.45	(−0.97, 0.07)
	FEV_1	−0.67	(−1.53, 0.21)	−0.68	(−1.32, −0.03)‡
	MMEF	−1.56	(−3.00, −0.10)‡	−1.09	(−2.49, 0.33)
	FEF_{75}	−1.92	(−3.88, 0.08)	−1.15	(−3.26, 1.01)
PM_{10}–$PM_{2.5}$	FVC	−0.27	(−1.00, 0.46)	−0.65	(−1.31, 0.01)
	FEV_1	−0.93	(−1.98, 0.14)	−0.75	(−1.57, 0.07)
	MMEF	−1.83	(−3.73, 0.10)	−0.98	(−2.76, 0.83)
	FEF_{75}	−2.29	(−4.78, 0.27)	−0.15	(−3.13, 2.91)
NO_2	FVC	−0.41	(−1.02, 0.20)	−0.30	(−0.87, 0.28)
	FEV_1	−1.00	(−1.79, −0.21)‡	−0.57	(−1.29, 0.15)
	MMEF	−1.90	(−3.39, −0.39)‡	−1.13	(−2.68, 0.44)
	FEF_{75}	−2.49	(−4.57, −0.36)‡	−1.12	(−3.43, 1.25)
Acid	FVC	−0.33	(−0.97, 0.32)	−0.32	(−0.94, 0.30)
	FEV_1	−0.93	(−1.87, 0.01)	−0.55	(−1.31, 0.23)
	MMEF	−1.88	(−3.58, −0.14)‡	−0.89	(−2.55, 0.80)
	FEF_{75}	−2.34	(−4.55, −0.08)‡	−1.13	(−3.60, 1.41)

* More (less) outdoors includes subjects who reported being outdoors more than (less than) 52% of the hours between 2:00 P.M. and 6:00 P.M. over a 10-d period.
† *See* footnote to Table 3.
‡ $p < 0.05$.

TABLE 7

PREDICTED LUNG FUNCTION IN 1997 FOR A CHILD IN THE FOURTH-GRADE COHORT EXPOSED TO 4-yr OF EITHER LOW OR HIGH POLLUTION LEVELS

	FVC (ml)	FEV_1 (ml)	MMEF (ml/s)	FEF_{75} (ml/s)
Mean in 1993	2,365	2,048	2,366	1,479
Predicted in 1997*				
Lowest pollution	3,713	3,238	3,695	2,403
Highest PM_{10}	3,622 (97.5%)†	3,127 (96.6%)	3,511 (95.0%)	2,257 (93.9%)
Highest NO_2	3,637 (97.9%)	3,145 (97.1%)	3,549 (96.0%)	2,284 (95.0%)

* Predicted lung function was obtained by applying the estimated adjusted annual growth rates in the least and most polluted communities to the 1993 values. For example, rates used for FEV_1 are based on the regression line shown in Figure 2. Lowest pollution corresponds to levels in Lompoc, with average PM_{10} = 16.1 μg/m³ and NO_2 = 4.6 ppb, while highest PM_{10} = 67.6 μg/m³ (Mira Loma) and highest NO_2 = 41.4 ppb (Upland).

† Percent of the predicted value for lowest pollution exposure.

DISCUSSION

In our fourth-grade cohort of southern California children, exposure to ambient particles, NO_2, or inorganic acid vapor was associated with reduced lung function growth. Negative pollution effect estimates were observed in both asthmatic and healthy children. In contrast to our previous cross-sectional findings (7), where pollutant effects on lung function level were observed primarily in females, we found no significant difference between the sexes in the relationship between lung function growth and air pollution. Over the 4 yr of follow-up, children exposed to the highest observed concentrations of PM_{10} were estimated to experience a cumulative deficit of 3.4% in FEV_1 and 6.1% in FEF_{75}, relative to children exposed to the lowest observed levels. This indicates that pollutants may impair both large and small airway function, although there were larger estimated deficits observed in measures of small airway damage (MMEF and FEF_{75}). In the seventh- and tenth-grade cohorts, confidence intervals on the pollutant effect estimates were wide owing to the smaller sample sizes in these groups, and none of the associations was statistically significant at the 5% level. However, the pollutant effect estimates were negative in both the seventh- and tenth-grade cohorts, indicating that the deficits observed for children in the fourth-grade cohort are not likely to be reversed as they age through adolescence.

As in any epidemiologic study, it is possible that the observed results are the result of underlying associations of both the outcome and exposure to some confounding variable. In our study, several potential confounders were considered, including personal and housing characteristics and indoor sources of air pollutants, but none explained the observed associations between ambient air pollution and lung function growth. Additional analysis showed that neither air pollution concentrations on the day before to the PFT nor acute respiratory illness on the day of the PFT were confounders. Another potential source of bias in a cohort study is differential loss to follow-up with respect to both exposure and outcome. This could occur, for example, if a child in a polluted community moved away because air pollution was adversely affecting his or her respiratory health. However, baseline lung function levels and community mean ambient pollutant exposure were not significantly different between subjects who left the study within 2 yr of entry compared with those who remained on study, making this an unlikely source of bias.

Ambient air pollution was associated with larger estimated deficits in lung function growth, particularly for MMEF and FEF_{75}, in children who spent more time outdoors than in children who spent more time indoors. Provided exposures are higher in children spending more time outdoors than indoors, this finding is consistent with a detrimental effect of ambient pollutants on lung function growth. The indoor/outdoor (I/O) ratio, i.e., the amount of outdoor air pollutant that penetrates indoors, has an upper bound of 1.0 (complete penetration) and a lower bound of 0.0 (no penetration). Interestingly, the pollutants with lower I/O ratios (e.g., PM_{10}–$PM_{2.5}$, NO_2) show larger discrepancies in effect estimates between more- and less-outdoor children than $PM_{2.5}$, which has a high I/O ratio. This pattern is what one would expect if exposure to one or more of these ambient pollutants is having an adverse effect. Although indoor concentrations of ozone are known to be much lower than outdoor levels, there were no apparent trends in ozone effect estimates with respect to time spent outdoors.

In southern California, motor vehicle emissions, in conjunction with various photochemical reactions, are a major source of ambient particles, NO_2, and inorganic acid (primarily nitric). Due to the high correlation in concentrations across communities, we were unable to identify the independent effects of each pollutant, although our two-pollutant models do suggest that no single pollutant that we measured is responsible for the observed deficits in lung function growth. There may also be an air pollutant we did not specifically measure (e.g., diesel exhaust particles) that is correlated with those we did and that is primarily responsible for the observed health effects. Associations between lung function and mixtures of air pollutants have also been previously demonstrated (7, 11–14).

In prior studies, particulate matter has been associated with chronic respiratory symptoms (15–18) and recently with lung function growth in children (19), although previously reported associations with lung function have been inconsistent (15–17). Particle strong acidity, characterized by sulfur dioxide–derived acidic sulfate particles, has been associated with bronchitis (17) and lung function (20). It is unlikely that this pollutant is responsible for our observed effects, because ambient air during the 1990s in southern California had low concentrations of SO_2 and acidic sulfate particles. As in most regions, fine and coarse particle concentrations in the Los Angeles air basin arise from different sources (21). The primary sources that contribute to fine particle concentrations are diesel engine exhaust, food cooking operations, wood burning, and fine diameter paved and unpaved road and crustal dust (22). Emissions from gasoline power engines and other combustion sources make smaller contributions. Primary sources for coarse particle concentration are paved and unpaved road dust and crustal material, which accounts for 45% of the PM_{10} mass concentration, and transformed sea-salt particles that are formed over the ocean and transported to the basin by prevailing winds. These sources produce a background aerosol that further interacts with gas-phase combustion emissions whose chemical characteristics evolve during atmospheric reactions to produce particulate-phase ammonium nitrate, ammonium sulfate, and secondary organic carbon compounds. The gas-to-particle conversion processes continue as the aerosol ages and moves downwind resulting in increases in concentration and composition changes of particles until fine particle mass is primarily composed of secondary reaction products.

The emission sources and atmospheric processes that produce particulates have implication for the interpretation of our data. Because the processes are coupled, characteristics of

the atmospheric aerosol are spatially and temporally correlated. Areas with the highest mass concentration of PM_{10} and $PM_{2.5}$ also have the highest secondary aerosol concentrations (ammonium nitrate, ammonium sulfate) and the gas phase with the greatest age from time of emission. It follows that any chronic respiratory effects associated with particulate mass concentration might be explained by particle primary sources or by particle composition or concentrations of other pollutants that are positively correlated with the age of the aerosol. Our current exposure data do not permit us to discriminate among these possibilities.

Unlike other atmospheric pollutants, the effect of NO_2 has been examined in epidemiologic studies relatively unconfounded by multiple pollutant mixes, because NO_2 is common in indoor air contaminated by emissions from pilot lights and gas stoves at concentrations that may approach outdoor levels. Animal studies suggesting that NO_2 may enhance the infectivity of respiratory pathogens have resulted in extensive study of the effects of gas stoves on illness and lung function (2). In one of the few prospective studies in humans, Dutch children were followed over a 2-yr period with serial lung function measurements, but there was no consistent relationship between growth of lung function and a single measurement of indoor NO_2 (23). In early analyses of data from the Six Cities studies, lower levels of FEV_1 and FVC were observed in children living in homes with gas stoves (24, 25), but in subsequent analysis there was no evidence that lung function growth was correlated with gas stove exposure (26). In a subsample of children from the Six Cities study for whom indoor NO_2 was measured, there was no consistent effect of measured NO_2 on lung function level in spite of a relatively strong association between respiratory symptoms and NO_2 (27). Other studies of the effect of indoor sources of NO_2 on lung function in children have also not been consistent (2).

The high ambient concentration of NO_2 is the primary source of gaseous nitric acid present in southern California air. Although there has been little previous epidemiologic study of nitric acid, exposure to 50 parts per billion (ppb) in chamber studies has been shown to result in modest acute reductions in FEV_1 among children with asthma (28). In an epidemiologic study of Dutch children, modest acute deficits in flow rates were associated with same-day exposure to low levels of ambient nitrous acid (29), a gaseous acid that exists in equilibrium with nitric acid. In a large cross-sectional study of children in 24 North American cities, decrements in FVC and FEV_1 were associated with chronic exposure to strong acid sulfate aerosols after adjustment for ozone exposure (20). Experimental and toxicologic studies of acid sulfate aerosols suggest that the irritant potential is related to the H^+ concentration, especially in association with metal ions (1). However, it is not clear that the effects of gaseous nitric acid are the same as for acid sulfate aerosols, even if H^+ is responsible for lung damage. Gaseous nitric acid may be buffered differently by oral ammonia, or variations in deposition by particle size for sulfate aerosols may result in respiratory effects that differ from those of nitric acid.

In a recent longitudinal study of children in Austria, Frischer and coworkers concluded that exposure to ambient ozone was associated with reduced lung function growth (30), although they also observed significant associations with NO_2, SO_2, and PM_{10}. Some additional epidemiologic studies have also suggested that chronic exposure to ozone has long-term effects on lung function (31, 32), findings that have some support from animal studies (1). However, interpretation of the existing epidemiologic evidence is hampered by inability to separate the effects of other copollutants from the effects of ozone (33). The present study was originally designed to assess the independent effects of ozone by minimizing its correlation with other copollutants, and, as expected, observed long-term average ozone concentrations were not significantly correlated with the other pollutants (Table 2). In light of this, our results provide little support for a substantial long-term effect of ozone on lung function growth in children. This could potentially be explained by misclassification of exposure from using central monitor pollutant levels or by low sensitivity of spirometry to detect small airway effects. However, we observed consistent effects for other pollutants using the same exposure estimation methodology, indicating that the lack of an observed ozone effect is unlikely to be the result of these factors. As shown in Figure 1, the variation across communities in mean ozone concentrations (approximately twofold from least to most polluted) was less than for the other pollutants. This modest range in ozone exposure, in conjunction with the low I/O ratio of ambient ozone, may also explain why we did not observe a significant ozone association.

In summary, we obtained annual lung function measures on a cohort of 3,035 school-aged children over a 4-yr period. After appropriate adjustment for personal and household characteristics, ambient air pollution was correlated with statistically significant, and perhaps physiologically important, decreases in lung function growth. The estimated deficit in annual FEV_1 growth rate of 0.9% per year across the range of PM_{10} exposure exceeds the 0.2% annual decrement that has been reported for passive smoke exposure in children (26). The results suggest that exposure to air pollution may lead to a reduction in maximal attained lung function, which occurs early in adult life, and ultimately to increased risk of chronic respiratory illness in adulthood. Data from the remainder of our study will help to elucidate the relationships between respiratory health and long-term exposure to ambient air pollutants, while additional follow-up of the cohort beyond graduation will be necessary to determine whether the observed air pollution–associated deficits in lung function have an impact on adult respiratory health.

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Merced/Mariposa County Asthma Coalition



Report to the Community on Asthma

The Merced/Mariposa County Asthma Coalition (MMCAC) is a community-based health organization whose mission is: Controlling asthma through awareness and education. The coalition was formed in 1997, and since then has grown into a diverse body consisting of over 120 volunteer members.

CONTROLLING ASTHMA THROUGH AWARENESS AND EDUCATION.

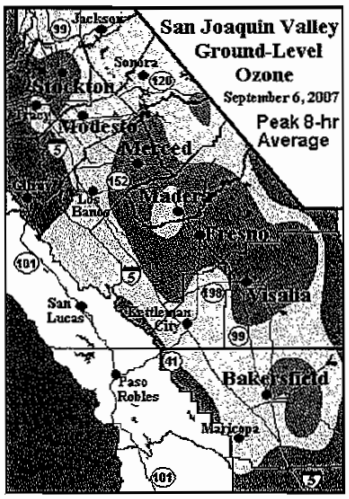
ASTHMA, AN INFLAMMATORY LUNG DISEASE, is one of the most common chronic diseases of children. Common symptoms include recurrent wheezing, coughing, difficulty breathing, and/or tightness of the chest. Asthma attacks can range from mild to life threatening. There is no known cure for asthma, but it can be controlled by following a medical management plan and by reducing exposure to environmental "triggers," such as air pollution, pollen, tobacco smoke, pesticides, dust mites, furry pets, mold and certain chemicals. Asthma control is essential throughout life because, contrary to popular belief, you do not grow out of asthma. Health care providers can access the updated Asthma Guidelines at www.nhlbi.nih.gov

Asthma is a problem that needs to be addressed through policy change. Because the reduction of environmental triggers is an essential component of asthma control and prevention, individuals, communities, and policy makers must work together to find solutions. This report, which includes the latest data and research, will outline the problem of asthma in Merced County, describe some of the work being done to address the problem, and highlight some specific policy recommendations.

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Asthma Disparities in the San Joaquin Valley

- Asthma is among the most common chronic childhood diseases, affecting approximately 6.5 million children nationwide including 1.7 million children in California alone. The San Joaquin Valley (Valley), which includes Merced County, has four times the national average for asthma prevalence with one in five children under the age of 18 diagnosed with asthma.[1,2]
- The burden of asthma weighs heavily on children throughout the Valley. Approximately 9,600 children under the age of 18 living in the Valley visited an emergency room due to asthma-related issues of which 745 were children living in Merced County.[3]



High Levels of Ozone Pollution Persist in the San Joaquin Valley in Summer

Environmental Triggers of Asthma: Outdoor Air Pollution

Air pollution is the number one environmental concern for the people of the Valley,[4] and for good reason – the Valley has some of the most polluted air in the country.[5] Air pollution endangers the health of residents, retards the growth of crops, and threatens the overall economy and quality of life in the region.

Contrary to popular belief, the majority of pollution in the Valley does not come from outside the area. In the Northern part of the Valley, including Merced County, 73% of pollution comes from local sources as opposed to only 27% that is transported from the Bay Area and Sacramento basins.[6]

The geography of the Valley acts as a trap for outdoor air pollution. Surrounding mountains trap airborne pollutants near the Valley floor where people live and breathe. Population growth also contributes to the problem, as more people bring more activities that contribute to poor air quality.

According to the Department of Finance[7], the Valley has the fastest growing population in California. As such, land-use is rising to the top of the agenda given increasingly limited resources and an economy historically rooted in agriculture. The built environment has a tremendous impact on quantity of and exposure to air pollution. In order to maintain healthy communities, smart growth principles must be the guiding principles of all land-use plans. Smart growth policies include: mixed land uses, walkable communities, preservation of open space, the enhancement of existing communities, and a variety of transportation choices.[8]

Health Impacts of Air Pollution

Pollution impacts residents year-round with ozone (aka "smog") filling the Valley during the warm summer months, and particulate matter (PM 2.5) being the pollutant of concern in the Fall and Winter seasons. These two contaminants are devastating to lung and heart health and result in serious long term damage to our bodies that can even result in premature death. Ozone, caused from the combination of Nitrous Oxides (NOx) and Volatile Organic Compounds (VOCs) in heat can cause chest pain, shortness of breath, airway inflammation and asthma attacks.[9]

Fine particles, or PM 2.5, are microscopic solids or liquid droplets that can be breathed deep into the lungs and even absorbed into the bloodstream. When people are exposed to high levels of this type of pollution they are more likely to experience: asthma attacks, bronchitis, decreased lung function, heart attacks, and/or premature death.[10]

Findings Related to Outdoor Pollution and Health

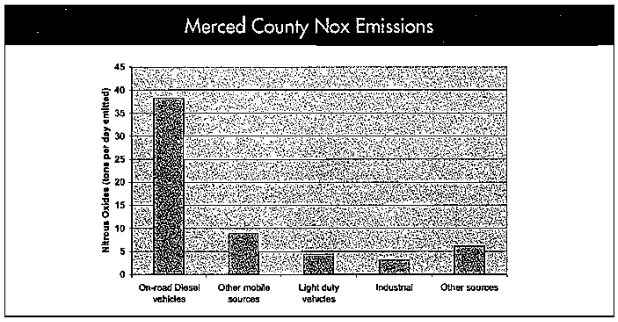
- Residential proximity to high-traffic roads has been associated with asthma hospitalizations, respiratory symptoms, and compromised lung function in children.[11]
- Children living in communities with higher concentrations of pollutants had lungs that developed and grew more slowly than other children and thus, had a reduced ability of transporting air through their lungs.[12]
- Children living in high ozone communities and who actively participated in sports were more likely to develop asthma than children who did not participate in sports.[13]
- Overall, Valley residents could expect annual benefits of $3.2 billion if both fine particulate matter and ozone Federal levels were attained.[14]

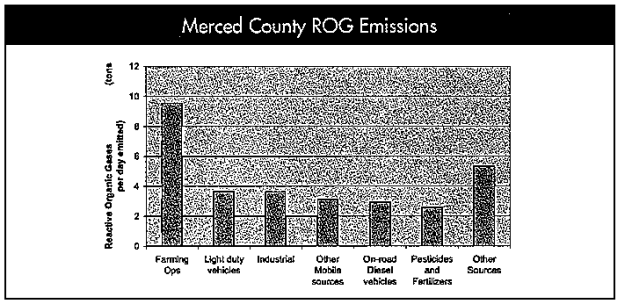
Sources of Pollution

There is a wide array of pollution sources in Merced County. The top three sources of PM 2.5 in Merced

County in 2005 were heavy duty diesel trucks (14.8%), fugitive windblown dust from agricultural land and unpaved roads (13.2%), and farming operations including dust (11.8%).[15]

Ozone Precursors: The following two graphs detail the top contributors to ozone pollution in Merced County in 2006.[16]





A Big Problem for Merced County

All of this pollution leads to the violation of health-based National and State Ambient Air Quality Standards in Merced County and the San Joaquin Valley Air Basin. For example, from 2000-2005 Merced County violated the State 8-hour ozone standard on 525 days and the National 8-hour ozone standard on 194 days![17]

BECAUSE OF THIS:

- Merced County was ranked 8th in the national list of "People at Risk in 25 Most Ozone-Polluted Counties.[18]
- The city of Merced ranked 6th in the national list of "People at Risk in 25 Most Ozone-Polluted Cities".[19] Of the top 6 most ozone-polluted cities in the nation, four (Bakersfield, Visalia-Porterville, Fresno-Madera, and Merced) are located in the San Joaquin Valley.

Keeping Children Healthy: Solutions in Schools

OUTDOOR AIR QUALITY FLAG PROGRAM

In 2004, the Merced/Mariposa County Asthma Coalition launched the Outdoor Air Quality Flag Program at Merced County Office of Education campuses. Since then, this innovative program has spread to 21 of 22 public school districts in the County, private schools, hospitals, health centers, Head Start, and Migrant Head Start sites. In total, over 130 flags are flying on local flag poles that signify daily air pollution levels in the County.

Everyday, each participating school raises a flag that corresponds with the colors of the Air Quality Index. On a 'Good' air quality day the green flag is raised on the flag pole while a yellow flag goes up on a 'Moderate' day. An orange flag means the air is 'Unhealthy for Sensitive Groups' such as children, seniors, and people with heart and/or lung disease. A red flag means the air is 'Unhealthy' for everyone.

Given the frequency of unhealthy air days throughout the year in the Valley it is essential for Merced County residents, especially children, to take measures that reduce their exposure to harmful pollutants. To that end the MMCAC has created (in partnership with other organizations) the Active Indoor Recess (AIR) curriculum that outlines indoor activities students may do on poor outdoor air quality days during recess and PE.

INDOOR AIR QUALITY PROGRAM

Merced County faces many challenges when addressing outdoor air quality issues; however, there are times when indoor air pollutants could be 2-5 times higher, and occasionally 100 times higher than outdoor levels. Poor indoor air quality (IAQ) can cause headaches, fatigue, sinus congestion, coughing, and sneezing; it can also promote the spread of airborne infectious diseases. Indoor air pollutants can be particularly harmful to students with allergies or asthma.[20]

The MMCAC collected data from 106 teachers through a "Teacher's Classroom Checklist" tool. The following data concludes there is more work to do in creating healthy classrooms and better IAQ in schools.

- 40% of participating teachers reported they did not know how their Heating, Ventilation, and Air Conditioning System worked or that they needed follow-up to ensure the unit's proper function.
- 21% of participating teachers reported there were water stains on their classroom ceilings or evidence of leaks or moisture.
- 24% of participating teachers reported their rooms were not dusted and swept or vacuumed regularly.
- 36% of participating teachers were unsure whether the cleaning products in their rooms were district approved or not.

The Merced/Mariposa County Asthma Coalition has partnered with four Merced County schools to evaluate campuses, educate teachers, and implement strategies

and policies that would improve indoor air quality in classrooms. By applying the EPA's Indoor Air Quality Tools for Schools program to existing policies and procedures, schools identify no-cost / low-cost solutions that promote an "asthma-friendly" classroom free of indoor environmental triggers. Some of these solutions may include maintaining the continual and uninterrupted exchange of air through Heating, Ventilation, and Air Conditioning systems, removal of scented products in School District classrooms (candles, air fresheners, perfumes, etc.), and the purchase and use of "Environmentally-Preferred Products" in custodial practices that emit the lowest amount of odor and Volatile Organic Compounds.

POLICY RECOMMENDATIONS

Preventing people, especially children, from exposure to environmental asthma triggers, particularly indoor and outdoor air pollution, and reducing the amount of pollution being emitted into the ambient air are both critical in the reduction of the asthma burden in Merced County. Therefore, the Merced/Mariposa County Asthma Coalition proposes the following policy recommendations:

- Support expedient regional attainment of the 8-hour ozone and PM 2.5 State and National Ambient Air Quality Standards.
- Adopt standards in land use plans that incorporate smart growth principles and reject land uses that attract/emit high levels of pollutants, particularly diesel emissions, in order to protect the health of Merced County residents and downwind Valley communities.
- Adopt a uniform policy (ex. AIR) in all Merced County School Districts outlining appropriate indoor activities for unhealthy air days over Air Quality Index 100 as a component of school procedures and guidelines.
- Implement a comprehensive and effective Indoor Air Quality Management Plan in Merced County School Districts with set policies and procedures.

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CONTACT INFORMATION

For more information about this report card, please contact the Merced/Mariposa County Asthma Coalition at (209) 385-5490 or visit www.mmcac.com

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17-1 The commenter states that the DEIR does not adequately address the project's impacts to air quality and does not identify and discuss all feasible measures that would reduce air quality impacts to a less-than-significant level. However, the commenter does not identify any specific topics that were not addressed in the air quality analysis, how the studies relied upon in the analysis are inadequate, which particular studies the comment refers to, or potential mitigation measures that should be added or modified in the DEIR. The commenter also states that "the full extent of the Valley's air quality public health crisis has not been taken into account on all levels of planning" but does not discuss which air quality-related public health concerns were not addressed. Section 4.2-1, Environmental Setting, presents information about the existing air quality conditions, the health effects of various pollutants, and the emissions inventory. Please also refer to Master Response 13.

17-2 The commenter indicates three main areas of concern, alleging first that the studies in the DEIR are dubious, second that additional feasible mitigation is available to reduce air quality impacts, and third the full extent of the Valley's air-quality-related health crisis was not fully considered. However, the commenter does not specify how the studies relied upon in the analysis are inadequate or which particular studies the comment refers to, and the commenter does not identify potential mitigation measures that should be added or modified in the DEIR. The commenter also states that "the full extent of the Valley's air quality public health crisis has not been taken into account on all levels of planning" but does not discuss which air quality-related public health concerns were not addressed. Section 4.2-1, Environmental Setting, presents information about the existing air quality conditions, the health effects of various pollutants, and the emissions inventory. Please also refer to Master Response 13.

17-3 The comment introduces a set of questions pertaining to the Draft EIR and suggests that the technical studies included in the Draft EIR are not reliable. The comment does not detail the issues with the studies in this comment, but the commenter's questions and issues are outlined in more detail in the comments that follow. The responses to the individual comments below address these issues.

17-4 The commenter raises concerns about the precise number of trucks that will use the facility, and indicates that the 2010 and 2030 traffic studies and mitigation measures are therefore flawed and useless. The trip generation forecast that was used in the traffic analysis was based on a survey of a similar facility in Apple Valley, CA, which has 1,201 employees and a similar fleet mix as the proposed facility in Merced. The survey of the Apple Valley facility analyzed the number of vehicles entering and exiting the site throughout the day and the type of vehicles (car, truck, etc.). The NOP's figure of 900 tractor/trailer trips per day was not based on an actual forecast of the project, and overstated the potential number of truck trips that are anticipated. No changes to the DEIR are required.

The actual PM peak hour of traffic was studied, with and without the proposed project. Therefore, the suggested mitigation for actual PM peak our traffic is considered adequate.

17-5 The commenter questions "How many idling trucks would sit at the intersection? How long would the trucks wait for the stoplight to change? How much more carcinogenic diesel soot would students, teachers, and staff breath?"

The traffic analysis in Section 4.11 of the DEIR discusses the affects of the project on area intersections. Table 4.11-14 summarizes the LOS of area intersections with the addition of project-generated vehicle trips, including truck trips. A "Delay" column is included in this table. As stated in note (a) of the table, "delay is in seconds per vehicle. For signalized intersections, delay is based on average stopped delay. For unsignalized intersections, delay is based at the worst approach for two-way stop controlled intersection." Please refer to the response to comment 92-3 for discussion concerning potential TAC emissions generated by off-site truck travel associated with the project. . With regard to the commenter's third question, Impact 4.2-4 and the supporting HRA analyzes the effects of on-site diesel truck emissions and other on-site TACs on nearby receptors, including schools, residents, and workers.

17-6 The commenter expresses concern about traffic backups onto SR 99 and traffic impacts to the Mission and SR 99 intersection. The DEIR's traffic operations analysis does not forecast that traffic would back up onto SR 99.

17-7 The commenter states that the intersection traffic analyses be redone to include a peak hour number for maximum truck trips. The existing and future condition at each of the studied intersections, for both the AM and PM peak hour of traffic, has been analyzed and properly assessed using the analysis procedures required by the City of Merced. No changes to the DEIR are required.

17-8 The comment discussed regional emissions from truck trips that would be associated with operation of the project. The comment incorrectly states that regional truck trip distances were provided by Wal-Mart. The distances of regional truck trips were estimated by the City's consultant based on the list of existing 49 stores that would be supported by the new distribution center instead of the existing distribution center in Apple Valley, CA or the existing distribution center in Red Bluff, CA. For each of these stores, the analysis compared the trip distance to the store's existing distribution center to the trip distance to the proposed distribution center in Merced. It also accounted for the average daily number of truck loads shipped to each store, how the route change would occur, and the change in vehicle miles traveled (VMT) inside the SJVAB. Under existing conditions, the average one-way trip distance inside the SJVAB would be approximately 106 miles. With operation of the proposed project, the average one-way trip distance would be approximately 83 miles.

17-9 The comment discussed regional emissions from truck trips that would be associated with operation of the project. The commenter states that the DEIR did not analyze those truck emissions that would be generated outside the SJVAB. Please refer to the response to comment 96B-27 and then the response to comment 17-11. The commenter acknowledges that truck trips associated with the operation of the project would travel in air basins outside the SJVAB and the commenter suggests that the City contact the air districts that regulate air quality in these air basins for comment on the DEIR. As explained in response to comment 96B-27, a net reduction in VMT associated with outbound delivery truck trips would expected for air basins outside the SJVAB. In addition, the VMT associated with inbound truck trips to the proposed distribution center could not be estimated without extensive speculation, as explained in response to comment 17-11.

17-10 The comment requests a list of the 49 existing retail stores that would be served by the proposed project. The Applicant has requested that the City not disclose which existing 49 stores would be served by the proposed project and the number of daily truck loads shipped to each store because this information is business sensitive. The locations of these 49 stores were used to determine the net change in VMT that would occur with implementation of the proposed distribution center in

Merced. The commenter's request for a list of these stores does not raise issues with the adequacy of the DEIR.

17-11 The commenter seeks clarity about why the net change in emissions by inbound receivable trips, as shown in Table 4.2-7 of the DEIR, total precisely zero. The commenter notes that those truck trips would still need to travel over 1 mile from State Route (SR) 99 to the project's entrance gate. The estimation of truck VMT under existing conditions and project conditions could not be estimated without extensive speculation. This is because detailed information about inbound receivable trips was not known at the time of the analysis, including the number of truck trips from each wholesale supplier or port from which goods are shipped to existing Wal-Mart distribution centers and the proposed distribution center, the location from which they are shipping products, and whether the origin of those shipments would be different for the proposed distribution center than the wholesale supplier's existing origin. Therefore, as stated in note 7 of Table 4.2-7, it was assumed that the average trip distance in the SJVAB for all inbound receivable truck trips that originate at ports or wholesale suppliers, with and without the proposed project, would be equal to the average existing trip distance of 106.2 miles between the 49 existing Wal-Mart stores that would be served by the Merced Distribution Center and the existing distribution center currently serving each of those stores; these existing centers are located in Red Bluff and Porterville. However, the trip distance of 106.2 miles is not as important as the assumption that the average trip distance of inbound delivery truck trips to the proposed distribution center would not be substantially different than the trip length of deliveries to the existing distribution centers in Red Bluff and Porterville. Without engaging in extensive speculation it is not possible to determine whether the VMT associated with trucks delivering wholesale goods to the proposed project would be greater or less than the VMT by trucks delivering to the existing distribution centers in Porterville and Red Bluff. (See Response to Comment 17-8 for additional information in VMT assumptions.)

17-12 The commenter states that the 7.3 in one million cancer risk level concluded in the HRA should not be dismissed as less than significant. As explained on page 4.2-27 of the DEIR, the threshold of significance used for evaluation of cancer risk is an "incremental increase in emissions of TACs that exceed 10 in 1 million for the carcinogenic risk," as recommended in SJVAPCD's Guidance for Air Dispersion Modeling (2006). This threshold of significance is also recommended by other air districts in California, including the Sacramento Metropolitan Air Quality Management District. Because the maximum incremental increase in cancer risk generated by the project would not exceed this threshold no mitigation measures are required to reduce this exposure level.

The commenter also states that the DEIR should analyze the localized impacts from off-site traffic-related emissions. The comment notes that the proposed truck route would pass within 1,000 feet of Pioneer Elementary School and would be adjacent to a planned Weaver School District elementary school site between Childs Avenue and Gerard Avenue. The discussion under Impact 4.11-2 on page 4.11-26 of the DEIR states that "no tractor trailer traffic is expected to travel past any of the three schools located near the intersections of Childs/Coffee [i.e., Weaver Elementary School], Gerard/Coffee [i.e., Pioneer Elementary School], and Parsons/Childs... However, there is a potential for trucks to stray from their expected routes occasionally. This could result in trucks passing through residential areas and past schools. This is a potentially significant impact that requires mitigation." Therefore, Mitigation Measure 4.11-2b requires the development and implementation of a truck route plan (See page 4.11-30). The measure requires that "tractor trailers approaching and departing from the distribution center shall be limited to the following roadways from SR 99 and SR 140: Campus Parkway, Mission Avenue west of Campus Parkway, Gerard Avenue east of Campus Parkway, and Tower Road. Wal-Mart shall regularly and routinely instruct its employees, contract truck drivers, and vendors of these roadway

limitations." This measure would prevent trucks form passing within 1,000 feet of any area schools, including the planned Weaver School District elementary school site between Childs Avenue and Gerard Avenue on the east side of the Crossing/Sandcastle residential development.

The commenter also states that the DEIR should evaluate the exposure of sensitive receptors to TACs under projected 2030 traffic conditions. In response, the discussion of cumulative impacts pertaining to TACs on page 6-5 has been altered as shown in Chapter 4, "Revisions and Corrections to the DEIR," section "Revisions to Section 6 'Cumulative and Growth-Inducing Impacts.'"

17-13 The commenter indicates that the traffic study ignores the buildout of the Heavy Industrial zoned land in southeast Merced, including a peaking power plant, and the cumulative health impacts of the proposed projects. The build out of the other proposed industrial uses in the area were considered in the DEIR's traffic analysis as part of the Cumulative Condition, which is based on the General Plan buildout of the area. It should be noted that the PUC rejected the application for the peaking power plant and no subsequent applications for peaking power plants are on file with the City.

17-14 The commenter expresses concern that the Air Impact Assessment (AIA) process amounts to inappropriate deferral of mitigation. Construction and operation of the proposed project shall comply with SJVAPCD's ISR rule (Rule 9510), as required by law. The applicant shall have an AIA application approved by the SJVAPCD before issuance of a building permit from the City of Merced. The AIA shall quantify operational NO_X and PM_{10} emissions associated with the project. This shall include the estimated operational baseline emissions (i.e., before mitigation), and the mitigated emissions for each applicable pollutant for the project, or each phase thereof, and shall quantify the offsite fee, if applicable. Any on-site reductions of CAP emissions must be both quantifiable and verifiable to be credited towards the requirements of the ISR Rule. The ISR rule states that the applicant shall include in the AIA application a completed proposed monitoring and reporting schedule (MRS) for on-site emission reduction measures selected that are not subject to other public agency enforcement. The MRS is a form listing on-site emission reduction measures committed to by the applicant that are not enforced by another public agency along with the implementation schedule and enforcement mechanism for each measure. A proposed MRS shall outline how the measures will be implemented and enforced, and will include, at minimum, a list of on-site emission reduction measures included; standards for determining compliance, such as funding, record keeping, reporting, installation, and/or contracting; a reporting schedule; a monitoring schedule; and identification of the responsible entity for implementation. Upon completion of monitoring and reporting, SJVPACD shall provide to the applicant, the public agency, and make available to the public, an MRS Compliance letter. The DEIR does not defer mitigation; rather it clearly defines the enforcing agency and the timeline for implementation of the mitigation measures, which are based on an existing SJVAPCD (Rule 9510). Please also refer to response to comment 16-19.

The Merced/Mariposa County Asthma Coalition (MMCAC) requests that the public be able to participate and consult with SJVAPCD in the development of the AIA that would be required by Mitigation Measure 4.2-2a and the development of the emissions reduction agreement, which is required by Mitigation Measure 4.2-2e. It will be up to the SJVAPCD to define that process and to determine the level of public involvement.

17-15 The commenter encourages the use of onsite mitigation to reduce actual emissions from vehicles entering and exiting the project site. The DEIR includes onsite mitigation in the form of measures 4.2-2b and 4.2-2c. In particular, mitigation measure 4.2-2c requires the applicant to participate in EPA's SmartWay Transport Partnership, which would ensure that the fleet of Wal-Mart-owned

trucks consists of energy efficient trucks resulting in a reduction in truck-generated emissions. The commenter does not provide any specific ideas about additional on-site mitigation. Please also refer to response to comment 9-2.

17-16 The MMCAC states that "a majority of trucks using the [distribution center] would be non-Wal-Mart trucks. We encourage the development of an enforceable mitigation program that monitors all trucks using the facility." Please refer to the response to comments 9-2 and 12-5.

17-17 The MMCAC states that "the SJVAPCD should require Wal-Mart to mitigation each type of criteria pollutant to zero for the life of the project." This comment is not directed to the City, but rather to SJVAPCD. Please refer to Master Response 13 for discussion about the relationship between SJVAPCD's thresholds of significance, SJVAPCD's air quality planning efforts, and public health concerns related to air quality in the SJVAB.

The MMCAC disputes "the DEIR's claim that SJVAPCD 'has not identified mass emission thresholds for operational emissions of PM10 and PM2.5.'" With regard to a mass emission threshold for PM10, please refer to response to comment 21-4. SJVAPCD has not developed a mass emission threshold for PM2.5.

17-18 The MMCAC states that "given the extreme air quality public health crisis that our members experience on a daily basis, the [SJVAPCD] should require 2:1 mitigation per ton of pollutant." This comment is not directed to the City, but rather to SJVAPCD. Please refer to response to comment 118-5.

17-19 The MMCAC states that "if the City of Merced is going to monitor the voluntary agreement mitigation measures, we ask that the [SJVAPCD] and California Air Resources Board staff train City of Merced staff in appropriate fields to assist in gaining expertise in recognizing and mitigating criteria pollutants." The development of the AIA required by Mitigation Measure 4.2-2a and the development of the emissions reduction agreement required by Mitigation Measure 4.2-2e would not necessitate ongoing enforcement or monitoring by the City of Merced. Text has been added to the language of Mitigation Measures 4.2-2a and 4.2-2e to clarify the enforcement mechanism of these measures. Please refer to response to comment 17-14.

17-20 The MMCAC states that "if Wal-Mart chooses to pay an in-lieu fee, we request 1) that PM emissions be mitigated at a 2:1 ratio and 2) that on-site fees be directed towards helping Merced residents cope with the real world health impacts of local PM emissions." Please refer to response to comment 118-5 regarding item 1. With regard to item 2, providing funding and or services to help affected citizens cope with an environmental impact would not be considered a reduction of that impact; it would not reduce emissions of CAPs and precursors in the SJVAB. The development of the AIA required by Mitigation Measure 4.2-2a and the development of the emissions reduction agreement required by Mitigation Measure 4.2-2e would reduce emissions of CAPs and precursors in the SJVAB to a less-than-significant level.

17-21 The MMCAC states that "the DEIR should also discuss how this project may interfere with regional or countywide emission reduction goals set under SB 375." The commenter also states that "these goals should be included in the City of Merced's updated General Plan."

Senate Bill (SB) 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light

trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

This law also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

Emission reduction goals have not been set for the local MPO, or any other MPO in California pursuant to SB 375; therefore, the project cannot conflict because no goals have been set.

17-22 The MMCAC states that "the current City of Merced Vision 2015 General Plan, written in 1995-6 and approved in 1997, is out-of-date" and that "the City is out of compliance with the letter and intent of AB 170." The air quality analysis in the DEIR (See Section 4.2) does not rely on significance determinations made in the General Plan EIR; therefore, the comment does not address the adequacy of the DEIR for the proposed project. Information about the General Plan is included in the regulatory setting of the air quality analysis for disclosure purposes only. The MMCAC also states that "this project contradicts the 'Toxic and Hazardous Emissions' section of the SJVAPCD's Air Quality Guidelines for General Plans." The comment fails to provide reasoning that supports this claim. By addressing the project's TAC emissions and their potential health impact to receptors in the surrounding community in Impact 4.2-4, which concluded a less-than-significant impact, the City has fulfilled the guidance provided in SJVAPCD's Air Quality Guidelines for General Plans, available at http://www.valleyair.org/notices/Docs/priorto2008/8-2-05/Entire-AQGGP.pdf). The City has ensured that the proposed project would be "located an adequate distance from residential areas and other sensitive receptors" as stated in Policy 28.

17-23 The MMCAC states that "as a good-faith commitment and in order to reduce Vehicle Miles Traveled (VMTs) as required by SB 375, the Wal-Mart Corporation must hire 90% of all [distribution center] employees from Merced County (residents who live in Merced County prior to employment)." This comment is noted. The MMCAC's concern about the employees who would work at the proposed project does not raise issues with the adequacy of the DEIR. The comment is noted. Please refer to response to comment 17-21 regarding the SB 375. Please also refer to response to comment 96B-27 regarding the anticipated net change in truck VMT that would result from the proposed project.

17-24 The MMCAC provides a list of mitigation measures to be implemented that would reduce operational emissions of CAPs and precursors. However, the commenter does not argue that the mitigation measures listed in the DEIR are insufficient or reasons why additional mitigation is needed. Impact 4.2-2 regarding operational emissions of CAPs and precursors was found to be significant and mitigation measures 4.2-2a through 4.2-2e were proposed to minimize this impact to a less-than-significant level. Impact 4.2-3 regarding localized mobile-source emissions of carbon monoxide was found to be less than significant. Impact 4.2-4 regarding localized exposure of sensitive receptors to emissions of toxic air contaminants was found to be less than significant.

The MMCAC also expresses concerns about the relationship between project-related emissions and asthma and other respiratory health concerns in the region. Please refer to Master Response 13.

The MMCAC also requests that mitigation require the Wal-Mart to fund health and medical service programs to local citizens with asthma or other air quality-related medical conditions. However, providing funding and or services to help affected citizens cope with an environmental impact would not be considered a reduction of that impact; it would not reduce emissions of CAPs and precursors in the SJVAB. Mitigation Measures 4.2-1a through 4.2-1e and 4.2-2a through 4.2-2e would reduce emissions of CAPs and precursors in the SJVAB to a less-than-significant level. Therefore, the proposed project would not conflict with SJVAPCD's air quality planning efforts for the SJVAB.

17-25 The MMCAC states that "any mitigation measures as a result of this project should be binding with a clear timetable for implementation and benchmarks to measure their success." All mitigation measures in the DEIR are binding, as discussed in response to comment 105-1. Additional text has been implemented to the mitigation measures regarding air pollutant emissions in Section 4.2 to provide clarity about the timing, responsibility, and enforcement mechanism of each measure. Please refer to Section 4.2 for text changes and additions.

17-26 The MMCAC states that the measure in Mitigation Measure 4.2-2d which states that "The project shall include as many clean alternative energy features as possible to promote energy self-sufficiency (e.g., photovoltaic cells, solar thermal electricity systems, small wind turbines)" is too vague. The City chose to allow flexibility in the choice of technologies because technology, by nature, changes over time, and what might be the best available technology today may not be the best in several years if this project is built, or after 10 years of operation.

MMCAC also requests that this measure state that natural gas is not considered an alternative energy feature. The DEIR does not suggest that natural gas is an alternative energy source because natural gas is widely used in buildings throughout California.

MMCAC suggests that language be added to Mitigation Measure 4.2-2d that requires the applicant's written report regarding the feasibility of implementing additional operational on-site emission reduction measures, which must be submitted to the City, to also be made available for public comment. MMAC, however, does not provide reasons why this would make Mitigation Measure 4.2-2d more effective or potentially result in emissions reductions that would not otherwise occur. MMAC also suggests that the report must be approved by "knowledgeable independent experts" to determine "whether the additional measures are truly technologically or economically infeasible. The City of Merced, the CEQA Lead Agency, is qualified to determine feasibility of mitigation measures. However, the text of Mitigation Measure 4.2-2d has been modified to require the mitigation monitoring program to include the guidance of a sustainability expert. Please see Section 4.4 of this FEIR for the specific text revisions.

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Espinosa, Kim

From: Anna M. Garcia [agarcia@gvhc.org]
Sent: Tuesday, March 03, 2009 8:09 AM
To: Espinosa, Kim
Subject: Hello Kim Espinosa

I am emailing you to ask for an extension on the comment period for the EIR for the Wal Mart Distribution center. It is unfair for those who speak foreign languages and I do believe that translating the important part of the EIR should be done. After all it is people with language barriers who have to live near this "project" and to be fair in a nation that stands for land of the free for all. 18-1

Thank you,

Anna M Sanchez Garcia
Community Liaison
Merced/Mariposa County Asthma Coalition
Golden Valley Health Center
737 W. Childs Ave
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209-675-0237 (Cell)
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3/3/2009

18-1 The commenter raises issues associated with availability of the CEQA documents in languages other than English and requests an extension of the public review period. This issue is addressed in Master Response 2: Language Barrier and Public Review Period.

19

STATE OF CALIFORNIA Arnold Schwarzenegger, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

March 2, 2009

RECEIVED
MAR - 4 2009
CITY OF MERCED
PLANNING DEPT.

Kim Espinosa
City of Merced
678 West 18th Street
Merced, CA 95340

RE: SCH# 2006071029 Wal-Mart Distribution Center; Merced County.

Dear Ms. Espinosa:

The Native American Heritage Commission has reviewed the Notice of Completion (NOC) regarding the above referenced project. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search to determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for: 19-1
  - A Sacred Lands File Check. **Sacred Lands File check completed, no sites indicated**
  - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez

Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

ative American Contact
Merced County
March 2, 2009

Southern Sierra Miwuk Nation
Jay Johnson, Spiritual Leader
5235 Allred Road
Mariposa , CA 95338
209-966-6038

Miwok
Pauite
Northern Valley Yokut

Southern Sierra Miwuk Nation
Les James, Spiritual Leader
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Miwok
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North Valley Yokuts Tribe
Katherine Erolinda Perez
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Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

Amah MutsunTribal Band
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Southern Sierra Miwuk Nation
Anthony Brochini, Chairperson
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209-379-1120
209-628-0085 cell

Miwok
Pauite
Northern Valley Yokut

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2006071029 Wal-Mart Distribution Center; Merced County.

SOUTHERN SIERRA MIWUK NATION
JAY JOHNSON, SPIRITUAL LEADER
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MARIPOSA CA 95338

SOUTHERN SIERRA MIWUK NATION
LES JAMES, SPIRITUAL LEADER
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EDWARD KETCHUM
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DAVIS CA 95616

SOUTHERN SIERRA MIWUK NATION
ANTHONY BROCHINI, CHAIRPERSON
P O BOX 1200
MARIPOSA CA 95338

Mailed Wal-Mart Draft EIR on CD
3-4-2009 by T. Lucas

See 3-2-2009 correspondence from the
Native American Heritage Commission
Station of California (scanned)

19-1 The commenter states that the Native American Heritage Commission has reviewed the Notice of Completion for the Wal-Mart Distribution Center project, and recommends that several actions be performed to comply with CEQA Guidelines Section 15064(b). The project's potential impacts to cultural resources were evaluated consistent with the requirements of CEQA in Section 4.4, "Cultural Resources," of the DEIR. As described in paragraph 5 on page 4.4-3 of the DEIR, a record search was conducted by the Central California Information Center in 2004, and did not identify any cultural resources within or near the project area. In addition, mitigation measure 4.4-1 (see page 4.4-5 of the DEIR) addresses as-yet undiscovered archeological resources, and mitigation measure 4.4-2 on page 4.4-5 of the DEIR addresses discovery of Native American human remains. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided.

20

Espinosa, Kim

From: Maureen McCorry [sanjoaquinetal@sbcglobal.net]
Sent: Monday, April 27, 2009 4:47 PM
To: Espinosa, Kim
Cc: mccorrymk@gmail.com
Subject: Draft Environmental Impact Report for the proposed Wal-Mart Distribution Center (SCH#2006071029)

Dear Ms. Espinosa,

Please refer to the attached document for comments on the Draft Environmental Impact Report for the proposed Wal-Mart Distribution Center.

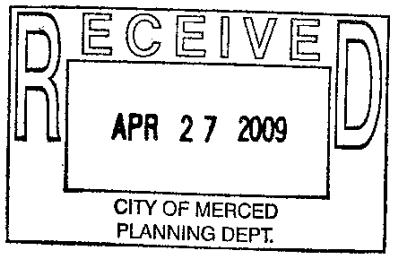
Please contact us immediately if you experience any difficulty in downloading the attachment. We would appreciate it if you could send an email confirming receipt of the email and the attached document.

Sincerely,
Maureen McCorry, Director
San Joaquin Et Al
P.O. Box 722
Merced, CA 95341
(415) 816-8872

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

4/27/2009

Maureen McCorry, Director
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April 27, 2009

Ms. Kim Espinosa, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, CA 95340
Facsimile: (209) 725-8775
E-mail: espinosak@cityofmerced.org

Re: Comments regarding the Draft Environmental Impact Report (DEIR) for the Wal-Mart Regional Distribution Center, Merced, California (SCH No. 2006071029)
Via: E-mail 4.27.09

Dear Ms. Espinosa,

San Joaquin et al is commenting on behalf of members of the public and other community organizations of standing.

We object to the proposed Wal-Mart Regional Distribution Center in Merced, California. We disagree with the environmental checklist and oppose the accompanying mitigation measures as set forth in this DEIR. The deferral, and in many cases, outright dismissal of mitigation measures is improper and unacceptable. We demand that the DEIR be withdrawn, and a new DEIR be issued that legally analyzes alternatives and is re-circulated in order to incorporate all environmental documents for adjacent projects upon which this project is reliant. In addition, we ask that this process be deferred until the release of the long awaited and overdue General Plans for the City and County of Merced, the University of California Long Range Development Plan, and final documents for other neighboring unincorporated communities are made public. 20-1 20-2

Alternatives analysis: 20-3

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Viable alternatives were not properly examined in this document. Rather than legally analyze comparable sites outside the proposed project, the DEIR narrowly construes the alternatives to a no project, a redesigned, or reduced project on the same site (with the exception of the Thornton/West Dickerson Ferry Road industrial zone). The DEIR fails to meaningfully assess how the sites listed in Table 5. 1 were rejected. Politics, proximity to residential communities, truck traffic impacts – including safety— were evidently reason enough to prevent a distribution center from being built elsewhere. Yet many of the reasons outlined in Table 5-1 are not at all relevant to the California Environmental Quality Act (CEQA) and have no place in a DEIR. For instance, why is it that political considerations were given more weight than the proposed Merced site, even in locations that already possess the required infrastructure? Why does residential impacts – including safety – rise to the level of impediment in Patterson, but not in Merced – where children in three local schools will be impacted? Other viable alternatives are completely ignored. The current economic crisis has left large industrial distribution sites vacant at Castle, and in Madera, Ceres, Stockton, and Tracy, yet these alternatives were not even considered, let alone properly analyzed in the DEIR under CEQA. 20-3 Cont'd

A dry storage distribution center makes little sense in the heart of an agricultural economy in the San Joaquin Valley. Project proponents did not analyze a cold storage distribution center.

We disagree with the conclusions that a "No Project" alternative on the proposed site will lead to identical or very similar impacts as a regional Walmart Distribution Center. This assertion relies on a whole series of faulty assumptions. 20-4

Tiering/Piecemealing :

This document is reliant on environmental documents which have not been made available to the public as part of this environmental review process. For example, the proposed WDC is reliant on the build-out of Campus Parkway. Relying on other project mitigation is unacceptable. In addition, the current economic crisis calls into question the availability of funding allocated for the Campus Parkway. 20-5

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A Notice of Preparation (NOP) was filed for the Merced Gateway Park East Commercial and Residential development (April 1, 2008) – but there is no indication as to how this project will interface with the WDC, the Lyons Annexation (Negative Declaration, April 20, 1998), and the City of Merced's recent approval to abandon 1.37 acres to Lyons Investments (as approved by the Merced City Planning Commission on January 7, 2008 and the Merced City Council on January 20, 2008).

20-5 Cont'd

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Infrastructure/Utilities:

Storm-water:

The plans for addressing storm-water drainage are inadequate. This is an area that is prone to flooding without the proposed WDC, the Campus Parkway, and other developments which will compete for water drainage.

We are unable to fully evaluate the impacts of storm-water drainage as this project is reliant on land use approvals and environmental documents on adjacent properties which were not circulated with this DEIR. These impacts can't be understood without access to all environmental documents.

How does the abandonment of the storm-water detention basin improve (referenced above), detract or impact this project?

In the best of worlds, detention ponds are problematic regarding public health and safety. 20-6

The ability of the detention ponds to hold excess water is questionable at best. Documents created for the City of Merced for the WDC in July, 2005 discuss some of the challenges drainage will pose for this site – using a 10 year storm, 24 hour storm analysis (some of these conclusions have been integrated in this DEIR). This document noted that Merced Irrigation District (MID) would have to pump water from the drainage ponds in order to accommodate excess water. However, as was noted in this document, the ponds could not be drained using *the maximum* discharge rate of 2200 gpm, within a 48 hour period for a 10 year storm. In addition, the challenges that are identified in this document, the DEIR, MID comments, and drainage issues on adjacent, entitled projects all point to the inadequacy of the current plan to address a reoccurring flood problem.

The challenge to capturing storm-water run-off is compounded by the hazardous waste associated to a fully functioning distribution center. What type of water will be

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entering the canals and groundwater when flood waters are not captured by the detention ponds? Moreover, the propensity to flood in this region is magnified as more agricultural land in this region is converted to impervious surfaces. The current drainage plans are already stretched; it is more than reasonable to surmise that with full build-out of the WDC, the Campus Parkway, and the industrial and commercial projects immediately adjacent to this project will be unable to absorb storm-water run-off effectively. Because the cumulative impacts of these projects are effectively ignored, the environmental documents associated to these adjacent developments have not been analyzed and therefore, the public has no way to fully understand drainage and flooding issues as well as impacts to groundwater and water quality.

20-6 Cont'd

We can expect these impacts to be significant, but they cannot be understood in the current document. On page 2-34 of the Executive Summary, the proposal relies on a 100 year flood zone standard. Yet, the DEIR defers new state and federal flood management law as referenced in the Executive Summary (4.6-6). Deferral of state and federal law is unacceptable.

Sewer Capacity:

The current sewer system is at capacity. The City of Merced has published a Draft Sewer Master Plan (January, 2007). How does this proposal impact this plan?

In what ways does the WDC proposal enhance or detract from plans for a regional sewer system that could serve both the city of Merced and neighboring and financially strapped unincorporated service districts. Moreover, the impacts to our municipal sewer facility is stretched by residential subdivisions and commercial developments the city has entitled or approved through guidance plans, but have not yet come online (the University of California Community Plan and Yosemite Lakes are just two that come to mind). How are the City of Merced's current commitments to both residential and commercial use impacted by this project? The lack of sewer capacity would be reason enough to delay any further approvals until the new General Plan and accompanying master plans are published.

20-7

Transportation:

20-8

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The assumptions underlying the traffic analysis are woefully inadequate. The DEIR narrowly frames truck traffic impacts. For example, the truck traffic impacts to Yosemite Parkway, along with a variety of country roads that will be impacted are ignored. In addition, this project will very significantly impact Childs Avenue, Gerard, Kibby, and Tower Roads. These county roads are well beyond disrepair. The traffic discussion is limited and wholly dependent on the build-out of the Campus Parkway. At the time of this writing, Campus Parkway is limited to the interchange and a very short distance forcing WDC related traffic on two land roads in a county that has been committed to building expressways rather than shoring up its deteriorating and much used county road system. Who will bear the burden of cost associated to improving the roads/parkway that will service this project? 20-8 Cont'd

In addition, there is no analysis in the DEIR on the impacts associated to the empty storage containers that are left on site once they are loaded or unloaded. 20-9 The growth inducing impacts of increased truck traffic from the port of entry (Oakland) through Highway 99 to the proposed WDC are also ignored in this document. 20-10

We demand that all outside carriers servicing the WDC be held to 2010 California emissions standards. 20-11

Parking/Staging:

Another immediate impact that this DEIR ignores is the fact that outside carriers will not have the same accessibility to parking as Walmart trucks on the WDC site. Outside carriers are not allowed to stay on the premises while they wait to be loaded or unloaded. Outside carriers have a narrow window, from 1 – 3 hours, for loading/ unloading their trucks. They will need to remain in the vicinity of the proposed WDC during that time frame. Where will they park? 20-12

General Plan Consistency:

City of Merced: WDC is reliant on an outdated General Plan. It makes little sense to consider this project in advance of the City of Merced's updated general plan. 20-13

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Moreover, there is no analysis as to how this project relates to the South Merced Specific Plan. The Master Plans associated to the updated General Plan should provide the guidance for a project of this scope and magnitude. 20-14

County of Merced: Merced County is in the process of updating its general plan. The proposed WDC will have impacts on circulation, cumulative impacts to county lands adjacent to the project – including farmland conversion, water quality, traffic, and air impacts. We disagree that the potential for growth and the impacts on farmland conversion are relevant only to the City of Merced. Moreover, most of the adjacent land that will be impacted by the project is on county land. 20-15

The University of California: The University of California is in the process of finalizing its Long Range Development Plan (LRDP). However, there are significant incongruities between the UC LRDP and the County of Merced's University Community Plan. Mitigation included for the UC includes a comprehensive conservation strategy that encompasses Eastern Merced County and is ignored in this DEIR. 20-16

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Agriculture:

This project relies on an approximately 20 year old planning document. There is no mitigation proposed for this project. As the Executive Summary states on page 2.-53 in reference to "Cumulative Agricultural Land Impact": "... The project would result in a loss of approximately 158.2 acres of Prime Farmland, 57.87 acres of Farmland of Statewide Importance, and 12.61 acres of Unique Farmland, *which is considered to be a cumulatively considerable contribution to the cumulative impact when considered along the past farmland conversions identified above and planned future development proposed* in the City of Merced..."

We disagree with the conclusion in this document that a "statement of overriding consideration" is a substitute for meaningful mitigation – especially for a project of this magnitude and a project proponent with substantial resources.

Furthermore, we disagree with the conclusion that the impacts to adjacent lands is not the responsibility of this project or the City of Merced. Farmland in this region – let alone the entire county -- has not been mitigated. We wholeheartedly disagree with the reasoning and conclusions drawn in the Executive Summary at 4.1-1: "...mitigation that would eliminate the loss of agricultural land to urban development is not possible. Therefore, because no mitigation is available to reduce this impact would remain significant and unavoidable. This conclusion is consistent with the conclusion of the EIR prepared for the Merced Vision 2015 General Plan..." 20-17

While this project relies on an antiquated General Plan, an updated General Plan is waiting in the wings.

These conclusions and reliance on an antiquated General Plan ignores growing community support for protecting agricultural lands, especially in the aftermath of the plethora of partially built and thoroughly abandoned subdivisions that have lept over the traditional city limits to create urban sprawl in the heart of our precious natural resources and farmland. The unnecessary sprawl created by a real estate boom gone

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bust and has created real impacts to agricultural lands as noted by the lead agency on page 2-53 of the Executive Summary.

The disconnect in the DEIR (acknowledging the rapid conversion of farmland, yet choosing to avoid mitigation for this loss) underscores the importance of deferring consideration of this project until a new general plan is adopted that includes an enforceable mitigation policy for agricultural lands. 20-17 Cont'd

Mitigation should be developed and agreed to in advance of the project approval and should require in-kind mitigation as opposed to in-lieu fees.

Biological Resources:

Biological impacts are dismissed as insignificant based on the unsupported conclusion that agricultural and current land uses in this region do not support significant wildlife resources. These conclusions were reached without ground sleuthing or site visits. We disagree with this conclusion and request documentation that supports the conclusions in the DEIR. Deferring mitigation for biological resources is improper and illegal. 20-18

As noted above, this region is in fact adjacent to the University of California's Conservation Strategy for Eastern Merced County which is not at all analyzed in this DEIR.

Cumulative Impacts:

The discussion associated to cumulative impacts is too narrowly drawn. Conclusions drawn regarding Population and Housing (ES, 2-54) serves as a case in point. The potential for farmland conversion is determined to be "less than significant," effectively ignoring the growth inducing and cumulative impacts associated to this project in combination with other projects as outlined above (4-11.1). 20-19

We find the "cumulative impacts" analysis woefully inadequate. No impacts are associated to the project and therefore, no mitigation is required. Merced has already become the victim of another major developer, the University of California. We have

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been through the long on promises (in this case: jobs), short on action road before (in this case mitigation for the very real impacts the proposed WDC will bring to our community). Merced cannot afford another big developer who is unwilling to foot the bill on road/traffic impacts, sewer impacts, water impacts, and resource impacts -- Mercedians deserve better.

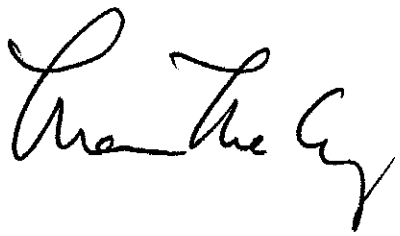
20-19 Cont'd

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We once again state that relevant documents/projects, upon which this document is reliant, were not circulated with this DEIR, and therefore we demand re-circulation of the DEIR as stated above. Finally, we request that any changes to the proposed project will require a re-circulation of the EIR.

Thank you in advance for your thoughtful consideration of our concerns.

Sincerely,



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cc: Interested parties

20-1 The commenter states objection to the proposed project and disagreement with the environmental checklist and mitigation measures recommended in the DEIR. The commenter states deferral and dismissal of mitigation measures is "improper and unacceptable." The commenter requests the DEIR be revised to legally analyze alternatives and incorporate all environmental documents for adjacent projects and that it be recirculated.

Related to the "environmental checklist" used in the DEIR, the thresholds established in the DEIR were taken directly from the CEQA Guidelines (Appendix G) along with any additional thresholds deemed relevant to the proposed project. Related to mitigation measures recommended in the DEIR, the mitigation measures provided comply fully with the requirements of CEQA Guidelines Section 15126.4 which outlines the requirements for mitigation measures. Because the commenter does not provide any specific details on what part of the "environmental checklist" or what mitigation measures are disagreed upon, no further response can be provided.

Related to deferral and dismissal of mitigation measures, it is unclear what specific mitigation measure(s) the commenter refers to. Therefore, no additional response can be provided.

Related to analysis of project alternatives, the DEIR adequately analyzes alternatives to the proposed project in Chapter 5, "Alternatives to the Proposed Project." The commenter does not provide specifics of how the analysis of project alternatives may be "legally" deficient; therefore, no further response can be provided. See also Master Response 12: Alternatives.

Related to incorporating all environmental documents for adjacent projects, the intent of the DEIR is to analyze environmental impacts of the proposed project. CEQA does not require the DEIR to incorporate environmental documents for adjacent projects. In addition, the commenter does not identify what, if any, relevant information would be obtained from these environmental documents. No further response can be provided.

20-2 The commenter requests the DEIR be deferred until the updated General Plans for the City and County of Merced, University California Long Range Development Plan, and documents for other neighboring communities are completed. CEQA does not require deferring the public release of a DEIR until other documents are completed. The DEIR adequately establishes an appropriate environmental setting in accordance with CEQA Guidelines Section 15125(a) which constitutes "the baseline physical conditions by which a lead agency determines whether an impact is significant." The environmental setting is further described in CEQA Guidelines as "a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published …" (Section 15125(a)). Section 15125(e) further emphasizes the existing conditions as being "the time the notice of preparation is published." The DEIR fully meets the requirements of CEQA in establishing an appropriate environmental setting, baseline, and timing for which to analyze environmental impacts of the proposed project.

20-3 The commenter states viable alternatives to the proposed project were not properly examined in the DEIR. The commenter states the DEIR does not assess how sites listed in Table 5-1 were rejected. The commenter states reasons for rejection provided in Table 5-1 are not relevant to CEQA and do not belong in the DEIR. The commenter states other viable alternatives were ignored including existing, vacant industrial distribution sites located in other communities. Please see Master Response 12: Alternatives, which addresses these issues.

Additionally, the commenter states a dry storage distribution center does not belong in an agricultural economy of the San Joaquin Valley. The commenter states "project proponents" did not analyze a cold storage distribution center. Related to the DEIR not analyzing a "cold storage distribution center," the project description in the DEIR identifies that the project purpose is for "storage and distribution of non-grocery goods to Wal-Mart retail stores located throughout the region" (see Section 3.1, "Project Description"). It is unclear where the commenter identified the project as a "cold storage" distribution center; however, the project is fully and adequately described in the DEIR (see Chapter 3, "Project Description"). No further response can be provided.

20-4 The commenter raises issues with the No Project Alternative identified in the DEIR. Please refer to Master Response 12: Alternatives, which addresses this issue.

20-5 The comment suggests that the City is piecemealing the environmental analysis of the Wal-Mart distribution center by not analyzing it in combination with other nearby, related projects. The City adopted a Mitigated Negative Declaration (MND) in 1998 in connection with its annexation of 484 acres, known as the "Lyons Annexation." The MND incorporated by reference the City of Merced Vision 2015 General Plan EIR and also included its own mitigation measures applicable to future projects within the annexed territory. A portion of the proposed Wal-Mart Distribution Center project would be located within Lyons Annexation territory and therefore the mitigation measures adopted as part of the Lyons Annexation will apply to the proposed project. The Wal-Mart Distribution Center DEIR includes references to the Lyons Annexation MND and the Vision 2015 General Plan. For example, mitigation fees for traffic impacts, adopted as part of the Lyons Annexation and applicable to the proposed Wal-Mart Distribution Center project, are described in the Traffic and Transportation chapter on p. 4.11-17. The Mitigation Monitoring Plan (MMP) for the Lyon's Annexation Project is a publicly available document. The MMP identifies all of the mitigation measures required for any development occurring within the annexation area, including the proposed project. In addition, to increase clarity, the Draft EIR text has been revised to describe the relationship of the proposed project to the Lyon's Annexation and to make reference to the previously adopted MMP. However, it should be noted that many of the mitigation measures in the Draft EIR add considerably to the mitigation measures in the Lyon's Annexation MND, providing increased effectiveness and greater impact reduction. The mitigation measures identified in the Merced Wal-Mart Distribution Center DEIR do not eliminate the need to comply with the previous mitigation measures, but in instances where the DEIR increases the effectiveness of the previous mitigation, or updates the previous mitigation, the compliance with the mitigation measures in the DEIR should be considered compliance with the previous mitigation measures included in the Lyon's Annexation MND. Please refer to Response to Comment 16-24 for additional information regarding the Lyon's Annexation mitigation measures.

20-6 The commenter indicates that the plans for addressing stormwater drainage are inadequate, and that detention ponds are problematic regarding public health and safety. The comment suggests that the Draft EIR has informational deficiencies with respect to the stormwater system. See Master Response 7: Detention Basins and Drainage, which addresses comments pertaining to stormwater volume. See Master Response 8: Runoff Water Quality, which addresses comments pertaining to stormwater quality.

The commenter also indicates that state and federal flood management law is deferred. State and federal flood management law is not deferred. Comment 20-6 refers to SB 5, which sets timelines for "adequate progress" in protection from the 200-year flood (per Water Code Section 65865.5[a][3]). This is explained in Impact 4.6-7 of the DEIR.

20-7 The commenter states that the current sewer system is at capacity and asks how the January 2007 Draft Sewer Master Plan will impact the proposed project. The commenter asks how the proposed project will enhance or detract from plans for a regional sewer system. The commenter states that the municipal sewer facility is already "stretched" by entitled and approved projects that have not yet been built out. The commenter then asks how the City's municipal sewer facility's current commitments to residential and commercial use will be impacted by the proposed project. The commenter states that the lack of sewer capacity would be reason enough to delay project approvals until the new General Plan and master plans are published.

Regarding the project's potential effect on plans for a regional sewer system, the commenter does not state details of such a plan and no known plans for a regional sewer system are currently underway. The project's impact on sewer capacity was fully analyzed in Section 4.12, "Utilities and Public Services," Impact 4.12-2, page 4.12-16 and 4.12-17 of the DEIR. As discussed in Impact 4.12-2, the existing WWTP capacity would be adequate to serve wastewater flows generated by the proposed project and the wastewater generated by the project, in combination with the average 7.8 mgd wastewater flows currently being treated at the Merced WWTP, would not exceed the plant's permitted capacity. Furthermore, the WWTP is currently being expanded to 12 mgd for near term treatment and then to 16 mgd and eventually 20 mgd. This expansion would address the City's future sewer capacity needs. The project impact would be less than significant.

In response to the commenter's desire for delay of project approval until new City Planning documents (General Plan, master plans) are published, please refer to Response to Comment 20-2. This comment does not raise any issues about the adequacy of environmental analysis in the DEIR. Therefore, no further response is necessary.

20-8 This comment describes various traffic-related issues including truck traffic, road maintenance, and roadway cost. Issues related to truck traffic are addressed in Master Response 6: Trucks and the Transportation Analysis. Regarding wear and tear on roads and road maintenance, please see Response to Comment 182B-1, which addresses this issue. Regarding cost associated with roadway improvements, CEQA requires that EIRs evaluate environmental impacts. Fiscal or economic impacts, by themselves, do not constitute environmental impacts; therefore, the DEIR does not address costs associated with roadway improvements. Please also refer to Responses to Comments 96B-5 and 182B-1.

20-9 The comment raises issues with the DEIR's traffic analysis with respect to empty storage containers. Goods that are brought to the Distribution Center come from various sources. It would be speculative to estimate how the proposed distribution center would potentially affect the Port of Oakland or any other port. Traffic dissipates as it moves further from the source, and the number of available route choices increases. Therefore, this location was considered outside the study area and too far way to accurately forecast project-generated traffic volumes. Please also see Master Response 6: Trucks and Transportation Analysis, which addresses this issue.

20-10 The commenter states that the growth inducing impacts from increased truck traffic from the Port of Oakland to the proposed distribution center are ignored in the DEIR. Please refer to Master Response 6 regarding truck trips and analysis. Assumptions regarding Campus Parkway and the timing of the extension of the roadway in the Background Conditions (between Mission Avenue and Childs Avenue) and Cumulative Conditions (north of Childs Avenue) were based on the City of Merced's General Plan and Capital Improvement Program.

20-11 The comment demands "that all outside carriers servicing the [project] be held to 2010 emission standards." The comment is not fully understood, but it is assumed that the commenter suggests

that all the trucks that make trips to and from the project be performed in vehicles that meet model year 2010 emission standards. The comment does not raise issues with the adequacy of the DEIR. The comment is noted. Please refer to response to comment 191-1 regarding the emissions performance required of Wal-Mart –operated trucks by Mitigation Measure 4.2-2c.

20-12 The commenter states that outside carriers will not have the same accessibility to parking as Wal-Mart trucks on the proposed project site. Outside carriers were considered in the DEIR's analysis and addressed in Mitigation Measure 4.11-2a.

20-13 The commenter states the project is relies on an outdated General Plan and the proposed project should not be considered until the City's General Plan update is complete. Please refer to Response to Comment 20-2.

20-14 The commenter states the DEIR does not analyze the project's relationship to the South Merced Specific Plan. The commenter states the master plans associated with the updated General Plan should provide guidance for the proposed project. Related to the South Merced Specific Plan, the project site is not located in the South Merced Specific Plan area. Therefore, the South Merced Specific Plan would not provide any relevant guidance to the proposed project. Related to master plans associated with the updated General Plan, please refer to Response to Comment 20-2.

20-15 The commenter states Merced County is in the process of updating their General Plan and states the project would have impacts on county lands adjacent to the project site. The commenter states disagreement that the project's potential for growth and impacts on farmland conversion are relevant only to the City of Merced.

The commenter does not identify specific impacts that could occur on county lands with implementation of the proposed project other than circulation, cumulative, farmland conversion, water quality, traffic, and air quality. The commenter is incorrect. Analysis of impacts conducted in the DEIR includes areas outside the City of Merced relevant to the environmental issue. For example, the intersection of Kibby Road and Yosemite Parkway is analyzed for traffic impacts (see Section 4.11, "Traffic and Circulation") and cumulative loss of farmland in the region, including Merced County, is analyzed (see Chapter 6, "Cumulative and Growth-Inducing Impacts"). The DEIR fully analyzes environmental impacts associated with implementation of the proposed project including areas outside the City of Merced where relevant. The commenter does not provide substantial evidence of where the DEIR does not adequately analyze an environmental impact outside the city limits. No further response can be provided.

20-16 The commenter states the University of California is in the process of finalizing their Lang Range Development Plan and identifies a farmland conservation strategy that should be identified in the DEIR. Please refer to Response to Comment 20-2 and Master Response 5: Agricultural Resources which addresses the issue related to conversion of important farmland.

20-17 The commenter states the DEIR analysis relies on antiquated General Plan and restates conclusions made in the DEIR related to loss of important farmland. The commenter states disagreement with the DEIR not providing mitigation for the loss of important farmland and relies on a Statement of Overriding Considerations. The commenter states disagreement with conclusions in the DIER that mitigation is not available to eliminate the loss of agricultural land. The commenter states the DEIR ignores community support for protecting agricultural land lost to urban sprawl. The commenter states the DEIR should be deferred until the updated general plan is adopted.

Related to the General Plan update and its relation to the DEIR, please refer to Response to Comment 20-2. Related to mitigation for the loss of important farmland, please refer to Master

Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

20-18 The commenter makes brief references to the impact conclusions regarding wildlife use, deferral of mitigation, and the University of California's Conservation Strategy for Eastern Merced County. The commenter states that the conclusions were reached "without ground sleuthing or site visits."

On page 4.3-1 of the DEIR, it is noted that an EDAW biologist conducted a reconnaissance-level field survey of the project site on June 26, 2006. The one-day survey was adequate to evaluate potential biological impacts due to the fact that the project site is almost entirely comprised of agricultural habitats that support relatively limited wildlife diversity. The conclusions for both impacts are supported by factual information collected during the field surveys and through review of the sources of information presented on page 4.3-1 of the DEIR.

Potential effects on special-status wildlife are discussed on page 4.3-10 of the DEIR. Potential effects on wildlife movement are discussed on Page 4.3-12. The sentence in the comment regarding the deferral of mitigation is non-specific and therefore it is not possible to determine what mitigation measure(s) the commenter might be referring to.

The sentence regarding the University of California's Conservation Strategy for Eastern Merced County does not describe how the project could conflict with the strategy or otherwise specifically questions the adequacy of the DEIR. Assuming that the conservation strategy the commenter is referring to is for the UC Merced Project (ICF Jones & Stokes 2008), it should be noted that the project footprint is located two miles northeast of the limits of the City of Merced; the proposed Wal-Mart Distribution Center is located in the southeast area of the City of Merced.

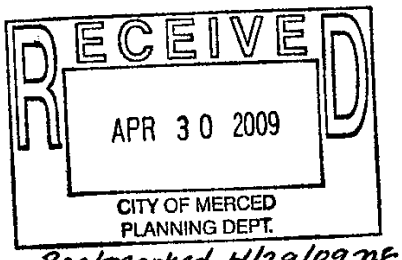
20-19 The commenter states that the cumulative impacts discussion is too narrowly drawn. The project's cumulative and growth inducing impacts were evaluated consistent with the requirements of CEQA in Chapter 6, "Cumulative and Growth-Inducing Impacts" of the DEIR. The state CEQA Guidelines state that the cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-only impacts, and should be guided by the standards of practicality and reasonableness (Guidelines Section 15130[b]). Cumulative population and housing impacts are considered less than significant because the project is consistent with existing local land use policies and regulations, and would not result in a cumulatively considerable incremental contribution (see page 6-11 of the DEIR). The commenter states that the cumulative farmland impact is less than significant. As described on page 6-4 of the DEIR, cumulative agricultural land impacts are considered significant. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided. Please also see Master Response 4: Cumulative Impact Analysis regarding the scope of the cumulative impacts analysis.

The commenter states that the cumulative impact analysis is inadequate. As described above, the project's cumulative impacts were evaluated consistent with CEQA requirements. In addition, as described on pages 6-4 through 6-33 of the DEIR, significant, less-than-significant environmental impacts are identified for the various environmental issue areas (i.e., agricultural land, air quality, biological resources, etc.). Regarding social and economic impacts of the proposed project, please refer to response to comments 29-18 and 241-4. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided.

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



Postmarked 4/29/09 ns
Fax received 4/27/09 @ 14:30 rc

April 27, 2009

Kim Espinosa
City of Merced
Planning Division
678 West 18th Street
Merced, CA 95340

Subject: Comments on Proposed Project

Project: Draft Environmental Impact Report (EIR) #06-01 (SCH #2006071029) for the Wal-Mart Distribution Center

District Reference No: 20060762

Dear Ms. Espinosa:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Draft Environmental Impact Report for the Merced Wal-Mart Distribution Center located at the northwest corner of Gerard Avenue and Tower Road. The proposed project would include construction of a regional distribution center consisting of approximately 1.1 million square feet, operating 24 hours per day, and employing approximately 1,200 employees. The District offers the following comments:

District Comments

1) The project will have a significant adverse impact on air quality. 21-1

2) Mitigation Measure 4.2-1b: Construction Emissions – The Draft EIR concludes that construction emissions will have a significant impact on air quality but with mitigation, the construction exhaust impacts can be reduced. In order to conclude that the construction exhaust emissions would be less than significant, mitigation measures reducing construction exhaust emissions must be fully enforceable through permit conditions, agreements, or other legally binding instruments (CEQA Guidelines §15126.4, subd.(a)(2)). Feasible mitigation of construction exhaust 21-2

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emission includes use of construction equipment powered by engines meeting, at a minimum, Tier II emission standards, as set forth in § 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. The District recommends incorporating, as a condition of project approval, a requirement that off-road construction equipment used on site achieve fleet average emissions equal to or less than the Tier II emissions standard of 4.8 NOx g/hp-hr. This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards. 21-2 Cont'd

3) Mitigation Measure 4.2-1c and 2e: Implement an Emissions Reduction Agreement to Reduce Construction & Operational Emissions- The Draft EIR concludes that the applicant will fund and implement an Emissions Reduction Agreement to mitigate the projects NOx and ROG impact on air quality to below the Districts threshold. The District supports the use of emission reduction agreements as feasible mitigation of a project related cumulative impacts on air quality. However, it should be noted that emission reduction agreements do not result in on-site reductions and thus do not mitigate potential risk to near-by receptors to exposure of toxic air contaminants. The District recommends that demonstration of having successfully entered into an emission reduction agreement with the District, before the issuance of the first building permit, be made a condition of project approval. 21-3

4) The Draft EIR correctly states that the District has not adopted a threshold of significance for PM10 and concludes that PM10 emissions would have a significant impact on air quality. Although the District's Governing Board has not adopted a threshold of significance for PM10, the District recommends that lead agencies use an applied threshold of 15 tons per year (TPY). The District recommends that mitigation of PM10 emissions below the 15 TPY applied threshold be included into the Emissions Reduction Agreement. 21-4

5) Indirect Source Review (ISR)- The project is subject to District Rule 9510 (Indirect Source Review). District Rule 9510 is intended to mitigate a project's impact on air quality through project design elements or by payment of applicable off-site mitigation fees. Any applicant subject to District Rule 9510 is required to submit an Air Impact Assessment (AIA) application to the District no later than receiving final discretionary approval, and to pay any applicable off-site mitigation fees before issuance of the first building permit. The District recommends demonstration of compliance with District Rule 9510 before issuance of the first building permit for each phase of the project be made a condition of the project's approval. The District recommends demonstration of compliance with District Rule 9510 before issuance of the first building permit for each phase of the project be made a condition of the project's approval. 21-5

6) The proposed project may require District permits. Prior to the start of construction the project proponent should contact the District's Small Business Assistance Office at (559) 230-5888 to determine if an Authority to Construct (ATC) is required. 21-6

7) The proposed project may be subject to the following District rules: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants). 21-7

   The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance Office at (559) 230-5888. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

8) ENSR Corporation performed a health risk assessment to determine the risk from diesel particulate emissions from truck travel on the site; truck idling at the gate, scale, and parking area; and operation of two stationary internal combustion engines; and emissions from the cafeteria. The San Joaquin Valley Unified Air Pollution Control District reviewed ENSR's health risk assessment. Specific comments on ENSR's health risk assessment based upon the District's review are given below: 21-8

   A. The analysis is based upon a 5-minute limit on idling at any one location. The Air Toxic Control Measure contains a number of exemptions. Therefore, this limitation should be included as an enforceable measure in the land use permit. Otherwise, a default period of 15-minutes must be used in the analysis.

   B. The HRA is based upon the use of truck engines that meet Tier 2/3 emission standards. This commitment must be included in the land use permit, or the assumption that the engines in this fleet will be the same as that for Merced County should be used in the analysis. 21-9

   C. The HRA specifies that there will be no cold storage on-site other than that used for the employees' cafeteria. This requirement should be incorporated as a condition in the land use permit. 21-10

   D. The analysis used hour-of-the-day adjustments to the emissions of diesel particulate matter from the trucks. To use this approach, appropriate limitations (e.g., number of trucks during daytime hours and number of trucks during nighttime hours) should be included in the land use permit and will be included in the Authority to Construct. 21-11

   E. All conditions in the land use permit, such as those above, that are required to ensure the integrity of the HRA should be included in the Authority to Construct for the stationary engines. 21-12

F. Travel distances were incorrectly calculated by multiplying the number of volume sources in a line source by the length of the side. The correct approach would be to calculate distances based upon the nodes in the line source. The effect of this error is to underestimate the travel distances (and the resulting travel emissions) by a factor of 2. 21-13

G. The applicant used EMFAC2007 to calculate emissions for indirect source review. The emission factors from the EMFAC2007 run should have been used for the risk modeling. The emission factor for haul trucks should have been 1.448 g/mi instead of 0.670 g/mi. Similarly, the emission factor for idling haul trucks should be 2.08 g/hr instead of 2.37 g/hr. 21-14

H. No emissions from the transportation refrigeration units (TRUs) on the trucks supplying food to the cafeteria were included in the analysis. 21-15

I. A limited number of receptors were modeled. Additional receptors should be included in the analysis. For example, single receptors at the center of industrial facilities were modeled for the two industrial facilities north of the proposed site. For those two areas, receptors should have been placed 25 meters beyond the project boundary and with a spacing of 25 meters. Similarly, receptors for agricultural workers in adjacent fields were not modeled. Additional receptors should have been modeled for the residential development and the school west of the project site. Also, the receptors for other schools and sensitive receptors should have been placed at the location on the boundary that is closest to the proposed project. 21-16

J. The District does not use the adjustments for student carcinogenic risk unless the student lives somewhere other than within the zone of impact but attends a school within the zone of impact. 21-17

K. The applicant has not specified the number of hours that the two generators will operate for maintenance and testing. The emission calculations for these two generators should conform to the limits that will be applicable based on the Air Toxics Control Measure for stationary internal combustion engines. 21-18

L. The Industrial Source Complex Short-Term (ISCST3) model in the Hot Spots Analysis and Reporting Program (HARP) was used to model emissions from the cafeteria. Use of ISCST3 is not one of the U.S. Environmental Protection Agency's (EPA's) preferred model. To use it in lieu of the preferred model (i.e., AERMOD), a model evaluation must be performed to demonstrate its superiority to the preferred model. 21-19

M. In HARP, a deposition rate of 0.05 m/s was used. This value is appropriate for uncontrolled sources. Normally, the District uses a deposition rate of 0.02 m/s for controlled sources. 21-20

N) Based upon the District's review, the maximum residential cancer risk could be well over 10 in a million because of comments in F, G, and H. The issues raised above should be addressed with a revision to the health risk assessment. The revised health risk assessment must be based upon the District's default assumptions for idling time, etc. unless a firm commitment is made to incorporate the mitigation measures identified in comments A through D in the land use permit and any air quality permit issued for the stationary internal combustion engines. 21-21

District staff is available to meet with you and/or the applicant to further discuss the regulatory requirements that are associated with this project. If you have any questions or require further information, please call Mark Montelongo at (559) 230-5905 and provide the reference number at the top of this letter.

Sincerely,

David Warner
Director of Permit Services

Arnaud Marjollet
Permit Services Manager

DW: mm

21-1 Commenter states that the project will have a significance adverse impact on air quality. Significant impacts to air quality were identified in Impact 4.2-1 (Generation of Short-Term Construction-Related Emissions of Criteria Air Pollutants and Precursors) and Impact 4.2-2 (Generation of Long-Term Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursor Emissions). These impacts would be reduced to a less-than-significant level with the implementation of mitigation. Significant and unavoidable impacts to air quality were identified in Impact 4.2-6 (Generation of Emissions of Greenhouse Gases).

21-2 Commenter states that feasible mitigation for reducing construction-related diesel exhaust emissions includes the use of construction equipment powered by engines meeting, at a minimum Tier II emission standards as set forth in §2423 of title 13 of the California Code of Regulations and Part 89 of title 40 of the Code of Federal Regulations. The DEIR has been revised to add this measure to the list of Required Measures to Reduce Construction-Related Diesel Equipment Exhaust Emission under Mitigation Measure 4.2-1b. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2" for the specific text changes.

21-3 Commenter supports the use of an Emissions Reduction Agreement in Mitigation measure 4.2-1c to reduce construction emissions. The commenter suggests that the EIR disclose that the emissions reduction agreement would not result in on-site reductions and thus not reduce the potential risk to near-by receptors from exposure to toxic air contaminants. However, Impact 4.2-1 concerns only construction-related emissions of criteria air pollutants and precursors, as suggested by its title, and Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants is discussed in Impact 4.2-4.

Regarding Mitigation Measure 4.2-1c and Mitigation Measure 4.2-2e, the commenter also suggests that demonstration of having successfully entered into an emission reduction agreement with the SJVAPCD be achieved before issuance of the first building permit. Mitigation Measure 4.2-1c and Mitigation Measure 4.2-2e have been revised to reflect this recommendation. Please see Section 4.4, "Revisions and Corrections to the DEIR Air Quality Section 4.2" for the specific DEIR text changes. Also refer to response to comment 235-1 for discussion about the ISR program.

21-4 Commenter states that, although SJVAPCD's Governing Board has not adopted a threshold of significance for PM_{10}, SJVAPCD recommends that lead agencies use an applied threshold of 15 TPY. Commenter also suggests that mitigation of PM_{10} emissions below the 15 TPY applied threshold be included into the Emissions Reduction Agreement. The DEIR has been revised to add a bullet to the list of thresholds of significance in Section 4.2.3 of the Air Quality section. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2," for the specific DEIR text changes.

SJVAPCD's applied threshold of significance has also been added to Table 4.2-6 and is discussed in the analysis of construction-generated emissions under Impact 4.2-1.

In addition, SJVAPCD's applied threshold of significance has been added to Table 4.2-7 and is discussed in the analysis of operational emissions under Impact 4.2-2. Text changes have also been made to the language of Mitigation Measure 4.2-2e, which now requires that the Applicant's

emissions reduction agreement with SJVAPCD to also reduce net PM_{10} emissions to less than 15 TPY. These changes are reflected in Section 4.2.

21-5 Commenter supports the use of an Emissions Reduction Agreement in Mitigation measure 4.2-1c to reduce construction emissions. The commenter suggests that the EIR disclose that the emissions reduction agreement would not result in on-site reductions and thus not reduce the potential risk to near-by receptors from exposure to toxic air contaminants. However, Impact 4.2-1 concerns only construction-related emissions of criteria air pollutants and precursors, as suggested by its title, and Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants is discussed in Impact 4.2-4.

Regarding Mitigation Measure 4.2-1c and Mitigation Measure 4.2-2e, the commenter also suggests that demonstration of having successfully entered into an emission reduction agreement with the SJVAPCD be achieved before issuance of the first building permit. The DEIR has been revised to add this requirement to the end of Mitigation Measure 4.2-1c and 4.2-2e. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2," for the specific DEIR text changes. Also refer to response to comment 235-1 for discussion about the ISR program.

21-6 Commenter states that the project may require permits from SJVAPCD prior to the start of project construction. This is noted under the heading, Stationary-Source Emissions, in the discussion of Impact 4.2-2, Generation of Long-Term Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursor Emissions.

21-7 Commenter states that the project may be subject to the following SJVAPCD rules: Regulation VIII (Fugitive PM_{10} Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), and Rule 4002 (National Emission Standards for Hazardous Air Pollutants). All of these rules are listed under the Rules and Regulations heading of Section 4.2.2.

21-8 The SJVAPCD provided specific comments regarding the methodology and assumptions used to prepare the HRA that evaluated potential health risk impacts associated with on-site truck travel; tuck idling, yard truck movement; operation of the cafeteria charbroiler; transportation refrigeration units (TRUs) that deliver food to the cafeteria; emergency backup diesel generator; and diesel-powered fire pump.

As a supporting CEQA analysis, the HRA evaluated the proposed project's long-term operation emissions of TACs pursuant to the environmental impact review requirements of CEQA. The HRA is not intended to fully support any permit applications the proposed project may need from SJVAPCD. As stated in the discussion of long-term operational emissions under Impact 4.2-4 of the DEIR (and in Section 2.1 of the HRA in Appendix C to the DEIR), the HRA was conducted according to SJVAPCD's Guidance for Air Dispersion Modeling (August 2006), Appendix A (Appendix A), Section 2.0 CEQA Health Risk Assessments (available at <http://www.valleyair.org/busind/pto/tox_resources/modeling%20guidance%20w_o%20pic.pdf>). This guidance was the most current SJVAPCD guidance document for preparing HRAs pursuant to CEQA and, at the time of writing this response, no formal updates to this guidance have been provided by SJVAPCD. The HRA was also prepared according to guidance received through correspondence with SJVAPCD staff, as cited on page 17 of the HRA, which is included as Appendix C of the DEIR.

Nonetheless, in some cases the SJVAPCD provided comments on this HRA that directly conflict with their own guidance document. Further, in other cases it's clear that the SJVAPCD intends to

use the basis of the analysis as criteria for limiting proposed and future site activities by including conditions in the land use permit issued by the City of Merced for the proposed project. We address these inconsistencies and limitations in our detailed responses to parts A-N of SJVAPCD's comment, as shown below.

The SJVAPCD notes that the HRA assumed that individual trucks would not idle at any one on-site location for more than 5 minutes and, therefore, this limitation should be included as an enforceable measure in the land use permit issued by the City for the project. There were two bases for making this assumption in the HRA. First, as stated on page 4.2-14 of the DEIR, ARB has developed an air toxic control measure (ACTM) that limits stationary idling by diesel-fueled commercial trucks to 5 minutes (13 CCR Chapter 10 Section 2485). Second, observations made during a site visit to the existing Wal-Mart distribution facility in Apple Valley, CA indicate that trucks do not idle on site for periods greater than 5 minutes. Truck turn off their engines when they arrive at the gate to check in. They then pull their trailers to an assigned parking location and decouple the trailer. The trailer is later picked up by an on-site "yard truck" and pulled to a loading dock to be unloaded. Thus, because the 5-minute idling restriction is required by law and there is no reason to think that truck activity would be exempt from this requirement, the assumption that trucks would not idle for more than 5 minutes at any single location is reasonable and there is no reason to include an idling limitation as an enforceable measure in the land use permit.

21-9 The SJVAPCD notes that "the HRA is based on the use of truck engines that meet [federal] Tier 2/3 emission standards." To clarify, the detailed emissions calculations in Appendix A of the HRA show that it was assumed that only the yard trucks would meet the federal Tier 2/3 emission standards. Yard trucks refer to those trucks that would be operated within the facility to move containers back and forth from stalls to docks. As stated in section 3.1.1.1 of the HRA, "the most probable yard truck that will be operated at the Merced DC is the Ottawa Commando 30, a non-road truck (not registered by the Department of transportation for use on roads) commonly used for container movement. These trucks will be equipped with engines that have EPA and ARB certification for meeting federal Tier 2/3 emission standards for particulate matter." This assumption is considered to be reasonable because this is the same model of yard truck that is currently used at the Wal-Mart distribution facility in Apple Valley, CA. Furthermore, any new yard truck that might be purchased for the project would meet Tier 2/3 emission standards. The comment provides no reasoning as to why this assumption is unreasonable.

The commenter also states that a condition of the land use permit shall require that the yard trucks must meet federal Tier 2/3 emission standards. However, because the assumptions about yard truck emissions used in the HRA are considered reasonable and because the impact conclusion supported by the HRA is less-than-significant without mitigation, no mitigation regarding yard trucks is required. Such a condition would only need to be included as a condition of the permit if it were mitigation that was necessary to reduce a significant impact to a less-than-significant level.

21-10 The SJVAPCD suggests that the land use permit include a condition that no cold storage facility shall be included in the distribution center. It is assumed that the commenter's concern is that an on-site refrigerated storage unit would potentially generated additional emissions of TACs. Chapter 3, Project Description, however, states that the distribution facility "would not handle perishable goods, such as fruit, vegetables, dairy products, bakery goods, and meat" on page 3-12. This text directly implies that the project would not include a cold storage facility. If at some point in the future the applicant sought to add a cold storage facility to the project site then that action would be subject to CEQA and permitting requirements of SJVAPCD.

21-11 The SJVAPCD discusses the hour-of-day adjustments used in the HRA for the emissions of diesel PM from trucks. Section 3.2.3 of the HRA explains that "variable emission correction factors were used in the air dispersion modeling analysis to represent the proportionally higher activity level during and between peak daytime hours compared to late evening hour and early morning hours when activity is lower. Hour of day (HROFDY) emission rate scalar instructions were used in the AERMOD dispersion analysis to adjust hourly emissions based on routine daily activity level. The emission factors were developed based on traffic count data obtained from the Wal-Mart DC located in Apple Valley, which has an operating schedule and activity level similar to what is expected at the Wal-Mart Merced DC." The commenter suggests that appropriate limitations regarding the number of trucks on-site during daytime hours and nighttime hours should be included as a condition in the land use permit and Authority to Construct permit for the project. However, the commenter does not provide reasons that these hour-of-day adjustments should not be used. Because the assumptions about levels of daytime and nighttime truck activity are reasonable and because the impact conclusion supported by the HRA is less-than-significant, no mitigation regarding TAC emissions from on-site truck activity was required.

21-12 The SJVAPCD states that "all conditions in the land use permit, such as those above, that are required to ensure the integrity of the HRA should be included in the Authority to Construct [permit attained from SJVAPCD] for the stationary engines." However, the comment does not discuss any of the specific assumptions regarding the on-site stationary sources of TAC emissions, including the fire pump and the emergency diesel backup generator (mobile-source emissions such as truck travel and idling are not subject to permitting).

21-13 The SJVAPCD purports that the distances for on-site truck travel were underestimated by a factor of 2. Truck travel distances were estimated by multiplying the volume side length by the number of sources to simulate the "shortest truck route from road entrance to destination," as suggested by guidance in Appendix A of SJVAPCD's most recent version of its publication titled Guidance for Air Dispersion Modeling (August 2006). The route for truck travel in the truck yard was located along the outside perimeter of the yard, which is approximately twice the distance to the nearest trailer stalls (and nearer the fence line and off-site sensitive receptors). By estimating length based on volume size, the shortest truck route was simulated while locating the truck route closest to modeled off-site receptors. By locating the route near the perimeter of the project site, the results of the HRA are considered to be conservative because the sources were located closer to off-site receptors than expected.

21-14 The SJVAPCD states that the emission factor used for on-site travel of haul trucks should have been 1.448 grams per mile instead of 0.670 grams per mile and that the emission factor used for idling of haul trucks should have been 2.08 grams per hour instead of 2.37 grams per hour. The emission factors used in the HRA for haul truck travel and idling are consistent with the emission factors recommended in Section 2.3.2, Truck Travel and Idling, of SJVAPCD's Guidance for Air Dispersion Modeling (August 2006), Appendix A. Furthermore, the commenter does not provide reasons why the emission factors that were used in the HRA are potentially insufficient.

21-15 The SJVAPCD states the HRA did not account for TACs associated with the trucks that would supply food to the employee cafeteria and have on-board TRUs. The HRA accurately states that "the cafeteria will receive two deliveries per week from TRUs that will be unloaded thru a walk door near the cafeteria." The level of TAC emissions and associated health risk associated with the TRUs from these deliveries to the cafeteria are considered nominal. The deliveries occur only 2 times per week and the TRUs are parked near the cafeteria door which is located far from the project site boundary and, therefore, any off-site receptors.

21-16 The SJVAPCD states additional receptors should be included in the analysis, including receptors 25 meters inside the property line of the two nearby industrial facilities, receptors in adjacent fields to represent agricultural workers, and receptors at the residential development and the school west of the project site. The commenter also states that the receptors for other schools and sensitive receptors should have been placed at the location on the boundary that is closest to the proposed project. The applicant does not, however, provide reason as to why the receptor location used in the HRA are insufficient or how placing receptors in other locations would be more appropriate, more accurately estimate health risk, or influence the conclusion of Impact 4.2-4.

The receptor locations used in the HRA to evaluate residential and worker exposures were placed at the building or lot location nearest to the facility to ensure maximum impacts were estimated in the health risk analysis. For example, the receptor locations used to evaluate the two industrial facilities north of the proposed site were located on the building corner closest to the facility (not including parking lot). Because the release heights of on-site truck travel were relatively low (i.e., 6 feet), in accordance to the guidance provided in Section 2.3.2 of SJVAPCD's Guidance for Air Dispersion Modeling, receptors closest to the facility would be exposed to the greatest ground level concentrations.

21-17 The commenter states that SJVAPCD "does not use the adjustments for student carcinogenic risk unless the student lives somewhere other than within the zone of impact but attends a school within the zone of impact." However, the commenter does not provide reasoning as to why the HRA might be insufficient in some way.

Four schools (three existing and one future) were evaluated in the HRA, using both a 9-year exposure period for children and a 40-year exposure period for workers (i.e., teachers and staff). In all cases the maximum estimated risk levels for 9-year child exposure, (0.18 in one million, and the 40-year worker exposure, (1.3 in one million, were less than the CEQA significance threshold of 10 in one million. Individuals located at these receptors should not be evaluated for residential exposures. Therefore, the City is confident that school receptors were fully evaluated for any potential health risk exposure from the proposed project.

21-18 The SJVAPCD states that the HRA has not specified the number of hours that the two generators would be operated for maintenance and testing. On the contrary, the calculations for Stationary Emergency Engines in Appendix A of the HRA indicate that the annual operation time for both the fire pump and emergency generator would be 52 hours per year.

The commenter also states that "the emission calculations for these two generators should conform to the limits that will be applicable based on the ATCM for stationary internal combustion engines." The ATCM restricts maintenance and testing to no more than 50 hours per year, so the emissions estimates for the two generators are overestimated by 2 hours per year. The commenter does not discuss how or why this would affect the results of the HRA or the significance conclusion of Impact 4.2-4. It is acknowledged, however, that the overestimation of emissions from the two generators results in a nominal overestimation of health risk.

21-19 The SJVAPCD states that HRA relied on the Industrial Source Complex Short-Term (ISCST3) model in the Hot Spots Analysis and Reporting Program (HARP) and use of ISCST3 is not EPA's preferred model, AERMOD. In fact, the HRA did evaluate risk using AERMOD *for all diesel PM emission sources.* Of the 7.3-in-one-million cancer risk estimated, 99.9% of the risk was from diesel PM emissions, which used ground-level concentrations estimated with AERMOD. *The HARP model was used for emissions of Polycyclic aromatic hydrocarbons (PAH) and naphthalene from the cafeteria*. The HARP model uses ISCST3 because it was the dispersion model promulgated by EPA at the time the HARP model was developed and released

for public use. HARP is the ARB regulatory model accepted by the State of California for performing HRAs in California and pursuant to CEQA. For evaluating impacts from the cafeteria, using AERMOD in conjunction with HARP would have no appreciable effect on the results of the HRA.

Moreover, the Notice of Preparation (NOP) of the EIR for the proposed project was released on July 7, 2006; AERMOD was not approved by EPA as a replacement to ISCST3 until December 9, 2006 (40 CFR Part 51 Appendix W [November 2005]). The NOP is typically the milestone that establishes when information is valid in EIRs. For instance, CCR Section 15125 establishes the existing setting as the environmental conditions at the time of the NOP. San Franciscans for Reasonable Growth v. City and County of San Francisco (1984) 151 Cal.App.3d 61 generally established that the cumulative project list should consist of projects proposed at the time the NOP was released. Because the modeling used as the recommended model at the time the environmental analysis was commenced (defined as the NOP), and because it is a reasonable method for determining health risk, the programs used to conduct air dispersion modeling and estimate health risk used in the HRA are considered accepted for the purpose of this CEQA analysis.

21-20 The SJVAPCD states that the HRA uses a deposition rate of 0.05 meters per second, which is appropriate for uncontrolled sources, but SJVAPCD "normally uses a deposition rate of 0.02 meters per second for controlled sources." It is assumed that the commenter thinks a deposition rate of 0.05 meters per second is unacceptable to use for controlled sources. However, the commenter does not discuss how the analysis would be affected.

Nonetheless, because the emission sources analyzed in the HRA from the project are not characterized as "controlled" (e.g., the way fine particles are controlled using a baghouse or similar control device), a deposition rate of 0.05 meters per second is acceptable. Moreover, using a higher deposition rate is more conservative (i.e., more health-protective) for cases of multi-pathway pollutants because the pollutant mass striking the ground and available for uptake is increased. Since diesel PM is not a multi-pathway pollutant, any change in the deposition rate would have little if any effect.

21-21 The SJVAPCD states that "the maximum residential cancer risk could be well over 10 in a million because of comments F, G, and H." However, the commenter does not explain how the results of the HRA would be affected by the concerns raised in its comments. In addition, please refer to the responses to parts 21-8 through 21-20 above.

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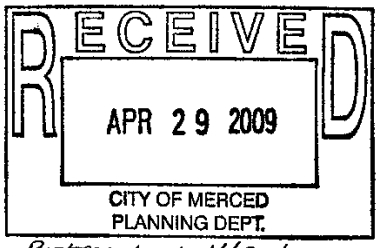
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Our File Number: 15CM-130732

April 27, 2009

VIA E-MAIL AND U.S. MAIL

Kim Espinosa, Planning Manager
City of Merced
Planning and Permitting
678 West 18th Street
Merced, CA 95340



Postmarked 4/27/09 24
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Re: Comments on the Draft Environmental Impact Report Prepared for the Proposed Wal-Mart Regional Distribution Center (State Clearinghouse Number 2006071029)

Dear Ms. Espinosa:

On behalf of Wal-Mart Stores, Inc. ("Wal-Mart"), we are submitting the following comments on the Draft Environmental Impact Report ("Draft EIR") prepared for the proposed Wal-Mart Regional Distribution Center ("Project") in Merced, California ("City").

The Draft EIR analyzed an approximately 1.1 million square foot regional distribution center located on 230 acres in the southeast area of the City of Merced. The Project is industrial in nature and does not contain any retail commercial components. It would employ approximately 1,200 employees upon full operation in an area permitted for industrial uses with good access to major highways and transportation links. (Upon first opening, the Project will employ approximately 900 employees – 600 full-time and 300 part-time.)

We request reconsideration of certain of the proposed mitigations, as detailed in the following:

1. Air Quality

a. *Mitigation Measures 4.2-1(a)-(e) – Comply with SJVAPCD's Indirect Source Review Rule (Rule 9510); Implement Measures to Reduce Construction-Related Diesel Equipment Exhaust Emissions; Implement an Emissions Reduction Agreement with SJVAPCD to Reduce Construction Emissions of ROG and NOX; Comply with SJVAPCD's Regulation VIII-Fugitive Dust Prohibitions and Implement All Applicable Control Measures; Implement SJVAPCD-Recommended Enhanced and Additional Dust Control Measures.*

By law, the Project will be required to comply with the San Joaquin Valley Air Pollution Control District's ("SJVAPC") Indirect Source Review ("ISR") Rule (Rule 9510) and Regulation VIII. General mitigation requirements under the ISR Rule for construction equipment emissions and operational emissions are as follows:

6.0 General Mitigation Requirements
6.1 Construction Equipment Emissions
6.1.1 The exhaust emissions for construction equipment greater than fifty (50) horsepower used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by the ARB:
6.1.1.1 20% of the total NOx emissions, and
6.1.1.2 45% of the total PM10 exhaust emissions. 22-1
6.1.2 An applicant may reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer lower emitting equipment.
6.2 Operational Emissions
6.2.1 NOx Emissions
Applicants shall reduce 33.3%, of the project's operational baseline NOx emissions over a period of ten years as quantified in the approved AIA as specified in Section 5.6.
6.2.2 PM10 Emissions.
Applicants shall reduce of 50% of the project's operational baseline PM10 emissions over a period of ten years as quantified in the approved AIA as specified in Section 5.6.
6.3 The requirements listed in Sections 6.1 and 6.2 above can be met through any combination of on-site emission reduction measures or off-site fees.

First, the Draft EIR includes no nexus between the mitigation required and the air quality impact identified. Pursuant to the California Environmental Quality Act ("CEQA"), mitigation measures are required to comply with all applicable constitutional requirements. (CEQA Guidelines sec. 15126.4(a)(4).) Specifically, there must be an "essential nexus (i.e. connection) between the mitigation measure and a legitimate governmental interest. *Nollan v. California Coastal Commission,* 483 U.S. 825 (1987)." (CEQA Guidelines sec. 15126.4(a)(4)(A)) "Where the mitigation measure is an *ad hoc* exaction, it must be 'roughly proportional' to the impacts of the project. *Ehrlich v. City of Culver City* (1996) 12 Cal. 4th 854." (CEQA Guidelines sec. 15125.4(a)(4)(B).) Accordingly, all mitigation required must relate to the impacts caused by a project. Here, the proposed mitigation measures fail to meet this nexus standard.

In addition, the mitigation measures impose additional requirements beyond established programs and/or regulations, resulting in the measures being excessive and unnecessary. For example, Mitigation Measure 4.2-1(c) requires the Applicant to enter into an emission reduction agreement with the SJVAPC, which is an agreement whereby an applicant can volunteer to mitigate beyond Rule 9510 and fully offset project emissions. The Draft EIR makes this a mandatory, not voluntary requirement. 22-1 Cont'd

Also, Mitigation Measure 4.2-1(a) requires the submittal and approval of various applications by the SJVAPCD prior to applying for final discretionary approval with the City of Merced. However, the requirement pursuant to the ISR Rule is "[a]ny applicant subject to this rule shall submit an Air Impact Assessment (AIA) application no later than applying for a final discretionary approval with the public." There is no requirement that the application be approved prior to applying for a final discretionary approval. The measure therefore goes beyond what is required by the ISR Rule, but provides no justification for deviating from the established procedural requirement.

Further, Mitigation Measure 4.2-1(b) regarding "Construction-Related Diesel Equipment Exhaust Emissions," bans construction on forecasted Spare the Air Days and prohibits staging areas for heavy-duty construction equipment within 1,000 feet of the Project boundary. The ISR Rule general mitigation requirements already specifically address and mitigate impacts from construction equipment emissions, including impacts from diesel emissions. The Draft EIR includes no discussion or analysis of how these requirements in Mitigation Measure 4.2-1(b) would reduce the Project's air quality impacts, nor a justification why the mitigation measure must go above and beyond the ISR Rule requirements that already apply. 22-2

In some cases, the mitigation measures are also infeasible. For example, Mitigation Measure 4.2-1(b) provides for the replacement of fossil/fueled equipment with electrically driven equipment. At this time, such equipment does not exist; therefore,

implementation of this measure is not technologically possible. Consequently, this measure is infeasible.

Some of measures are infeasible because they are more appropriate for a retail use located in a developed commercial area than a large industrial use located on 230 acres of land within an industrial area, such as is the case here. Requiring such measures is not feasible for an industrial use of this type and size, and no evidence is presented showing that they are feasible for the Project. 22-2 Cont'd

"CEQA does not require analysis of every imaginable…mitigation measure; its concern is with feasible means of reducing environmental effects…" *Concerned Citizens of South Central Los Angeles v. Los Angeles Unified School District* (2d Dist. 1994)24 Cal. App. 4th 826, 841. Here, because the proposed mitigation measures have no nexus to the impact, go beyond established procedures, are excessive and unnecessary, and no substantial evidence exists to conclude the measures are feasible, the mitigation measures should be removed. 22-3

b. *Mitigation Measure 4.2-2(b) – Develop and Implement an Employee Trip Reduction Program to Reduce Operational Emissions.*

The Project is estimated to have approximately 1,200 employees upon full operation (900 upon first opening, as previously noted), 1,050 who would work at the facility and an additional 150 employees as drivers. Mitigation Measure 4.2-2(b) requires the development and implementation of an employee trip reduction program to reduce operational emissions.

Wal-Mart already has a developed Rideshare Program designed to help improve air quality. The Rideshare Program encourages Associates to consider alternate commute methods, such as carpooling, biking, walking, and taking the bus to work. Wal-Mart's Senior Rideshare Coordinator (an existing position) would create a Rideshare Program tailored specifically to the facility, and train designated On-Site Rideshare Coordinators on program implementation and documentation. At the facility, Wal-Mart would provide a general introduction to the Rideshare Program during orientation for new hires. New hires would view Wal-Mart's Rideshare DVD, which outlines benefits of ridesharing to work: saving money, saving time, exercise, etc. Also, the Rideshare Coordinator would provide detail about the Rideshare Program incentives for their site. 22-4

Wal-Mart's efforts to promote its Rideshare Program go beyond orientation for new hires. Among the tools Wal-Mart has found effective promoting participation in the Rideshare Program are contests, educational materials, and Rideshare marketing materials promoting alternate commute methods. Further, a Rideshare bulletin board would be maintained at the facility with program information, transit information, local bike routes, etc.

Wal-Mart will continue to use its best efforts to encourage employees to carpool or use alternative transportation methods through implementation of a Rideshare Program at the facility. However, Wal-Mart cannot guarantee that within three (3) years of the Project opening, there will be a 25% reduction in single occupancy vehicle trips by employees. One initial concern with the proposed measure is that it is unclear how this reduction would be calculated or monitored. More importantly, achieving this 25% reduction would require Wal-Mart to mandate some employees to use these types of measures if not enough employees volunteer. Wal-Mart simply cannot mandate how employees travel to work. Thus, we recommend revising the Mitigation Measure to require that Wal-Mart implement its Rideshare Program at the Project, but not require a set percentage reduction in trips. If anything, a percentage reduction should be a goal, not a mandate.

22-4 Cont'd

c. *Mitigation Measure 4.2-2(c) – Implement Recommended Mitigation Measures to Reduce Operational Emissions.*

This mitigation measure includes specific measures to reduce operational emissions. These measures could conflict with the requirements imposed as part of the required emissions reduction agreement with the SJVAPCD.

In addition, there is no nexus between the impact and some of the measures. For example, one of the measures included is the construction of Class II Bike lanes or the payment of the Project's "fair share" of funding for these lanes. First, there is no nexus between the Project and the construction of these bike lanes. The Draft EIR does not analyze, evaluate or conclude that the construction of these bike lanes will reduce any air quality impacts associated with the Project. Further, the City of Merced does not have an established Bicycle Fee Program. Therefore, the Project cannot be required to pay any "bicycle fee" as part of its building permit fees and any such a requirement is arbitrary and capricious, and completely without merit. It appears that the motivation for the bicycle lanes may be, as stated in the mitigation measure, to "qualif[y] the City of Merced to receive state funding for bicycle projects[,]" but this is not a Project-related impact that requires mitigation.

22-5

Moreover, some of the proposals are simply infeasible. This measure requires only the use of electric-powered landscape maintenance equipment to care for the landscaped areas. Given the size of the Project site (230 acres), the ability to use electric-powered landscape maintenance equipment is infeasible. At some points, the distance between the landscape area and the building or electrical outlet would be greater than 250 feet and in many cases over 500 feet.

d. *Mitigation Measure 4.2-2(d) – Implement Additional Operational On-Site Emission Reduction Measures.*

Under Mitigation Measure 4.2-2(d), the Applicant is required to submit a written report demonstrating the infeasibility of additional operational on-site emission reduction measures. Approval of this report is required before final discretionary approval of the Project. As discussed above, this is contrary to the procedure established by the ISR Rule. As certification of the EIR and approval of the Project entitlement will be the final discretionary approval, we believe this reference is a mistake and instead should reference an administrative or non-discretionary action such as the issuance of building permits. 22-6

e. *Mitigation Measure 4.2-6(d)- Implement Additional Operational On-Site Emission Reduction Measures.*

Mitigation Measure 4.2-6(d) mandates the installation of solar panels throughout the Project site on all available areas, such as the roof, buffer areas, parking lot, covered parking areas, walkways and outdoor areas. As discussed in detail below, this Project will demand significantly less energy than comparable facilities. Also, Wal-Mart is investigating ways to meet the facilities' remaining energy demand with renewable energy sources. As such, this mitigation is excessive and unnecessary.

With regard to using solar on site, significant barriers exist to using solar power at this time in this location. These barriers include material/production costs, the net efficiency of technology, and a lack of storage capacity to fully utilize the solar energy. 22-7

Wal-Mart is investigating the feasibility of using solar power at its facilities via its solar power pilot program. Until such technology proves efficient, however, it should not be required.

Finally, the Applicant cannot legally be required to purchase electricity from a specific local provider, as is required under this mitigation measure. Such a mandate violates the Applicant's constitutional and statutory rights. In any event, mandating the selection of a specific provider lacks a nexus to a specific impact as it is unclear how using a specific provider would mitigate a potential impact.

For these reasons, this mitigation measure should be modified to *recommend*, rather than *require* the above measures, or should be removed entirely.

2. Biological Resources

a. *Mitigation Measure 4.3-2 – Implement Measures to Minimize Potential Project Effects on Swainson's Hawk and Burrowing Owl.* 22-8

The Project would result in the loss of approximately 150 acres of suitable foraging habitat for Swainson's hawk and could result in destruction or disturbance of burrowing owl burrows. The Project will be required to consult with the California Department of Fish and Game ("CDFG") and comply with any applicable guidelines, survey requirements, regulations and mitigation. Mitigation Measure 4.3-2, however, is very detailed and sets forth specific requirements for the Project that could conflict with the requirements of CDFG.

As a result, the measures infringe upon the jurisdiction of CDFG. This usurping of CDFG's power results in the City imposing measures outside its area of expertise. The end result could be that CDFG cannot impose one of its mitigation measures because it conflicts with what the City has required. Allowing the expert regulatory agency to determine the applicable mitigation would be more appropriate.

Therefore, to avoid a potential conflict and still adequately mitigate the potential impact without improperly deferring mitigation, we recommend replacing the language in this mitigation measure with the following mitigation language:

> "**Pre-Construction Survey** - No more than 15 days prior to any site-disturbing activities, including grading or woody vegetation and tree removal, the applicant will retain a qualified wildlife biologist to conduct a nesting bird survey to determine if nests are active or occupied onsite. The surveys shall be conducted a minimum of three separate days during the 15 days prior to disturbance. Any active nests observed onsite will be avoided until after the nestlings have fledged and left the nest. If avoidance is not feasible, then a biological monitor will be present if construction activities occur during the nesting season. Construction activity within the vicinity of the active nests may only be conducted at the discretion of the biological monitor. If construction activity will likely result in nest failure, the applicant will consult with CDFG and/or USFWS to determine what mitigation or permitting is required. An MBTA Special Purpose Permit will be required if occupied nests will be impacted.
>
> **Burrowing Owl** - If occupied burrowing owl burrows are found during above mentioned required pre-construction survey, a buffer shall be established around the burrows in accordance with the requirements established by the CDFG. Passive relocation shall not occur during the breeding season unless a qualified biologist, approved by CDFG, verifies that the young have fledged the nest.

22-8
Cont'd

Swainson's Hawk - Loss of Swainson's hawk foraging habitat shall developed in consultation with CDFG.

22-8 Cont'd

3. Geology, Minerals, Soils and Paleontological Resources

a. *Mitigation Measure 4.5-1 – Implement Construction Personnel Training and Recover Paleontological Resources if Encountered.*

Paleontological resources could be present in the sediments underlying the Project site and this mitigation measure is intended to minimize any potentially adverse impacts to those resources. This includes informing construction personnel of the possibility of encountering fossil and the proper notification procedures if fossils are encountered. The second bullet explains the mitigation if a fossil is encountered. The language is as follows:

> If paleontological resources are discovered during earth-moving activities, the construction crew shall immediately cease work **in the vicinity of the find** and shall notify the City Planning Department. The project applicant shall retain a qualified paleontologist to evaluate the resources and prepare a proposed mitigation plan in accordance with SVP guidelines (1995)…Recommendations determined by the lead agency to be necessary and feasible shall be implemented before construction activities can resume **at the site** where the paleontological resources were discovered.
>
> (Emphasis added.)

22-9

Based on this language, it is unclear whether construction must stop only in the vicinity of the find or over the entire site if a paleontological resource is found. Because continuing construction at other areas of the site, away from the vicinity of the find, will not impact the paleontological resource, we recommend the following modification to the mitigation measure:

> …Recommendations determined by the lead agency to be necessary and feasible shall be implemented before construction activities can resume in the vicinity of the find ~~at the site~~ where the paleontological resources were discovered.

This change protects the paleontological resource, and minimizes the potential adverse impact while allowing construction away from the resource to continue in the event of a paleontological find.

b. *Mitigation Measure 4.5-3(a) – Prepare a Final Geotechnical Design Report and Implement All Applicable Recommendations.*

Please note, for clarification purposes, that the final geotechnical engineering report has been prepared and all applicable recommendations will be incorporated into the Project as required. Therefore, this mitigation is not necessary and, as a result, should be removed. 22-10

4. Hydrology and Water Quality

a. *Mitigation Measure 4.6-1(b) – Establish a Maintenance Entity for BMPs.*

The Project evaluated by the Draft EIR is a single-user Project. Wal-Mart will be the sole tenant, owner and occupier of the property and Project site. Further, all construction disturbances will be located on Wal-Mart's property and Wal-Mart will be required to operate, maintain and replace stormwater best management practices ("BMPs") as set forth under its stormwater permit.

Community Facility Districts (CFD) and other maintenance entities are typically formed where multiple owners, tenants or operators will be responsible for various community or stormwater improvements. Here, because there is only one user/owner, formation of a CFD or maintenance district is not necessary. Therefore, this mitigation measure is not necessary and, as a result, should be removed. 22-11

b. *Mitigation Measure 4.6-7 – Comply with SB 5 Criteria Establishing 200-Year Urban Flood Protection.*

Senate Bill 5 required the Department of Water Resources to prepare a map of various floodplains, including the 200-year floodplain. It also requires the Central Valley Flood Protection Board to prepare a Central Valley Flood Protection Plan ("Plan") no later than July 1, 2012. This plan must describe the performance, design, risk and funding of various area flood protection facilities. Once the plan is adopted, cities have twenty-four (24) months to amend their general plans to incorporate the provisions and requirements of the Plan. Nothing in the Plan or SB 5 requires existing or proposed development to comply with future unknown flood protection requirements. 22-12

The mitigation proposed essentially requires the Project to comply with a Plan and standards that have yet to be develop and do not exist. The Project can only be required to comply with existing flood control measures adopted at the time of construction and building permit issuance.

It is also important to note that the impact to be mitigated is speculative given the Plan is not anticipated to be adopted until at least 2012 and not implemented locally until 2014. Therefore, there is no way of knowing whether the Project will have impacts under those standards at this time. The Project may only be required to mitigate for known impacts, not speculative unknown impacts based on an analysis and Plan that have yet to be developed. 22-12 Cont'd

5. Noise

a. *Mitigation Measure 4.8-1 – Regulate Construction before Approval of Implementation Plans*

This mitigation addresses short term noise impacts. As indicated above, the Project is the construction of a distribution center. It is a single project and does not include approval of various implementation plans or subsequent projects. As a result, the Mitigation Measure should be revised as follows: 22-13

> **"4.8-1: Short-Term Construction Noise ~~Regulate Construction before Approval of Implementation Plans.~~** ~~Prior to approval of Implementation Plans and subsequent projects, t~~The City shall require the applicant to regulate short-term construction noise as follows:..."

b. *Mitigation Measure 4.8-3 – Implement Measures to Reduce Exposure to Traffic Noise from Project.*

The Draft EIR does not establish a nexus between the traffic noise impact and reduction of that noise by the installation of a sound barrier. No analysis has been conducted to establish that construction of a sound barrier will reduce traffic noise impacts to a less than significant level. Requiring a site-specific noise study for a sound barrier is deferred mitigation as it is unclear if the sound barrier will effectively mitigate the impact. 22-14

Finally, the mitigation repeatedly mentions the term "aesthetically pleasing." This is an arbitrary standard that varies person by person, and which could result in a barrier that is not consistent with the City's Design Review Guidelines.

For these reasons, the mitigation measure should be removed.

6. Traffic and Transportation

a. *Mitigation Measure 4.11-2(a) – Accommodate All Delivery Truck Parking On-Site.*

The Draft EIR lists "traffic problems" from delivery trucks arriving prior to a scheduled pick-up or delivery time. (Draft EIR, pg. 4.11-29). The "traffic problems" mentioned are not adequately analyzed, however. The only discussion is that these truck drivers may "park along local streets in the vicinity or travel on local streets until access to the distribution center is available." The impact of these activities has not been quantified or discussed qualitatively in any further detail. Therefore, the Draft EIR has not provided any nexus between the alleged impact and the need for a mitigation that requires an on-site waiting area. As such, this mitigation measure should be removed. 22-15

On a side note, the Draft EIR states in this section that these traffic problems "could create also noise and air quality problems." (Draft EIR, pg. 4.11-29). Any noise or air quality problems from delivery trucks presumable have already been addressed in those sections.

b. *Mitigation Measure 4.11-2(b) subsec. c – Manage Truck Traffic on Local Streets.*

This mitigation measure requires the development and implementation of a truck route plan. All tractor trailers approaching and departing from the Project already will be required to use Surface Transportation Assistance Act of 1982 (STAA) approved Truck Routes, however. These STAA Routes are appropriate roadways for use by tractor trailers accessing the Project. This mitigation lists several non-STAA roadways and roadways near residential areas, which would not be appropriate. Given trucks will already need to abide by STAA, this measure should be revised or deleted. 22-16

7. Utilities and Public Services

a. *Mitigation Measures 4.12-4 – Incorporate Energy Efficiency Features into Project Designs.*

Wal-Mart is committed to reducing the energy demand footprint of its facilities. Wal-Mart's approach to reducing emissions is holistic and looks at the whole project-from design to construction, to landscaping, to operations. Wal-Mart's company-wide strategy to reduce the energy demand footprint of its facilities includes implementing energy reduction, reclamation/reuse, and efficiency features. By implementing this strategy Wal-Mart facilities exceed California's Title 24 requirements. This approach of first reducing the facilities' energy footprint is consistent with recommendations made by recognized leaders in the energy efficiency and renewable energy arenas. 22-17

Leaders in the energy efficiency and renewable energy arenas also recognize that any solutions to environmental problems (such as global warming) must be founded in sound business judgment and must prove to be economically feasible. Only then can these solutions be successful in the market-place. This philosophy is the mission statement for the Energy Efficiency Center at the University of California at Davis, where Wal-Mart occupies a Board Chair and Steering Committee Chair, as well as the California Energy Commission, California Public Utilities Commission, and California leading businesses, organizations, and academia. The United States Department of Energy also has adopted this philosophy as the founding premise for the Retail Energy Alliance, which is a Department of Energy sponsored national organization of leading retailers focused on energy efficiency solutions that meet business needs. Wal-Mart sits on the Steering Committee of that organization as well.

Wal-Mart is not only committed to working with experts on policies and approaches to reduce energy consumption and increase the use of renewable resources, but it also applies those practices in its facilities. Unfortunately, the mitigation proposed includes several energy efficiency features that are infeasible or not appropriate for the Project. As technology is constantly changing, requiring specific measures potentially prevents the incorporation of the best energy efficient measures available at the time the Project is constructed. Wal-Mart therefore proposes the following mitigation language to ensure the Project contains the most up-to-date energy efficient measures available at the time of construction:

22-17
Cont'd

> "The Project shall employ the energy efficient measures proven effective, at the time of Plan Check submittal, in the building design and construction. However, the measures used shall, at a minimum, be as energy efficient as those proven energy efficient measures, or comparable measures, listed below:
>
> > Energy efficient HVAC units: "Super" high efficiency packaged HVAC units exceeding the industry standard EER.
> >
> > Central Energy Management: An energy management system that is monitored from the Home Office in Bentonville, Arkansas.
> >
> > Light Sensors: Occupancy sensors that detect activity in a room or rack aisle and automatically turn off the lights when the space is unoccupied.
> >
> > Interior Lighting Program: Lighting that utilizes T-8 fluorescent lamps and electronic ballasts, unless

more efficient lighting is available, and "low-mercury" lamps.

Poured Concrete: Up to 25% fly ash in the exterior concrete mixes; up to 40 % of the mix can be a combination of fly ash and ground granulated blast furnace slag.

Recycling: (A) Steel recycling: Include a substantial amount of recycled steel in construction. (B) Recycled Plastic: All of the plastic baseboards, and many of the plastic shelving, should be manufactured from recycled material.

Non-PVC Roofs: Use non-PVC roofing.

Water Conservation Landscaping Features: Landscaping plan must include at least three of the following water conservation features: low-precipitation systems, programmable irrigation controllers with automatic rain shut off sensors, matched precipitation rate nozzles that maximize the uniformity of the water distribution characteristics of the irrigation system, conservative sprinkler spacings that minimize overspray onto paved surfaces, or hydrozones that keep plants with similar water needs in the same irrigation zone.

Recycle Construction Debris: Implement a construction debris recycling program.

22-17 Cont'd

By incorporating measures like those listed above in the proposed mitigation measure, Wal-Mart will reduce the energy demand of the facility, thereby reducing the facility's energy demand footprint. The proposed features will result in a project that well exceeds California's Title 24 requirements and reduces greenhouse gas consumption.

8. Visual Resources

a. *Mitigation Measure 4.13-2 – Prepare and Submit a Landscaping Plan.*

22-18

The Draft EIR analyzes the visual impacts of the Project using a computer generated photo simulation of the proposed Project. This photo simulation, however, does not

include any landscaping that may be planted. (Draft EIR, pg. 4.13-7). While the development of the Project will alter the visual character of the site, the impact of the Project cannot be fully analyzed without an adequate representation of the site, which will include landscaping and required street trees. Thus, there is no nexus between the alleged impact identified and the mitigation required.

Further, the tree planting requirements under this mitigation reflect requirements typically imposed on a commercial use, such as a retail store located on a small parcel in a largely developed commercial area, with the building located closer to the property boundaries and therefore being highly visible from adjacent streets/properties. Because of the nature and siting of such a use, imposing mitigations requiring significant landscaping makes sense and is feasible. When the nature of a project is an industrial use located within a 230 acre site and far removed from the property boundaries, though, as is the case here, implementing such measures typically is infeasible, not to mention unwarranted. The requirements set forth in the mitigation should be revised to reflect this situation. 22-18 Cont'd

b. *Mitigation Measures 4.13-3 – Prepare and Submit a Lighting Plan.*

The mitigation requires the submittal of a lighting plan to mitigate any potential impacts of **light spillage offsite**. It includes a requirement that "no illumination source (including light bulb and reflector) shall be visible beyond the property line."

The Project will include pole-mounted metal halide lamps located approximately 45 feet above the ground surface. At this height, it is infeasible that the bulb or reflector would not be visible off-site. However, there is no nexus in any event for requiring this mitigation because the mitigation would address offsite visibility, not offsite **spillage**. Requiring that the bulb and reflector not be visible off-site is irrelevant to whether light spills to adjacent uses. As there is no nexus between the mitigation and the impact, this requirement should be removed. 22-19

* * * * *

Thank you for consideration of our comments on the mitigations proposed in the Draft EIR. If you have any question or would like to discuss these comments in more detail please call me at 415-774-2993.

Very truly yours,

Judy V. Davidoff

for SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

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cc: Colby Tanner, Wal-Mart Stores, Inc.

Jim D. Emerson, Jacobs Carter Burgess

22-1 Commenter states that there is no nexus between the air quality mitigation required by the EIR and the air quality impacts identified in the analysis and that all mitigation required must relate to the impacts caused by the project.

Though compliance with SJVAPCD Rule 9510, the ISR Program, is not mandated by CEQA, but rather the rule itself, SJVAPCD has requested that it also be included as a mitigation measure because it directly addresses the construction- and operational-emissions of CAPs and precursors. It is also practical to include compliance with Rule 9510 as mitigation measure so that it will be included as a condition of approval if the City decides to approve the project.

Commenter also argues that many of the air quality mitigation measures impose additional requirements beyond established programs and/or regulations. The purpose of CEQA is indeed to identify all mitigation that will reduce significant impacts and is feasible. Both SJVAPCD's ISR Program and emissions reduction agreements are established programs that have been used effectively to reduce air quality impact in the SJVAB.

Commenter also states that the ISR Rule does not include a requirement that the AIA application be approved by SJVAPCD prior to applying for a final discretionary approval by the City of Merced. Mitigation Measure 4.2-1a and Mitigation Measure 4.2-2a of the DEIR have been appropriately revised. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2," for the specific DEIR text changes.

22-2 The comment concerns Mitigation Measure 4.2-1b, which prohibits construction activity of forecasted Spare the Air Days. Commenter states that the DEIR includes no discussion of how this measure would reduce the project's impact to air quality. The DEIR has been revised to add to the explanation of the effectiveness of Mitigation Measure 4.2-1a through Mitigation Measure 4.2-1e. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2," for the specific DEIR text changes.

The comment concerns the measure in Mitigation Measure 4.2-1b that staging areas for heavy-duty construction equipment be located on site and not be within 1,000 feet of the project boundary. This may be physically infeasible given the dimensions of the project site and the size of the proposed building. Therefore, this measure has been changed in Section 4.4, "Revisions and Corrections to the DEIR Air Quality Section 4.2," of this FEIR.

The commenter also states that the requirement in Mitigation Measure 4.2-1b to "replace/substitute fossil-fueled (e.g., diesel) equipment with electrically driven equivalents" is infeasible. This particular measure is listed under the "Additional Operational Emission Reduction Measures" of Mitigation Measure 4.2-1b rather than the "Required Measures to Reduce Construction-Related Diesel Equipment Exhaust Emission" and, therefore, is only required if feasible. With regard to the list of "Additional Operational Emission Reduction Measures" the D EIR states that "measures implemented to achieve the ISR reduction goals… may include, but are not limited to the additional measures listed below."

The commenter also states that some measures are infeasible because they are more appropriate for a retail use located in a developed commercial area than a large industrial use located on 230 acres of land within an industrial area. However, commenter does not specify which particular

mitigation measure. All mitigation measures prepared to reduce the projects impacts to air quality were formulated with an understanding of the project description.

22-3 The commenter states that there is no nexus between the air quality mitigation measures and the impacts to air quality identified in the DEIR. Please refer to the response to Comment 22-1.

22-4 In regards to Mitigation Measure 4.2-2b, the commenter states that Wal-Mart has already developed a Rideshare Program and that Wal-Mart's Senior Rideshare Coordinating would create a Rideshare Program tailored specifically to the proposed project. However, the project description does not ensure that an Employee Transportation Coordinator or similar position of dedicated responsibility will be included as part of the proposed project; therefore, this requirement is included as a mitigation measure. Wal-Mart also states that it cannot guarantee that at least 25% of employee commute trips occur by some other transportation mode than a single occupancy vehicle (SOV) within 3 years of the opening of the distribution center because Wal-Mart cannot mandate that its employees commute by transit, biking, or in carpools. This is correct. Pursuant to California Health and Safety Code Section 40717.9, no city, air district, city, or congestion management agency can *require* an employer to implement an employee trip reduction program. However, the City can require feasible mitigation measures, including design features and program incentives, that strive to reduce the total number of employee commute trips. The text of Mitigation Measure 4.2-2b has been altered so that a performance standard (i.e., a 25% reduction in SOV employee commute trips) is no longer required. Instead, the text listed required and optional measures to incentivizing employees to commute in ways other than by SOVs. Please see Section 4.4, "Revisions and Corrections to the DEIR Air Quality Section 4.2," of Chapter 4.

The commenter also states that the measure is unclear about how the 25% reduction standard would be measured. Mitigation Measure 4.2-2b now states that the required measures to reduce employee commute trips and associated mobile-source emissions shall be implemented within one year of opening the distribution center. As described above, the text has been revised and Mitigation Measure 4.2-2b is no longer based on a performance standard. Please see Section 4.4, "Revisions and Corrections to the DEIR Air Quality Section 4.2," of Chapter 4.

22-5 The commenter states the measures required by Mitigation Measure 4.2-2c could conflict with the requirements imposed as part of the emissions reduction agreement with SJVAPCD, which is required by Mitigation Measure 4.2-2e. However, the comment does not provide any detail regarding why such a conflict could occur. In fact the text in Mitigation Measure 4.2-2c recognizes compliance with the ISR rule required by Mitigation Measure 4.2-2a and the employee trip reduction goals required by Mitigation Measure 4.2-2b.

The commenter also states that there is no nexus between some of the measures in Mitigation Measure 4.2-2c and the generation of long-term operation-related emissions of criteria air pollutants and precursor emissions. The commenter specifically states that there is no nexus between the construction of bike lanes and operational emissions. Table 4.2-7 shows that a substantial amount of operational emissions is generated by employee commute trips (mobile sources). Therefore, any improvement to the site's accessibility by bicycle would reduce commute trips by motor vehicles and associated mobile-source emissions.

The commenter also states that the City of Merced does not have an established Bicycle Fee Program. This is why the measure states that "the City shall determine the Applicant's fair share monetary contribution to the development of these bicycle lanes and the Applicant shall pay its fair share at the same time building permit fees are due to the City."

The commenter also states that it appears that the motivation for the bicycle lanes may be, as stated in the mitigation measure to "'qualif[y] the City of Merced to receive state funding for bicycle projects[,]'." The commenter's has taken this statement out of context. The full sentence of this measure states that "Building bicycle lanes at these locations is consistent with the City of Merced Bicycle Plan, which was adopted on October 20, 2008 and meets requirements of the California Bicycle Transportation Act (1994) and qualifies the City of Merced to receive state funding for bicycle projects." The purpose of this sentence is to show that the measure is consistent with the City of Merced's goals, because it has an established City of Merced Bicycle Plan, and that the measure is feasible because funding may be available from the state because the City of Merced Bicycle Plan meets requirements of the California Bicycle Transportation Act.

The commenter also states that the measure requiring that only electric-powered landscape maintenance equipment be used to care for landscaped areas is infeasible. The commenter's reason is that the distance between some of the landscape areas and the building or electrical outlet would be greater than 250 feet and in many cases over 500 feet. However, the measure does not restrict the use of cordless electric-powered landscape maintenance equipment or restrict the installation of more electrical outlets on the project site. Lastly, the quantity of landscaped area that will need regular maintenance is not anticipated to be large because substantial portions of the parking lot will consist of the warehouse building, employee parking surfaces, the paved truck yard, and detention basins. As stated on page 4.12-5 of the DEIR, water-efficient landscaping will be implemented into the project design. This includes the provision that the amount of turf area would be limited to 30% of the total landscaped area and that 90% of the plants in non-turf areas are well-suited to the climate of the region, drought tolerant, and require minimal water once established in the landscape. Therefore, intense maintenance of the landscaped areas is not expected. Nonetheless, the City recognizes that it may be infeasible to perform some maintenance activities that occur less frequently (e.g., tree pruning) with electric-powered equipment. In response to this comment, Mitigation Measure 4.2-2c has been revised. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2," for the specific DEIR text changes.

22-6 The comment concerns Mitigation Measure 4.2-2d, which requires the applicant to implement additional operational on-site reduction measures (in addition to those required by Mitigation Measures 4.2-2a, 4.2-2b, and 4.2-2c), if feasible. If, however, any of the additional measures are infeasible, the Applicant shall submit a written report to the City demonstrating such infeasibility, and that approval of this report shall be received by the Applicant prior to receiving final discretionary approval of the project from the City. The commenter states that the timing of this procedure is contrary to the procedure established by the ISR Rule. In order to make the timing consistent with the ISR requirements stated in Mitigation Measure 4.2-2a, text changes as shown in Section 4.2 have been made to Mitigation Measure 4.2-2d such that the approval of the infeasibility report must be received by the Applicant prior to the issuance of a building permit by the City of Merced Planning & Permitting.

22-7 The comment argues that Mitigation Measure 4.2-6d, which mandates the installation of solar panels throughout the project site, is excessive and unnecessary because the "project would demand significantly less energy than comparable facilities" and "Wal-Mart is investigating ways to meet the facilities' remaining energy demand with renewable energy sources." The commenter provides no evidence to support the claim that the proposed project would demand less electricity than comparable facilities. As shown in Table 4.2-10 under Impact 4.2-6 of the DEIR, the largest sector of GHG emissions generated by the project would be those GHG emissions associated with the project's on-site consumption of electricity (i.e., 5,363 metric tons per year). The estimation of GHG emissions associated with electricity consumption was based on data provided by Wal-Mart for the existing Wal-Mart distribution center in Apple Valley. The analysis under Impact

4.2-6 concludes that the project's GHG emissions would be a considerable net increase in GHG emissions (i.e., significant) and that this increase could conflict with the state's AB 32 goals, which require reductions in statewide GHG emission levels. Feasible mitigation was the identified to reduce the project's generation of GHH emissions and particular focus was given to the project's largest sector of GHG emission, electricity consumption.

The comment also states that significant barriers exist to using solar power "at this time in this location" including material/production costs, the net efficiency of technology and the lack of storage capacity to fully utilize the solar energy. However, the comment does not provide any details about why using solar panels would be cost-prohibitive. Also, Mitigation Measure 4.2-6d does not include any performance standards regarding electricity storage capacity. Nonetheless, the first bulleted measure under Mitigation Measure 4.2-6d has been revised to provide additional clarity and allow for more flexibility regarding the types of on-site alternative energy sources that can be installed on the project site. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2," for the specific DEIR text changes.

In addition, the commenter states that applicant cannot legally be required to purchase electricity from a specific local provider, as is required under the second bullet of Mitigation Measure 4.2-6d, and that such a requirement "violates the Applicant's constitutional and statutory rights" and that the measure lacks a nexus to a specific impact. For this reason as well as the fact that GHG standards for electricity production will be directly regulated by AB 32, this requirement has been removed from Mitigation Measure 4.2-6d.

22-8 The commenter states that that Mitigation Measure 4.3-2 is very detailed and sets forth requirements for the project that could conflict with requirements of the California Department of Fish and Game. Please refer to Master Response 10, which addresses this comment and other comments regarding impacts and mitigation for Swainson's hawk and burrowing owl.

22-9 The commenter indicates that Mitigation Measure 4.5-1 is vague and requests clarity regarding whether, in the case of a find, activities across the entire site must cease or just in the vicinity of the find (a statement used earlier in the measure). As indicated by the commenter the mitigation states "Recommendations determined by the lead agency to be necessary and feasible shall be implemented before construction activities can resume *at the site where the paleontological resources were discovered*." (Emphasis added.) The mitigation clearly indicates that, in case of a potential paleontological find, work in the vicinity of the find shall cease and, once recommendations are implemented, work at the site of the find (not implying the entire project site) can resume.

22-10 The commenter indicates that the applicant has already complied with draft Mitigation Measure 4.5-3(a), which requires preparation of a Final Geotechnical Design Report and implementation of all applicable recommendations, and the commenter recommends removal of the mitigation measure. However, the City is not currently in receipt of this document and has not reviewed the document and recommendations for adequacy; therefore, the mitigation measure remains appropriate. If the project is approved, and once the City has received and reviewed the report (part of the building permit process), the City may sign off on the mitigation measure if the report meets the City's standards.

22-11 The commenter suggests that because the applicant will be the sole owner and operator of the proposed project, a CFD is not required, hence Mitigation Measure 4.6-1b calling for a maintenance entity is not necessary. However, the mitigation measure is flexible and allows for establishment of a "maintenance district […] or other maintenance entity acceptable to the City of Merced and the MID;" The mitigation measure does not preclude the possibility of the applicant

identifying its own maintenance entity, as long as the entity is acceptable to the City of Merced and the MID. No changes to the DEIR are necessary.

22-12 The commenter suggests that Mitigation Measure 4.6-6 regarding Senate Bill 5 mitigation is speculative. The comment is noted. Per the Mitigation Measure, if the proposed project construction and building permit issuance occurs prior to enactment of the SB 5 criteria, the mitigation measure requirements would not be in effect. Because SB 5 is now law and the proposed project is within the 200-year floodplain as defined by SB 5, the Draft EIR is required to analyze impacts associated with SB 5.

22-13 The comment states that the heading of Mitigation Measure 4.8-1 should be revised. In response to this comment the heading of Mitigation Measure 4.8-1 has been changed. Please see the specific text changes to the DEIR in Section 4 of this FEIR, "Revisions and Corrections to the Draft EIR."

22-14 The comment states that the noise reductions attributable to the sound barriers required by Mitigation Measure 4.8-3 are not disclosed and that by requiring an acoustical analysis be completed at a later date the mitigation defers the impact. The comment also states that the term "aesthetically pleasing" is subjective. Mitigation does not typically include engineering plans of required measures as such measures may require specific expertise and project specific elements. In this case the requirement of an acoustical analysis for determining how mitigation should be executed is an acceptable and typical approach to environmental noise analysis. In response to this comment, changes have been made to Mitigation Measure 4.8-3 in order to specify performance standards and rectify any ambiguity. Please see the specific text changes to the DEIR in Section 4 of this FEIR, "Revisions and Corrections to the Draft EIR."

22-15 The commenter indicates that traffic problems associated with delivery trucks arriving prior to a scheduled pick-up or delivery time are not adequately characterized and analyzed in the DEIR (and thus may not occur), and that mitigation measure 4.11-2(a) should be removed. Because there are scheduled pickup and delivery times, there exists the potential for trucks to wait in a designated area. Mitigation Measure 4.11-2a.was created to reduce the potential for trucks having to wait on local streets. There is no quantitative analysis of the number of trucks this may potentially affect, as the timing of arrivals of these trucks cannot be predicted. However, the described situation was observed at the Wal-Mart Distribution Center in Apple Valley, CA. Based on these observations, and the potential for the impact to occur, the mitigation measure remains appropriate. No changes to the DEIR are necessary.

22-16 The commenter notes that mitigation measure 4.11-2(b) lists several non-STAA roadways and roadways near residential areas, and suggests that this measure be revised or deleted. The designated truck routes for Wal-Mart Distribution Center trucks, whether STAA routes or other routes approved by the City of Merced, would be defined as per Mitigation Measure 4-11-2b (a, b and c). If the routes under Mitigation Measure 4-11-2b (c) are not deemed appropriate by the City of Merced, then they wouldn't be included in the traffic safety assurance plan noted in Mitigation Measure 4-11-2b (a). The mitigation measure remains appropriate and no changes to the DEIR are necessary.

22-17 The commenter recommends that Mitigation Measure 4.12-4 be modified to be consistent with language provided in the comment. However, it should be noted that most of the measures included in the recommended revision are already identified in the sustainability plan requirements on page 3-15 of the DEIR. The energy efficiency measures identified in Mitigation Measure 4.12-4 are above and beyond those identified in the DEIR's Project Description and

would further reduce the project's energy consumption as recommended within CEQA Appendix F. No changes are required to the DEIR.

22-18 The commenter notes that the photosimulations do not include any landscaping that may be planted, and states that the project cannot be fully analyzed without a depiction of site landscaping and trees. The comment suggests, therefore, that the visual impact may be overstated without the assumption of landscaping. As described on page 4.13-7 of the DEIR, Impact 4.13-2 would be a potentially significant impact, based on the threshold of significance, because the project would alter the visual character of the proposed site itself and significantly impact the visual character of the surrounding area. As illustrated by Exhibits 4.13-8 through 4.13-11 (see pages 4.13-8 to 4.13-12), project development would result in a noticeable alteration of the appearance of the site. Specifically, as described in the third paragraph on page 4.13-13, site grading associated with the proposed project would remove existing crops and orchard trees from the site, and buildings up to 40 feet in height and storage tanks would be constructed. Therefore, implementation of the proposed project would alter the existing character of the project site by replacing undeveloped orchards and agricultural fields with industrial development (i.e., buildings, storage tanks, tractor trailers, and pavement), resulting in a potentially significant impact. Based on the information contained in the DEIR, sufficient information is available to adequately analyze Impact 4.13-2.

CEQA requires that for each significant impact identified in the EIR, the EIR must discuss feasible measures to avoid or substantially reduce the project's significant environmental effect (CEQA Guidelines Section 15126.4[a]). Implementation of mitigation measure 4.13-2 would soften and obscure the buildings (as noted in paragraph three on page 4.13-13), reducing potentially significant impacts to less-than-significant levels.

The commenter correctly notes that the photosimulations do not include any landscaping that may be planted. As stated in the first paragraph on page 4.13-13, the photosimulations do not include landscaping because no landscaping plan was available at the time the DEIR was prepared.

The commenter asserts that the tree planting requirements contained in mitigation measure 4.13-2 reflect requirements for a small commercial site in a developed commercial area, with a building located close to the boundary of the property. Also, the commenter states that implementation of mitigation measure 4.13-2 would be infeasible and unwarranted because the project is an industrial use located on a 230-acre site, far removed from the property boundaries. As previously discussed in this response, mitigation measure 4.13-2 is warranted because CEQA requires that for each significant impact identified in the EIR, the EIR must discuss feasible measures to avoid or substantially reduce the project's significant environmental effect, and this mitigation measure would soften and obscure the buildings, reducing potentially significant impacts to less-than-significant levels. Regarding the statement that implementation of this mitigation measure would be infeasible, the commenter does not provide a justification for this statement or provide any additional details. Mitigation measure 4.13-2 involves the preparation and submittal of a landscaping plan to the satisfaction of the City. Because the commenter does not provide any details or offer a reason why the mitigation measure would be infeasible, no further response can be provided. See also the response to comment 5-5, Visual Resources.

22-19 The commenter refers to a portion of mitigation measure 4.13-2, and states that it is infeasible that the bulb and reflector would not be visible off-site. In addition, the commenter states that there is no nexus between the mitigation and the impact, and the requirement should be removed.

The analysis of project lighting impacts is provided on page 4.13-14 of the DEIR (see Impact 4.13-3). As described therein, the project would result in potentially significant light and glare

impacts, and mitigation measure 4.13-3 is recommended to reduce these impacts to less-than-significant levels. In particular, the first paragraph on page 4.13-14 states that the project would result in a very noticeable increase in illumination on and from the site that would be readily visible from all of the public streets abutting the site and from vantage points beyond. In addition, as described on paragraph 4 on that page, there is potential for light spillage impacts on adjoining properties, and light spillage could result in glare impacts on persons at vantage points beyond the site boundary. As stated in paragraph five on page 4.13-14, light shields, lighting design, and lighting fixture orientation are commonly used to reduce light spillage.

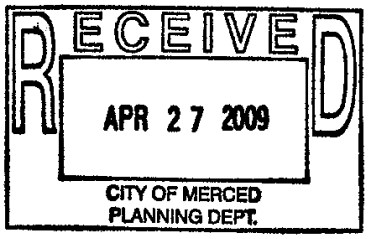
CEQA requires that for each significant impact identified in the EIR, the EIR must discuss feasible measures to avoid or substantially reduce the project's significant environmental effect (CEQA Guidelines Section 15126.4[a]). Implementation of mitigation measure 4.13-3 would reduce the increase in illumination on and from the site, as well as reduce light spillage impacts on adjoining properties, reducing potentially significant impacts to less-than-significant levels. The mitigation measure would address light spillage through preparation of a lighting plan that incorporates lighting design and placement, as well as lighting orientation.

Mitigation measure 4.13-3 includes a lighting performance standard, specifying that no illumination source shall be visible beyond the property line. In addition, the measure states (see last paragraph on page 4.13-14 of the DEIR) that "the exception to this performance standard is at driveway intersections with public streets." Therefore, mitigation measure 4.14-3 acknowledges that illumination sources could be visible beyond the property line. See also the response to comment 5-5, Visual Resources.

23

Espinosa, Kim

From: CALFMAN1@aol.com
Sent: Monday, April 27, 2009 5:59 PM
To: Espinosa, Kim
Cc: CALFMAN1@aol.com
Subject: DEIR Wal-Mart Comments



Received at 6:00 P.M.
FAX not received

Valley Land Alliance
P.O.Box 102
Cressey, CA 95312

April 27, 2009

Kim Espinosa, Planning Manager
City of Merced
Planning Department
678 W. 18th Street
Merced, CA 95340
espinosak@cityofmerced.org
Fax 209-725-8775

Dear Ms. Espinosa; Sent Via both email and fax

Valley Land Alliance is a grass roots nonprofit organization dedicated to Educate and Build Alliances to protect our uniquely productive California Central Valley Farmland.
Valley Land Alliance submits the following comments in response to the Draft EIR on the proposed Wal-Mart.

Mitigation; We request land loss in Agriculture to any development a 4 to 1 mitigation. 23-1

Runoff and Erosion: We have concerns about the water run off from the proposed facility. This could have substantial adverse effects upon the quality of water running off into streams, and will cause substantial, unmitigated pollution. 23-2

Traffic: We have concerns of the impact to traffic on Hwy 99 in both directions North and South, and the impact on back streets and how this will impede the shipment of agricultural products and interfere with farm and harvesting equipment. This is especially disconcerting during peak harvest times. We understand from studies from other Wal-Mart distribution centers that back roads are impacted by both trucks parking on the side of the road idling, and by using back roads to avoid traffic. 23-3

Air Quality: Air quality is under extreme scrutiny in the Central Valley and the Agricultural community is under intense pressure to comply with ever-increasing regulations. The ag community has been under tremendous attack as one of the major sources of air pollution and we are concerned that the swell in truck traffic from this project will add more pressure to the agricultural supported county. Meaning the Ag community will be taking blame for any increase in air pollution. We would like to see all trucks that are idling for a period of more than 5 minutes required to park under a filter system that eliminates air pollution. 23-4

4/28/2009

Schools; In the light that this distribution center is so close to several schools we would request that the Wal-Mart distribution center be required to move these school to a location that would not disrupt the day to day actives of the parents and children who attend these schools. We believe that a healthy community is schools whose air and traffic are not compromise by truck traffic. 23-5

Sustainability: We would request that all power from the distribution center be from alternate sources such as solar and wind power. We would also request that the roofing be a source of this alternate energy. 23-6

Community Giving; Since we believe that this distribution center will be allowing the creations of 30 plus more Wal-Marts and that Wal-Marts are normally the reason for the loss of our locally owned and operated stores in towns, and we believe that these are also part of the reason that our downtowns die and cause a shift of buying to box stores. We would request that this distribution center be required as a mitigation to contribute back 1% of their earnings to the community in such ways as educating the public of the importance of eating healthy, local foods. Contribute to our downtown arts and local theaters. 23-7

Local Agriculture; As this distribution center will have a major effect on all our lives that live here in Merced and close to Merced. We would ask that Wal-Mart be required to source their produce from local markets to help support the local farmers that would be impacted from this distribution center. 23-8

Sincerely,

Rochelle Koch
On behalf of Valley Land Alliance
Calfman1@aol.com

Access 350+ FREE radio stations anytime from anywhere on the web. Get the Radio Toolbar!

4/28/2009

23-1 The commenter requests mitigation for loss of farmland at a 4 to 1 ratio. Please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

23-2 The comment expresses general concern regarding runoff and erosion from the proposed facility to nearby streams. Section 4.6 "Hydrology and Water Quality" presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses stormwater runoff and erosion from the proposed project.

23-3 The commenter is concerned about traffic on Highway 99 and back streets, and how this traffic would impede the shipment of agricultural products and interfere with farm equipment. The issue of trucks parking on the side of the road and idling was considered in the DEIR's analysis and addressed in Mitigation Measure 4.11-2a. Also refer to the Master Response 6: Trucks and the Transportation Analysis for more information on truck traffic analysis for routing assumptions.

23-4 The commenter expresses concern that "the Agricultural community is under intense pressure to comply with ever-increasing [air quality] regulations." The DEIR is not required to address this issue. The commenter suggests that all trucks idling for more than 5 minutes be required to park under a filter system that eliminates air pollution. On-site truck emissions of CAPs are discussed in Impact 4.2-2 of the DEIR. Mitigation Measures 4.2-2a and Mitigation Measures 4.2-2c would reduce on-site truck emissions and reduce Impact 4.2-2 to a less-than-significant level. On-site truck emissions of toxic air contaminants are discussed in Impact 4.2-4 of the DEIR and this impact was determined to be less than significant.

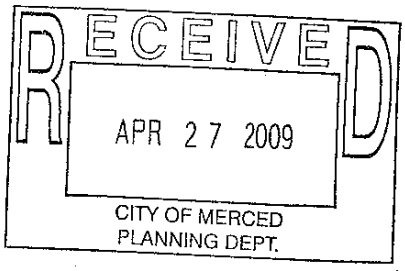
23-5 The commenter expresses concern about the project's proximity to schools and the effect of truck-generated traffic and emissions. Please refer to Section 4.11, Traffic and Transportation, for analysis of traffic impacts, including the effects to schools in the study area. Please refer to response to comment 16-8 which discusses how the schools were included in the HRA performed for the project. The potential for exposure to off-site receptors, including nearby schools, is analyzed in Impact 4.2-4, Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants.

23-6 The commenter requests that all power for the distribution center be supplied by alternative energy sources such as solar or wind power and "that the roofing be a source of this alternative energy roofing." Please refer to Mitigation Measure 4.2-2e and Mitigation Measure 4.2-6d.

23-7 The commenter suggests that the proposed project will result in 30 or more new Wal-Mart stores, causing significant urban decay to existing downtowns, and further recommends that Wal-Mart should subsequently donate 1% of the Distribution Center's earnings to the community. Please refer to Master Response 1: Growth Inducement and Expansion for more information regarding the potential for the Distribution Center to "spawn" retail stores and the extreme speculation involved with assessing the potential environmental impacts, such as urban decay. Furthermore, it should be noted that the City would require Wal-Mart to pay approximately $4.2 million (based on 2009 fee levels) in impact fees for public facilities (See Response to Comment 16-5).

23-8 The commenter requests Wal-Mart source their produce from local markets to assist local farmers. The comment does not raise any issues related to the adequacy of environmental analysis conducted in the DEIR. No further response is necessary.

24



April 23, 2009

Kim Espinosa
Planning Department
City of Merced
678 W. 18th St.
Merced, CA 95340

Re: Merced Wal-Mart Distribution Center Project

Ms. Espinosa,

I wish to voice my disapproval with the construction of the Wal-Mart Distribution Center. I have noted that the Draft EIR regarding the project, among other things, states that the addition of more concrete, pavement, and buildings could have many effects ranging from water pollution to increased flooding. In particular, the Draft EIR notes that the addition of so many acres of impervious surface will increase stormwater runoffs and volumes which will lead to flooding. The area in and around the site has been historically undeveloped agricultural land which was better for stormwater absorption. To convert it into impervious land would disrupt drainage patterns, which the area is not equipped for and which will lead to increased flooding. 24-1

Why would we want to by human means increase the risk of such flooding. The City should not approve the project and should allow for drainage and absorption patters to remain the same unless they want citizens being upset over excessive flooding.

Sincerely,

Signature

Dannique N. Aelbu
Print Name

1067 W. Yosemite Ave #8
Address

Merced, CA 95348

(916) 832-9170
Phone

24-1 The commenter expresses general concerns regarding water pollution and increased flooding due to increased impervious surfaces. Section 4.6 "Hydrology and Water Quality" presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces.

25

Espinosa, Kim

From: Darlene Acree [dacree@transcountytitle.com]
Sent: Tuesday, March 31, 2009 10:36 AM
To: Espinosa, Kim
Subject: Wal-Mart Distribution Center

Kim,
As a resident of Merced and the owner of a home off Childs Avenue near the location of the purposed Wal-Mart Distribution Center, I am writing in support of the facility. As I look around our small town and see all the empty buildings and places of business that have closed their doors in the past several years, I wonder why people wouldn't welcome the new business and employment for our city. I think the pros definately outway the cons in my opinion.
Thank you for your time,

25-1

Darlene Acree
Jr. Escrow Officer/
Certified Escrow Technician
TransCounty Title Co.
635 W. 19th Street
Merced, CA 95340
Phone: (209) 383-4660 ext. 12
Fax: (209) 381-2726
dacree@transcountytitle.com

Please don't print this e-mail unless you really need to.

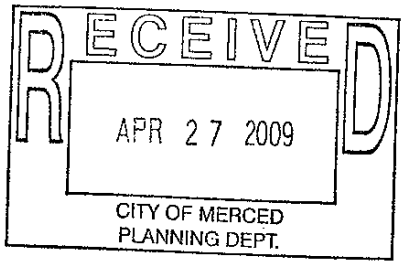
3/31/2009

25-1 The comment speaks to the merits of the project and raises no environmental issues. The comment is noted.

26

3/19/09

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 W 18th St.
Merced, CA 55340



Ms. Espinosa:

I am reading the DEIR on the distribution center, particularly page 4.2-5. I feel there is a false sense of security in your analysis of particulate matter 2.5 (PM2.5). You state that PM2.5 has reduced between 1975 and 2005. While this is encouraging news, I suggest you think about some of the sources you mention which cause PM2.5 emissions, specifically "fugitive dust" from vehicles traveling on paved and unpaved roads.

26-1

The point I want to make and raise is that by adding hundreds of tractor trailer trucks exiting and entering Highway 99 and driving through our neighborhoods and schools will result in a lot more PM2.5 in the air around Merced. I really don't want to see this happen because I'm worried about the health of my family.

I don't think it's a smart idea to add to the poor air quality in Merced.

Thank you.

Signature

Candice Adam-Medeiros
Print Name

2381 Lakeside Drive
Address

Merced Calif. 95340
City, State Zip

(209) 723-1872
Phone Number

26-1 The commenter is concerned about the addition of $PM_{2.5}$ emissions to the project area. Specifically, the commenter notes concerns about fugitive emissions from vehicle travel on paved and unpaved roads. Please see impacts 4.2-1 and 4.2-2 of the DEIR, which analyze the incremental increase in $PM_{2.5}$ (which is a subset of PM_{10}) emissions associated with the proposed project. Both of these impacts were found to be significant. With implementation of mitigation measures 4.2-1a-e and 4.2-2a-e, these impacts from PM_{10} and $PM_{2.5}$ would be reduced to a less-than-significant level.

27A

Espinosa, Kim

From: Allen's [c@17am.com]
Sent: Thursday, April 23, 2009 7:33 PM
To: Espinosa, Kim
Subject: Wal mart

We are against the building of the Wal-Mart distribution center. We have seen the terrible effects of what other centers have done in other cities. 27A-1

Margaret Allen

27B

Espinosa, Kim

From: Allen's [c@17am.com]
Sent: Thursday, April 23, 2009 7:30 PM
To: Espinosa, Kim
Subject: Walmart

We are against the building of the Wal-Mart distribution center. We have seen the terrible effects of what other centers have done in other cities.

27B-1

Brent Allen

Letter 27A-B Response	Margaret Allen ➢ 27A–April 23, 2009 Brent Allen ➢ 27B–April 23, 2009

27A-1 The comment recommends against approval of the project and raises no environmental issues. The comment is noted.

27B-1 The comment recommends against approval of the project and raises no environmental issues. The comment is noted.

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28

Espinosa, Kim

From: Allen's [c@17am.com]
Sent: Sunday, April 26, 2009 12:58 PM
To: Espinosa, Kim
Subject: No Wal MArt

Kim, This is nothing personal against you. This letter is to any who support this Distribution Center in the location which it is planned. If anything happens to my kids because of the traffic of the trucks, I as well as many of my friends and neighbors will take action against city council and city planning people who knowing support this giant city of filth AKA the Wal Mart distribution center. This family has supported the schools here in every way possible the last 20 years. For Merced to do something like this to us is ludicrous. There is plenty of land in this region to put this distribution center elsewhere. There is no reason it has to be so close to our residential area and schools. Move it or lose it. If this is passed we are not going to lie down about it. It will be an embarrassing civil war here in Merced if it goes through. Shopping in grocery stores, restaurants at public functions etc. Anyone who has supported this that has a government vote will be constantly reminded in an embarrassing manner forever if walmart is placed this close to us. MOVE THE SITE if you must have it, unless every supporter wants to move in next to us in our neighborhood and experience the hell for themselves. Turning a blind eye to a fellow Merced resident will not fly this time.

28-1

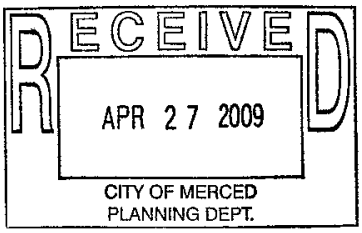
Margaret Allen
Brent Allen
Lisa Allen

2636 Ballantyne
Merced

4/27/2009

28-1 The comment primarily addresses the merits of the project and recommends against approval. However, the comment does allude to consideration of alternative sites. Section 5 of the DEIR titled "Alternatives to the Proposed Project" discusses three alternative sites. See also Master Response 12: Alternatives. The comment does not raise issues with the adequacy of the DEIR.

29



To:
Kim Espinoza
Planning Manager
City of Merced

These are my concerns regarding the proposed Wal-Mart Distribution Center in Merced. None of them have been adequately addressed in the Draft Environmental Impact Report. This project is not right for our community.

– pollution from trucks causes global warming (254.4 tons of NOx which causes ozone) 29-1
– noise in the form of loudspeakers to call the trucks to off-load and the noise of off-loading 29-2
– light from stadium lighting at the site 29-3
– dust created from off-loading 29-4
– polluting the rain water run-off 29-5
– plummeting home values 29-6
– trucks idling at the site for 2 to 24 hours while waiting their turn to off-load. 29-7
– idling trucks run their air conditioner in the summer and their heaters in the winter
– big box stores shut down small businesses and create unemployment 29-8
– there is no guarantee that the jobs generated by this project will go to Merced residents or benefit Merced in any way. 29-9
– Urban Decay is not addressed in the document 29-10
– the proposed site is subject to high water flow. 29-11
– The EIR is supposed to address how the project will change the existing environment. It doesn't do that. 29-12
– The proposed capacity will not only be adequate to serve existing stores as it says in the DEIR, it is big enough to serve several times the amount of stores which exist at this time. 29-13
– The purpose of CEQA is to address both Qualitative and Quantitative. Both are not considered in the DEIR. 29-14
– Our Air Quality will be severely compromised if this project goes forth but the DEIR suggests that adding pollution is not significant. 29-15
– This project will require a huge impervious surface. Rain water will be polluted by oil, grease, dust and other particulate matter and will flow off site and onto the land. The proposed detention ponds will not clean the water adequately before it heads to the waterways and ultimately the ocean. 29-16
– The ponds will supposedly be filled by gravity feed but this concept doesn't make sense as the water level in the ponds are higher than the surface requiring evacuation.
– The houses built in the surrounding neighborhoods will suffer from urban decay. Owners will not be able to sell their homes and property values will decline because of the proposed Distribution Center. Many surrounding homes will become vacant and will become magnets for vandalism, graffiti, drugs and prostitution. Foreclosure rates will skyrocket. This should have been addressed in the DEIR. 29-17
– The proposed Distribution Center will bring products to proposed Wal-Mart Super Centers. Each Super Center closes 2-3 smaller stores. These Super Centers are proposed for other towns in our county. We are potentially causing unemployment in our own county. 29-18

– Most of the jobs generated by this project will not go to local citizens but to workers from other communities who will commute. This will not benefit Merced financially. At the very least, we should require that Wal-Mart hire 80% of the workforce from the county of Merced. 29-19

– There are many hidden costs to the city of Merced such as police, traffic control, noise abatement and health costs created by poor air quality. 29-20

– Weaver, Pioneer and Golden Valley are too close to the proposed site. A third elementary school that has been proposed for this area will not be able to be built.
– Student athletes will have no choice but to breath the air. Their health will be affected.
– 25% of people within a two mile radius will have health issues as a consequence of the exhaust from the truck traffic. 29-21

– The road was built for UC Merced. Is it right, is it fair, is it appropriate to turn it into a road for the proposed Wal-Mart Distribution Center? 29-22

The City Council is directly responsible for the foreclosure rate in this community by allowing unrestricted building in our town. We are fourth in the Nation. Now most of the City Council wants to build this Distribution Center with total disregard for the deficiencies in the Draft Environmental Report.

CEQA authorizes agencies to disapprove projects because of negative environmental impacts. This project should NOT be approved. 29-23

We have UC Merced, a wonderful asset to our community. Merced deserves green growth. So does out planet.

Annette Allsup
974 Wyoming Dr
Merced, CA 95340
209-723-5152

29-1 The commenter suggests that the issue of global warming caused by pollution from trucks has not been adequately addressed but does not specify why. Impact 4.2-6 of the DEIR focuses on the generation of GHG emissions by the proposed project and their contribution to global climate change. The DEIR includes an estimate of GHG emissions generated by the project during construction and operation. The various operational sectors for which the quantification was done include natural gas use onsite, landscaping emissions, architectural coatings, electricity consumption, outbound delivery truck trips, inbound receivable truck trips, and onsite truck activity. The emissions category that the commenter argues about – trucks – are included in the impact analysis. The analysis is in accordance with OPR's Technical Advisory on CEQA and Climate Change which states that "Lead agencies should make a good-faith effort, based on available information, to calculate, model, or estimate the amount of CO_2 and other GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities". Given the recent enactment of AB 32 (2006) and SB 97 (2007), there is no adopted methodology quantification of CO_2 emissions from development projects. The applicant and their consultants, using their professional expertise and judgment, have therefore done their best to devise their own methodology, which is intentionally conservative because of the newness of the science at issue. The analysis in Section 4.2 of the DEIR represents a sophisticated, good faith attempt to quantify and disclose emissions using the information that is available.

The commenter also states "pollution from trucks causes global warming (254.4 tons of NO_X which causes ozone." Page 4.2-3 of the DEIR explains that "Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of ROG and NO_X in the presence of sunlight." Ozone is not a prominent GHG gas, however. As explained on page 4.2-11 of the DEIR, "Prominent [greenhouse gases] contributing to the Greenhouse Effect are carbon dioxide (CO_2), methane (CH_4), ozone, nitrous oxide, hydrofluorocarbons, chlorofluorocarbons, and sulfur hexafluoride." Ground-level ozone is not considered a prominent GHG, in part, because of its diurnal nature and because it does not persist atmosphere for more than a 24-hour period.

29-2 The comment states that loudspeakers announcements in the truck yard are not addressed in the EIR. As stated in Impact 4.8-2 "Stationary- and Area-Source Noise", the loudest noise sources emanating from operations of a distribution center of similar size, design, and operations would be from yard truck horns and back-up alarms. Loud speaker announcements were not identified as a significant noise source during field measurements at a similar, existing Wal-Mart distribution facility in Apple Valley, CA, as stated on page 4.8-22:

> All loading and unloading of truck trailers would occur at the loading docks along the north sides of the warehouse building, which is more than 3,000 feet from the nearest off-site noise-sensitive receptor. Even if such activity produced a noise level equivalent to that of the air horn of yard truck, which is the loudest noise level observed at the Apple Valley facility at 88 dBA, this noise level would attenuate to 52.5 dBA across a distance of 3,000 feet, not including additional attenuation provided by the building itself.

Furthermore, the loudest on-site noise sources associated with facility operations are listed in Table 4.8-10, Summary of Stationary and Area Noise Sources.

29-3 The commenter lists a concern about light from stadium lighting at the site. It should first be noted that the proposed project does not include stadium lighting, but rather pole-mounted lighting typical of parking lots. The project's lighting impacts were evaluated consistent with the requirements of CEQA in Section 4.13, "Visual Resources," of the DEIR. As described therein, the project would result in potentially significant light and glare impacts, and mitigation is recommended to reduce these impacts to less-than-significant levels (see page 4.13-14). Please also see response to comment 12-22 for additional discussion. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided.

29-4 The commenter argues that the issue of dust created from offloading of trucks was not addressed adequately in the DEIR. Based on observations at the Wal-Mart distribution center in Apply Valley this activity would not anticipated to result in emissions of fugitive dust and; therefore, was not discussed in the DEIR. In general, dust from offloading operations at distribution centers is not an issue or a source that air districts recommend including in the air quality analysis.

29-5 The commenter expresses general concerns regarding stormwater runoff. Section 4.6 "Hydrology and Water Quality" presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces.

29-6 The commenter indicates that the DEIR does not address the potential for decrease in home values as a result of the warehouse distribution center and its impact for urban decay. The commenter explains that owners will not be able to sell their homes and affected neighborhoods will become magnets for vandalism, graffiti, and prostitution, with foreclosures skyrocketing. The project's affect on property value, by itself, is not considered an environmental impact and is therefore not required to be analyzed under CEQA. Please refer to Master Response 11: Economics and Urban Decay, which addresses this issue.

29-7 The commenter suggests that trucks would idle at the site for 2-24 hours while waiting their turn to offload. As stated on Page 4.2-15 of the DEIR, ARB has developed an ATCM that limits stationary idling by diesel-fueled commercial trucks to 5 minutes (13 CCR Chapter 10 Section 2485). The analysis in the DEIR assumes that trucks at the project site would comply with this ATCM, which is a state law, and would not be allowed to idle for more than 5 minutes as the commenter suggests.

29-8 The commenter indicates that the DEIR does not address issues associated with the economic effects of "big box" stores on small businesses and the resulting unemployment. The proposed project is a distribution center, not a retail center; therefore, the project would not result in direct economic effects on small business, especially given the high rate of unemployment in the region. Furthermore, economic effects are not required for analysis under CEQA. If the commenter is implying impacts associated with urban decay, please see Master Response 11: Economics and Urban Decay. Please also refer to Master Response 1: Growth Inducement and Expansion for a discussion of the project's potential to "spawn" retail stores throughout the region and the ability to assess impacts resulting from such expansion.

29-9 The comment raises questions related to in-migration of employees and raises no environmental issues. The comment is noted. See Response to Comment 92-4 for more detailed information.

29-10 The commenter indicates that urban decay is not addressed in the DEIR. Please refer to Master Response 11: Economics and Urban Decay, which addresses this issue.

29-11 The comment indicates that "the proposed site is subject to high water flow." Section 4.6 "Hydrology and Water Quality" presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces.

29-12 The commenter states that the EIR does not address how the project will change the existing environment. The project's environmental impacts were evaluated consistent with the requirements of CEQA throughout the DEIR. Please refer to Chapter 4, "Environmental Setting, Thresholds of Significance, Environmental Impacts, and Mitigation Measures," of the DEIR for a description of the existing environmental setting and discussion of the environmental impacts associated with the proposed project. As described in the first paragraph on page 4-1 of the DEIR, Chapter 4 of the DEIR contains a discussion of existing conditions, thresholds above which an impact of constructing and operating the proposed Merced Wal-Mart Regional Distribution Center is considered significant, environmental impacts, mitigation measures, and levels of significance after mitigation. Specifically, please refer to Sections 4.1 through 4.13 of the DEIR. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided.

29-13 The commenter indicates that the proposed project would be large enough to serve an area far beyond the 49 stores identified in the DEIR. Please see Master Response 1: Growth Inducement and Expansion for a more detailed discussion on the potential for expansion of service.

29-14 The commenter addresses the purpose of CEQA and the lack of both qualitative and quantitative analyses in the DEIR. The project's environmental impacts were evaluated consistent with the requirements of CEQA. As stated on page 1-1 of the DEIR, the City of Merced is the lead agency under the California Environmental Quality Act (CEQA) and has determined that an Environmental Impact Report (EIR) is required for the proposed Wal-Mart Distribution Center project (State Clearinghouse No. 2006071029). In addition, the EIR has been prepared in conformance with CEQA (California Public Resources Code [PRC] Section 21000 et seq.); CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000 et seq.); and the rules, regulations, and procedures for implementation of CEQA, as adopted by the City of Merced. Please also refer to response to comment 29-12 for additional information.

In fact, the DEIR includes both quantitative and qualitative analyses, depending upon the environmental topic. For example, air and noise impacts include quantitative, while the Visual Resources analyses is qualitative. Because the commenter states some general criticisms of the DEIR without providing any specificity, no further response is necessary as no issues related to the specific environmental impacts of the project were raised.

29-15 The commenter states that "air quality will be severely compromised if this project goes forth but the DEIR suggest that adding pollution is not significant." The commenter suggests that the impact conclusions in the air quality analysis discussed in Section 4.2 are incorrect but fails to provide reasoning for this statement.

29-16 The commenter expresses general concerns regarding impervious surface increases and contaminated runoff and detention pond inadequacy. Gravity filled ponds are higher than the land to be drained. See Master Response 7: Detention Basins and Drainage which addresses comments pertaining to stormwater volume. See Master Response 8: Runoff Water Quality which addresses comments pertaining to stormwater quality.

29-17 The commenter indicates that urban decay is not addressed in the DEIR. Please refer to Master Response 11: Economics and Urban Decay, which addresses this issue.

29-18 The commenter states that the proposed distribution center will bring products to proposed Wal-Mart Super Centers, asserts that each Super Center closes two to three stores, and that the proposed project would potentially cause unemployment in the county. The commenter does not substantiate these claims and does not offer any evidence showing how the project would result in a physical change in the environment. Potential unemployment and related social and economic effects are not physical effects. Effects analyzed under CEQA must be related to a physical change in the environment (CEQA Guidelines Section 15358[b]). The commenter does not offer any evidence on how the project would result in significant physical change in the environment; therefore, no further response can be provided. Furthermore, as explained under "Master Response 1: Growth Inducement and Expansion", environmental effects resulting from the proposed Distribution Center's potential for "spawning" additional retail stores cannot even be grossly speculated. Please see Master Response 1 for additional information.

29-19 The commenter asserts that most of the jobs generated by the project will go to workers from other communities who will commute, and states that Wal-Mart should hire 80% of the workforce from Merced County. The commenter does not substantiate this claim, and does not offer any evidence on how the project would result in a physical change in the environment. In addition, potential employment and related social and economic effects are not physical effects. Please see response to comment 29-18 for additional information. As a point of reference, approximately 71.7 percent of the estimated 24,664 primary jobs in the City of Merced in 2006 also lived within Merced County.[2] (U.S. Census Bureau 2009) Thus, if workers at the Wal-Mart distribution center follow existing commuting patterns of City of Merced workers, then approximately 72 percent would also live in Merced County.

29-20 The comment lists several "hidden costs" to the City resulting from the project including police, traffic control, noise abatement, and health costs (from poor air quality). CEQA does not require the DEIR to analyze financial impacts; however, these individual issues, as they relate to environmental effects (as opposed to financial impacts) are analyzed in the Draft EIR for the proposed project. As discussed throughout the DEIR, the applicant shall pay its fair share of the costs associated with increased demand for public services, as appropriate, through the City's Public Facilities Impact Fees Ordinance. The comment does not raise issues regarding the adequacy of the Draft EIR.

29-21 The commenter states that the Weaver, Pioneer, and Golden Valley schools are located too close to the site and that a third elementary school that has been proposed for this area will not be able to be built. The commenter also states that the health of student athletes would be affected.

Please refer to the response to comment 17-12, which discusses how the relative locations of these school was analyzed in the traffic analysis, and response to comment 16-8 which discusses how the schools were included in the HRA performed for the project.

The commenter also states that "25% of people within a two mile radius [of the project] will have health issues as a consequence of the exhaust from truck traffic." However, the comment does not provide evidence for this claim. Please refer to the response to comment 12-23 that discusses the results of the HRA, which analyzed the potential health risk from on-site TAC sources including truck activity. Please refer to the response to comment 92-3 which discusses the potential for increase health risk generated by off-site truck travel.

[2] Estimates of workers residency is estimated using U.S. Census's Longitudinal Employer-Household Dynamics (LEHD) tool, which combines economic census place of work data with place of residence data. The data derived from LEHD originates from payroll tax (Unemployment Insurance) payment record from each state.

29-22 The commenter raises some concerns about the proposed project related to a road that was built for UC Merced. These concerns are not related to the specific environmental impacts of the project. The project's traffic impacts were evaluated consistent with the requirements of CEQA in Section 4.11, "Traffic and Transportation," of the DEIR. As described therein, the project would result in potentially significant traffic impacts, and mitigation is proposed to reduce these impacts to less-than-significant levels (see pages 4.11-26 to 4.11-32). The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided.

29-23 The comment indicates that CEQA authorizes agencies to deny projects because of adverse environmental effects and urges the decision makers to deny the project. The commenter is correct that a lead agency may deny a project based on adverse environmental effects. Alternatively, the lead agency may approve projects that have significant environmental impacts if a determination is made that the benefits, or advantages, of the proposed project would outweigh the potential negative environmental impacts; this is called a statement of overriding considerations. This comment does not raise issues related to the adequacy of the Draft EIR.

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30A

Espinosa, Kim

From: aalorro@sbcglobal.net
Sent: Sunday, April 26, 2009 6:56 PM
To: Espinosa, Kim
Subject: Water Runoff

Dear Ms. Espinosa:

I am not satisfied that the DEIR adequately addresses the problem of water runoff. The proposed WalMart Distribution Center would be built on what was previously agricultural land. When it rains, the soil naturally absorbs moisture; any excess, hopefully, is just rainwater, which may cause minor flooding but which will eventually flow into rivers or canals.

If this project is built, pavement replaces dirt. Rainwater will run-off, instead of being absrobed, and it will carry witt it all the foreign elements present on pavement, e.g. oil, grease, and other chemicals. Detention ponds are supposedly adequate to handle this problem, but what happens if your measurements are incorrect and your ponds are not large enough or high enough or strong enough to retain the run-off? What happens to all the contaminants that will then be released into the community? 30A-1

I realize that your General Plan designates this area as Industrial, but this does not mean that you MUST build a massive industrial project at this site. A good, community-based Plan changes as the community it serves changes. There are neighborhoods and schools that would be adversely affected if tainted water were to run-off into public spaces. Don't wait until disaster strikes: prevent it now by not approving this project. 30A-2

Sincerely,

Audrey L Alorro
3312 Denver Way
Merced CA 95348
209/722-3264
aalorro@sbcglobal.net

4/27/2009

30B

Espinosa, Kim

From: aalorro@sbcglobal.net
Sent: Sunday, April 26, 2009 6:29 PM
To: Espinosa, Kim
Subject: WalMart Water Concerns

Dear Ms. Espinosa:

I have serious concerns about the amount of water the proposed WalMart Distribution Center will use. The DEIR findings are based on an Urban Water Management Plan (UWMP) finalized in 2005 and EDAW's 2006 Water Supply Assessment (WSA). As anyone who keeps up with current events knows, the status of our water resources in the State of California has changed drastically just in the last few years. Many cities have enacted emergency water conservation plans and the delivery of water to farmers has been cut severely, forcing many farmers to refrain from planting their fields. The impact on agriculture should be of major concern to you, since we are still primarily an agricultural community.

The DEIR's conclusions of current and projected water consumption needs to be re-assessed in light of current information. In fact, this project should not be allowed to move forward until the State of California has definitively resolved it's water shortage issues. We are not isolated from the rest of the state; to claim that our "groundwater is a consistent source, so no replacement plan is needed" (pg. 4.12-2) is disingenous and simplistic. If water is needed elsewhere in our State, it will affect our source as well.

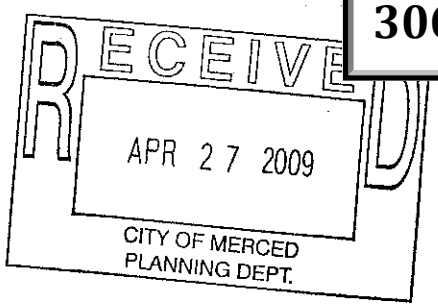
30B-1

Sincerely,

Audrey L. Alorro
3312 Denver Way
Merced CA 95340
209/722-3264
aalorro@sbcglobal.net

4/27/2009

30C



April 19, 2009

Ms. Kim Espinosa
Merced Planning Department
678 W. 18th St.
Merced, CA 95340

Dear Ms. Espinosa,

Developing on prime agriculture land is not responsible growth. The soil type that is at this site needs to be protected and used for agricultural needs not commercial/industrial development. Not only does this affect the agricultural community but it's bad precedent for farmland in general. If this land is developed, then what does it say to other developers and farmland owners? Owners of farmland will want to sell their property to developers and in result, put prime agriculture land at risk. Wal-Mart can build in other areas, we don't get to pick where prime farmland is located.

30C-1

Thank you,

Audrey Alonso
Signature

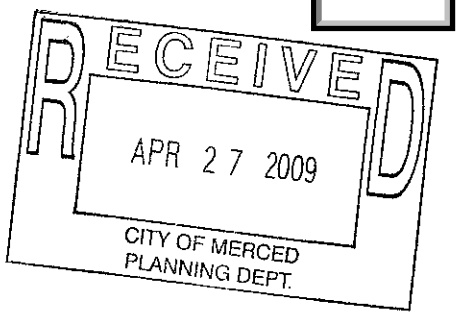
Audrey Alonso
Print Name

3312 Denver Way
Address

Merced CA 95348

PH 722-3264
Phone

30D



April 12, 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

RE: Wal-Mart Distribution Center DEIR

Dear Kim Espinosa,

The DEIR says that the big equipment that will be used during construction is not known but likely to include, "excavators, graders, scrapers, loaders, backhoes, haul trucks, and cranes." This is a very critical issue that should be addressed with more detail in the EIR. Wal-Mart understands the scope of this project, so it should have exact estimates from previous distribution projects completed. Knowing the exact number of these vehicles is critical in calculating noises and pollutants that will be generated during construction.

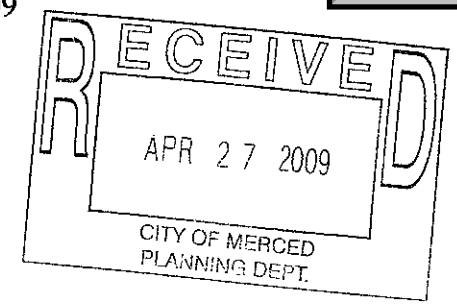
30D-1

Regards,

Audrey Alorro
Audrey Alorro
3312 Denver Way
Merced CA 95348
Ph 722-3269

30E

April 7, 2009



Kim Espinosa, Planning Manager
City of Merced Planning Division
Attn: Merced City Council
678 West 18th Street
Merced, CA 95340

Dear Ms. Espinosa,

I am writing mostly to express my opposition to the proposed Wal-Mart Distribution Center in Merced. The center itself will have terrible ramifications on the health of our community, particularly with the frequent truck and employee traffic that will be generated. Is the health of our community, and particularly our children, worth risking just for some property tax revenues? 30E-1

The Draft Environmental Impact Report for the proposed distribution center is detailed except when it comes to discussing financial costs. For instance, under section 4.93 Environmental Impacts, under Impact Analysis 4.9-1, there is the mentioning of "public water and wastewater infrastructure," "utility infrastructure," and "existing infrastructure." The report mentions the addressing of all these infrastructures, but no discussion on the financing of the infrastructure costs. What percentage of the infrastructure costs related to the Wal-Mart Distribution Center are for the taxpayers compared to Wal-Mart's share? 30E-2

The taxpayers should not have to share any burden of infrastructure costs related to this development. Wal-Mart should pay for the entirety of their proposal if it is to be built at all. There should be no tax incremental financing or cost sharing with the city or county.

Thank you,

Audrey Alarro
3312 Denver Way
Merced CA 95348
Ph 722-3264

30A-1 The commenter expresses general concern regarding impervious surface and contaminated runoff, and that detention ponds might be sized or constructed inadequately to handle runoff. Section 4.6 "Hydrology and Water Quality" presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces. The final design specifications would be required to demonstrate to the City and MID that runoff generated as a result of the project would be properly contained and conveyed. Because no specific issues with the DEIR's analysis were provided by the commenter, no further response can be given.

30A-2 The commenter states neighborhoods and schools would be adversely affected if tainted water were to run-off from the project site. The DEIR fully analyzes the potential for water quality degradation from project-related construction activities and project-related contaminants (see Impacts 4.6-1 and 4.6-2, "Hydrology and Water Quality"). In addition, the DEIR recommends mitigation measures that would reduce significant impacts to a less-than-significant level (see Mitigation Measures 4.6-1a, 4.6-1b, and 4.6-2; Hydrology and Water Quality"). Because the commenter does not provide specifics of how the proposed project would create or generate "tainted water," no further response can be provided.

30B-1 The commenter expresses concerns regarding the amount of water the project would use and the insufficiency of the Water Supply Assessment (WSA). As described in Impact 4.12-1, the WSA was prepared for the proposed project in full compliance with required law (e.g., Water Code Section 10912), and the projected water demand associated with industrial land use for the project site was accounted for in the most recently adopted Urban Water Management Plan. The comment requires no changes to the DEIR text.

30C-1 The commenter states soils on the project site need to be protected for agricultural needs. The commenter states implementation of the proposed project would result in other farmland owners wanting to sell their property to developers. Please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

30D-1 The commenter suggests that the DEIR should include exact estimates of the construction equipment expected to be used at the site. As discussed on Page 4.2-29 of the DEIR, "Detailed information about the number and types of construction equipment needed, maximum daily acreage disturbed, number of workers, and hours of operation is not currently known at this time [of the analysis]." These details are decided by the contractor who wins the bid to build the project. On the same page the DEIR also states that estimates for construction equipment were based on SJVAPCD's Recommended Construction Fleet spreadsheet. SJVAPCD's spreadsheet provides estimates for the amount of maximum daily acreage disturbed and number and type of construction equipment that would be used on a project based on its total acreage and type (e.g., commercial, residential). SJVAPCD formulated this methodology to provide an accurate set of assumptions about the input parameters of a construction project while erring on the conservative side so as not to underestimate construction-generated emissions. Thus, the construction equipment fleet estimates, and consequently construction equipment emissions are conservative. This analysis was conducted in accordance with common practices.

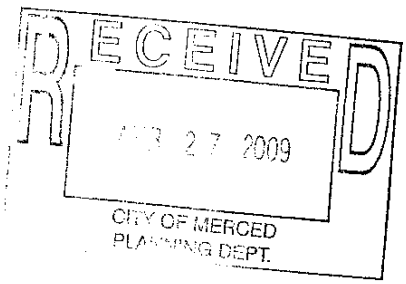
30E-1 The comment does not raise issues with the adequacy of the DEIR. The comment is noted. Impacts to public health and safety are discussed in Section 4.10, Public Health and Hazards. Impacts to air quality impacts are discussed in Section 4.2, Air Quality, and also refer to Master Response 12. Impacts to traffic are discussed in Section 4.11, Traffic.

30E-2 The comment indicates that the Draft EIR lacks detail related to financial costs, especially with respect to infrastructure; the commenter requests information related to the proportion of these costs that Wal-Mart would pay versus taxpayers. CEQA does not require lead agencies to evaluate economic or financial impacts. The Draft EIR appropriately focuses on environmental effects, as required by CEQA. This comment is noted and will be provided to the decision makers.

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31A

April 4, 2009



Ms. Kim Espinosa
Planning Manager
Merced Planning Division
678 West 18th Street
Merced, CA 95340

Ms. Espinosa:

In section 4.2-3 of the distribution center's DEIR, you state "generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for [ozone] formation. As a result, summer is generally the peak ozone season."

I don't know where you live Ms. Espinosa, but summers a long here in Merced and we have plenty of clear skies. Sounds like an ideal location to make ozone.

31A-1

So, will Wal-Mart limit its truck trips during the summer months to help reduce the amount of ozone that is created?

Thank you.

Angel G. Alvarez
Signature

Angel G. Alvarez
Print Name

66, S. Fork Ave
Address

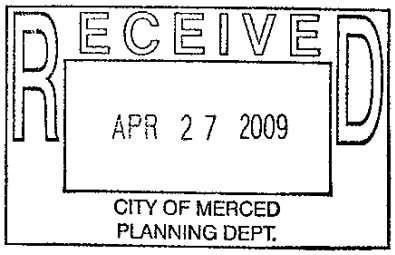
Merced, CA, 95341
City, State Zip

(209) 726-3436
Phone Number

31B

4.14.09

Kim Espinosa
Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Dear Ms. Espinosa:

As stated on page 4.2-1 of the Wal-Mart Distribution Center's draft environmental impact report, the San Joaquin Valley Air Basin is comprised of numerous counties, all of which are quite large. Will the City make sure the counties of Fresno, Kings, Madera, San Joaquin, Stanislaus and Tulare counties have a chance to weigh in? What happens if they object to the project because of air quality problems? 31B-1

Thanks.

Angel G. Alvarez
Signature

Angel G. Alvarez
Print Name

66 S. Fork Ave.
Address

Merced, CA, 95341
City, State Zip

(209) 726-3436
Phone Number

Letter **31A-B** Response	Angel G. Alvarez ➢ 31A–April 4, 2009 ➢ 31B–April 14, 2009

31A-1 The commenter asks whether Wal-Mart would "limit its truck trips during the summer months to help reduce the amount of ozone that is created." Please refer to Impact 4.2-2 for analysis of operational emissions of CAPs and precursors, including ozone precursors generated by truck trips associated with the proposed project. These emissions would be mitigated to a less-than-significant level by Mitigation Measures 4.2-2a through 4.2-2e. Therefore, no additional mitigation measures are necessary to reduce this impact. Please also refer to response to comment 126D-1.

31B-1 The comment asks whether the other counties comprising the San Joaquin Valley Air Basin were consulted regarding the proposed project and what the result would be if these counties object to the project due to air quality concerns. The San Joaquin Valley Air Pollution Control District received notice of the DEIR and provided comments at Letter 21. The notice of preparation, notice of availability, and DEIR were circulated per the requirements of CEQA. Merced County received notice of all available CEQA documents; however, the other counties in the air basin did not receive notice because neither CEQA, nor the San Joaquin Valley Air Pollution Control District, requires notice to all counties in an affected air basin. This comment does not raise issues related to the adequacy of the DEIR.

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32

April 3, 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Kim Espinosa
Planning Manager
Merced Planning Department
City of Merced
678 West 18th Street
Merced, CA 95340

Ms. Espinosa:

There are certain things that are taken for granted in this age of consumerism and rampant development. My concern is that wildlife will be taken for granted. If this Distribution Center Project is approved, however, I fear that the local wildlife will be taken for granted and such approval decision will be without taking them into consideration. For years the site on which Wal-Mart wants to construct on has been agricultural in nature. From orchards to fields, this land has been a breeding ground and environment for various wildlife. This project should not be approved. I do not want the area where I sometimes pull over and enjoy nature be replaced with another set of buildings and another concrete mess. 32-1

Thank you,

Joe E Alvarez
Signature

Joe Alvarez
Print Name

890 Marian Ct
Address

Merced, Ca.

723-7125
Phone

32-1 The commenter makes a generally statement about the potential harm of wildlife resulting from implementation of the proposed project but does not disagree with the conclusions in the DEIR or otherwise question the adequacy of the document. The DEIR addresses impacts to wildlife under Section 4.3 "Biological Resources." The comment is noted.

33

April 10, 2009

Kim Espinosa
Project Manager
Merced Planning Division
678 W. 18th Street
Merced, CA 95340

RECEIVED
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CITY OF MERCED
PLANNING DEPT.

Ms. Espinosa:

I took a look at the Wal-Mart distribution center's draft environmental impact report. One thing that struck me (and concerns me) is Table 4.2-1 in the Air Quality section. Area wide sources count for 85% of PM 2.5 in the county? That's pretty alarming to me, especially because I see so many of my neighbors outdoors walking or running, probably unaware of this dangerous air pollution in the air. 33-1

I suggest to Wal-Mart that they reduce the size of this distribution center, which will decrease the number of trucks driving through Southeast Merced. If Wal-Mart wants to be responsible for increasing PM 2.5, they should at least try to reduce the impacts. 33-2

Here's an even better idea. Don't build it!

Sincerely,

Signature

Janet Alvarez
Print Name

66 S. Fork Ave.
Address

Merced, CA. 95341
City, State Zip

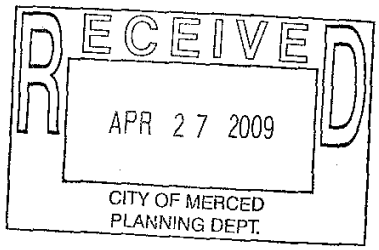
(209) 726-3436
Phone Number

33-1 The commenter is alarmed that area-wide sources account for approximately 85% of the County's $PM_{2.5}$ emissions. The commenter suggests reducing the size of the proposed project to reduce the project's associated contribution to $PM_{2.5}$ emissions. Because impacts 4.2-1 and 4.2-2 would be reduced to less-than-significant levels with mitigation required by Mitigation Measures 4.2-1a-e and 4.2-2a-e, it would not be necessary to reduce the size of the project to avoid a significant impact to air quality associated with $PM_{2.5}$ emissions.

33-2 The commenter recommends reducing the size of the distribution center to reduce impacts related to particulate matter emissions. Section 5 of the DEIR evaluates impacts of a "Reduced Site Plan and Operations" Alternative relative to the proposed project. This alternative is a 25% reduction in size and operation of the distribution center. Please see Section 5 "Alternatives to the Proposed Project" for a discussion of this alternative (page 5-17) and Master Response 12: Alternatives. The commenter does not raise issues related to the adequacy of the DEIR.

34

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Ms. Espinosa,

The final environmental impact report should address policing graffiti prevention on the wall barrier, at the cost of the applicant. In fact, I suggest the applicant should have to pay for property value estimates both before and after the barrier wall is built, compensating the property owners the difference should the values decrease after the wall is built. Part of the current housing crisis is banks unwillingness to make loans to homeowners and homeowners unable to sell homes they cannot afford to keep. 34-1

Please address this issue in more detail in the EIR.

Sincerely,

Jacqueline Alvez-Munoz
451 Hy Orangeburg Ct. Merced CA. 95348

Jacqueline Alvez-Munoz
(per parcel system)

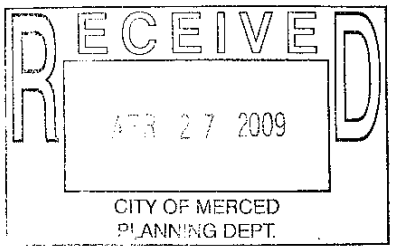
Letter 34 Response

Jacqueline Alvarez-Munoz
Undated

34-1 The commenter raises issues regarding potential vandalism of the sound walls identified as mitigation in the Draft EIR and suggests that compensation for property value loss be provided by the applicant to the owners of the property upon which the wall would be built. This issue is addressed in Responses to Comments 84-1 through 84-3. Please refer to these Responses for more information.

35

March 22, 2009



Ms. Kim Espinosa
Project Director
Merced Planning Division
678 W. 18th Street
Merced, CA 95340

Ms. Espinosa,

Who will be responsible for enforcing the control measures listed on page 4.2-32-33 in the Merced Wal-Mart Distribution Center DEIR? Will it be the South District Police Station? Will Wal-Mart pay for an additional Police Officer and car? Since this distribution center isn't bringing in any tax revenue, will the City be responsible for funding extra enforcement measures? 35-1 35-2

Regards,

Mark Andrade
2689 Snow Goose Dr.
Los Banos, CA 93635

35-1 The commenter asks who would be "responsible for enforcing the control measures listed on page 4.2-32-33" of the DEIR. In order to provide additional clarity, the language of Mitigation Measure 4.2-1b (Implement Measures to Reduce Construction-Related Diesel Equipment Exhaust Emissions) has been revised. The change has also been added to Mitigation Measure 4.2-1c. Please see Section 4.4 of this FEIR, "Revisions and Corrections to the DEIR Air Quality Section 4.2," for specific DEIR text changes.

35-2 The commenter asks if Wal-Mart will pay for an additional police officer and car. The commenter asks if the City will be responsible for funding extra enforcement measures since the proposed project would not provide tax revenue for the City.

The DEIR fully analyzed increased demand for police protection facilities, systems, equipment, and services under 'Utilities and Public Services', Impact 4.12-8, on page 4.12-21. The large majority of employees would be hired from the local population base. Therefore, no construction or expansion of police facilities would be necessary to maintain the existing levels of service. The applicant will also pay its fair share of the costs associated with increased demand for police facilities and services, as appropriate, through the City's Public Facilities Impact Fees Ordinance (approximately $4.2 million based on 2009 fee levels; see Response to Comment 16-5). Furthermore, on-site security measures are incorporated into the project design plan and described in Impact 4.12-8 and Section 3, 'Project Information', of the DEIR. For these reasons, impacts to police services were considered less than significant. Therefore, purchase of an additional police officer and car for the project would not be required. It should also be noted that mitigation enforcement would not typically involve the police department, but is generally handled through the City's building and planning departments.

36

Espinosa, Kim

From: aalorro@sbcglobal.net
Sent: Sunday, April 26, 2009 7:16 PM
To: Espinosa, Kim
Subject: Traffic Congestion

Dear Ms. Espinosa:

I have concerns about the increase in traffic that the WalMart DC might bring that I don't feel are covered by the DEIR.

Lately, I have had to drive my wife to her doctor's appointments in Fresno. It's been a while since I've driven to Fresno and was alarmed by the amount of diesel traffic. There are lines of trucks, one after the other, in the right hand lane, and sometimes in the left lane, holding up speedier traffic. I can't believe you are considering allowing WalMart to add 900 truck trips per day - 450 in and 450 out - to a road that is already overcrowded. I am not convinced that there won't be more than that number over time. 450 is just the beginning - what kind of increase can we expect in or 10 years? 36-1

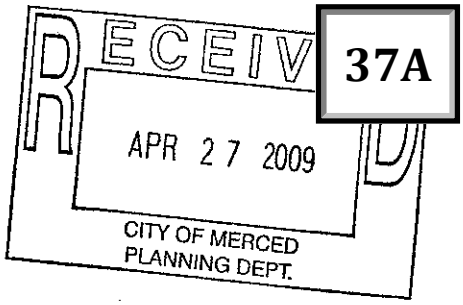
I also heard that, although WalMart says their trucks will be greener, they also hire a lot of independent truckers who can't afford the thousands of dollars to upgrade their trucks. How and who will regulate these other truckers? I don't believe I read it in the DEIR. 36-2

Sincerely,

Michael Dwayne Armstrong
3312 Denver Way
Merced CA 95348
Cell ph 209/489-1798
E-mail aalorro@sbcglobal.net

36-1 The commenter expresses concerns about the impact of diesel truck traffic on area roadways. Table 4.11-12 in the DEIR provides a summary of the expected number of trucks upon full operation of the facility. The comment does not raise issues with the adequacy of the DEIR.

36-2 Please refer to the second paragraph of response to comment 9-2.



37A

Kim Espinosa, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, CA 95340

Ms. Espinosa:

Mi familia está muy preocupada sobre el proyecto del centro de distribución de Wal-Mart que puede ser construido cerca de nuestra vecindad. Fuimos enojados de oír que la ciudad no hizo caso de los deseos de algunos residentes que pidieron que el EIR sera escrito en Español.

Muchas de las personas en esta vecindad sólo hablan en Español, y sin la ciudad ayudando traducir este documento muy grande, realmente no sabemos como este proyecto nos afectara.

Hoy en América todas las clases de gobiernos deberían ver que vivimos en una sociedad de differentes culturas y idiomas. Reservando el poder de comprender lo que pasa en el Gobierno Municipal a algunas personas – pero no todas las personas – no es lo que América es supuesta significar. El estudio debería ser hecho disponible en Español - por favor incluya mis comentarios parte de este registro público sobre este proyecto.

JAVIER ARREDONDO
Nombre
2499 E. GERARD AV. #17
Dirección
MERCED, CA 95341
Ciudad, Estado, código postal
JOSE JAVIER ARREDONDO
Firma

The attached comment letter regarding the Wal-Mart Distribution Center Draft Environmental Impact Report has been translated by:

Juan F. Olmos

Juan Olmos

Maintenance Worker III

Title

5-5-09

Date

English Transcription:

LETTER 5 *(Corresponds with LETTER #37A)*

Kim Espinosa, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, Ca 95340

Ms Espinosa:

My family it's very worried about the Wal-Mart distribution center project that could be built close to our neighborhood. We are upset of listening that the city did nothing with the wishes of some residents that ask the EIR to be written in Spanish.

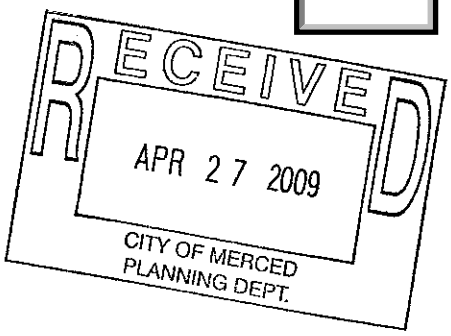
Many of the persons in this neighborhood only speak Spanish, and without the city trying to help translating this big document, we do not really know how this project will affect us. 37A-1

Today in America all the kinds of governments should see that we live in a society of different cultures and languages. Reserving the power to comprehend what is happening in the Municipal Government to some persons – but not all persons- it is not what America is supposed to mean. The study should be made available in Spanish – please include my comments in the public registry about this project.

Javier Arredondo
2499 E Gerard Ave #17
Merced CA 95341

37B

10 de Abril de 2009



Señorita Kim Espinosa
Directora de Planificación, Ciudad de Merced
678 W. 18th Street
Merced, CA 95340

Estimada Señorita Espinosa:

Por qué no Merced hace copias del DEIR del centro de distribución de Wal-Mart en otras idiomas y no solamente en Inglés? Parece a mí que un asunto de este tamaño que todos en la comunidad hablan de debía estar disponible para residentes que Inglés no es su primero idioma. Deje a cada uno participar en el proceso, leer el reporte y haga sus propias comentarios sobre este proyecto.

Gracias,

JAVIER ARREDONDO
Nombre
2499 E. GERARD, AVE. #17
Dirección
MERCED, CA. 95341
Ciudad, Estado, Código postal
JOSE JAVIER ARREDONDO
Firma

The attached comment letter regarding the Wal-Mart Distribution Center Draft Environmental Impact Report has been translated by:

Juan Olmos

Maintenance Worker III

Title

5-5-09

Date

English Transcription:

LETTER 6 *(Corresponds with LETTER #37B)*

Miss Kim Espinosa
Planning Director, City of Merced
678 West 18th Street
Merced, Ca 95340

April 10, 2009

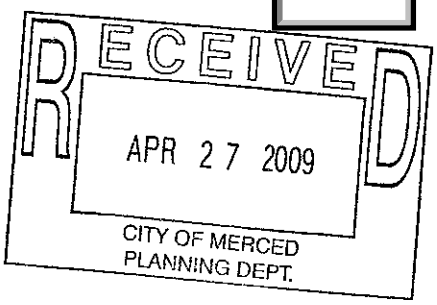
Dear Miss Espinosa:

Why Merced does not make copies of the Wal-Mart distribution center DEIR in other languages and not only English? Seems to me that a subject of this size that everybody in the community its talking about should be available for residents that English its not their first language. Let everyone participate in the process, read the report and make your own comments about the project. 37B-1

Thanks,

Javier Arredondo
2499 E. Gerard Ave #17
Merced CA 95341

37C



23 de Marzo de 2009

Señora Kim Espinoza
Ciudad de Merced
Departamento de Planificación
678 West 18th Street
Merced, CA 95340

Señora Espinoza,

Yo urgo que tu y la ciudad hagan desponible el DEIR del centro de distribución de Wal-Mart en otras idiomas que Inglés. Hay mucha gente en nuestra ciudad que ley otras idiomas que Inglés y si usted no hace los documentos públicos en otros idiomas, usted no esta permitetendo todos tomar parte en este proceso. Estoy orgulloso de esta ciudad y no quiero ver Merced abandonar a residentes en la oscuridad. Esto solamente no parece como algo justo de hacer.

Gracias,

J. Javier Arredondo

Javier Arredondo

2499 E. Gerard, Ave. # 17

Merced, CA 95341

The attached comment letter regarding the Wal-Mart Distribution Center Draft Environmental Impact Report has been translated by:

Juan T. Olmos
Juan Olmos

Maintenance Worker III
Title

5-5-09
Date

English Transcription:

LETTER 7 *(Corresponds with LETTER #37C)*

Misses Kim Espinoza
City of Merced
Planning Department
678 West 18th Street
Merced, Ca 95340

March 23, 2009

Misses Espinoza,

I urgently ask you and the city make the Wal-Mart distribution center DEIR available in other languages besides English. There is many people in our city that reads other languages besides English and if you do not make the documents public in other languages, you are not permitting everybody to take part on this process. I'm proud of this city and I do not want to see Merced abandon its residents in the dark. This does not look like something fair to do. 37C-1

Thanks,

J. Javier Arredondo
2499 E. Gerard Ave #17
Merced CA 95341

37D

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

14 de Abril de 2009

Ms. Kim Espinoza
Ciudad de Merced Departamento de Planificación
678 W. 18th Street
Merced, CA 95340

Estoy decepcionado por la falta de alcace a la comunidad de Latinos que habla Español. Yo no estuve consciente que había aún reporte sobre los impactos ambientales del centro de distribución hasta que recibe un envío por correo en Inglés y Español anunciando que el reporte fue liberado. El correo fue enviado por un grupo en la ciudad. Estoy agradacedo que ellos fueron amables para notificarme. Es triste que la ciudad no pudo informarnos.

Pero me molesta que el reporte está sólo disponible en Inglés. Por qué no trataría usted hacer esta información más accesible a la gente que no habla Inglés? Es vergonzoso. Espero que usted pensará de esto la próxima vez que usted tiene información importante para compartir con la comunidad.

Sinceramente,

Jose Javier Arredondo
Firma
Javier Arredondo
Nombre
2499 E. Gerard, Ave. #17
Dirección
Merced, CA. 95341
Ciudad, Estado, Código Postal

The attached comment letter regarding the Wal-Mart Distribution Center Draft Environmental Impact Report has been translated by:

Juan T Olmos
Juan Olmos

Maintenance Worker III
Title

5-5-09
Date

English Transcription:

LETTER 8 *(Corresponds with LETTER #37D)*

April 14 2009

Ms. Kim Espinoza
City of Merced Planning Department
678 W. 18th St
Merced, CA 95340

I am disappointed by the lack of reach to the Latino Community that speaks Spanish. I was not aware that there was a report on the environmental impact of the distribution center until I received mail in English and Spanish announcing the report. The mail was sent by a group in the city. I am thankful that they were kind enough to let me know. It's sad that the city could not inform us.

37D-1

But it upsets me that the report its only available in English. Why would not you make this information more accessible to the people who do not speak English? It's embarrassing. I hope that you will think this next time that you have important information to share with the community.

Sincerely,

Jose Javier Arredondo
Javier Arredondo
2499 E. Gerard Ave # 17
Merced CA 95341

Letter 37A-D Response	Javier Arredondo ➢ 37A–Undated ➢ 37B–April 10, 2009 ➢ 37C–March 23, 2009 ➢ 37D–April 14, 2009

37A-1 This comment addresses issues related to language barrier and translation of CEQA documents. Please refer to Master Response 2: Language Barrier and Public Review Period, which addresses these issues.

37B-1 This comment addresses issues related to language barrier and translation of CEQA documents. Please refer to Master Response 2: Language Barrier and Public Review Period, which addresses these issues.

37C-1 This comment addresses issues related to language barrier and translation of CEQA documents. Please refer to Master Response 2: Language Barrier and Public Review Period, which addresses these issues.

37D-1 This comment addresses issues related to language barrier and translation of CEQA documents. Please refer to Master Response 2: Language Barrier and Public Review Period, which addresses these issues.

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RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

March 25, 2009

Kim Espinosa
Dept. of Planning
City of Merced
678 W. 18th St.
Merced, CA 95340

Dear Ms. Espinosa,

I am concerned that the approval of the Wal-Mart Distribution Center Project will lead to consequences, which have not been thought through. The creation of a 230 acre concrete slab will be a hindrance to proper stormwater runoff.

Has the City questioned whether making a site which was for a long time agricultural land completely into concrete and building will increase storm water runoff and leading to flooding for the roads around the site not to mention the various irrigation canals? Unless the City can honestly say with certainty that his may not happen, this Project should not be approved. 38-1

Sincerely,

Randy Ashlock
Signature

Randy Ashlock
Print Name

1505 Buller St
Address
Atwater Ca 95301

209 357 0554
Phone

38-1 The commenter raises general concerns regarding stormwater runoff to irrigation canals. Section 4.6 "Hydrology and Water Quality" presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces.

39

Espinosa, Kim

From: Lori Atkins [calgal101@sbcglobal.net]
Sent: Friday, February 27, 2009 12:20 PM
To: Espinosa, Kim
Subject: Wal-Mart Center

Dear Planning Dept; I traveled through Merced for 20 years prior to moving to Gustine. We admired the beauty of the Sierra Mountains that we could clearly see as we drove from Merced to Yosemite. During the years we noticed that we could not see the Sierra as often and eventually not at all. We have lived in Gustine for 12 years. When we first moved here in 1997, we could not breathe the polluted air, we could not drive in our car with the windows down. Anywhere we drove in Merced County resulted in allergies, poor breathing, and smelly air. For the first 3 years all we talked about was moving from Merced County to a place where we could breath and our children would not be around horrible pollution.

This all changed a few years ago. I am so proud to say that the Valley Air has gotten so much better, I can drive around with my windows open. I can sit outside my home without suffering. My children no longer have allergies. Why has this happened? Because the Federal Government has required a clean up! 39-1

I know we need to create jobs in the area. I don't think we should create jobs at the expense of our health. Especially when we can create jobs that don't. Merced County needs to attract clean jobs. We can attract employers here with cheap land and tax incentives. We don't have to take Wal-Mart just because its an easy fix. Easy for our short term means disaster for our long term. Let's be picky about what we create for our future. Let's be bold and step out of the mold. Let's find ways to create jobs without creating pollution and here's to "seeing" the Sierra again!

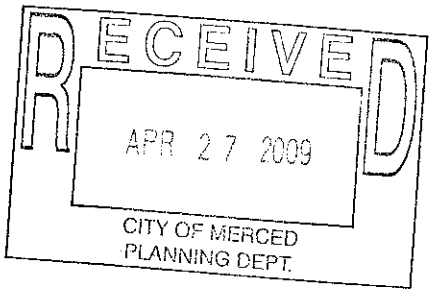
Respectfully Submitted,
Lori Atkins and family
1231 Southport Gustine 95322
209-854-6033

2/27/2009

39-1 The commenter notes that air quality in the Merced area has improved in recent years as a result of the adoption of federal standards and regulations. The commenter suggests that approval of the proposed Wal-Mart distribution center will cause a degradation in air quality and should not be approved.

40

April 16, 2009



Kim Espinosa
Planning Manager
Merced Planning Division
678 West 18th Street
Merced, CA 95340

Dear Kim,

I believe the city has vastly underestimated how many trips per day a distribution center gets. First off, Wal-mart won't tell you how many stores they will service with this distribution center so how do we know how many trucks. 40-1

Merced is in the middle of the State. How do we know Wal-mart won't close their distribution centers in other parts of the state and service all of their stores from the one center? 40-2

Before the city approves this plan, we need to set a limit on exactly how many trucks can visit this center every day. I read the traffic plan – Wal-mart is saying 240 truck trips a day, but that seems very low. 40-3

Thank you.

Dylan Bagwell
Signature

Dylan Bagwell
Print Name

474 Hydrangea Ct.
Merced, CA 94341
Address

722-1374
Phone

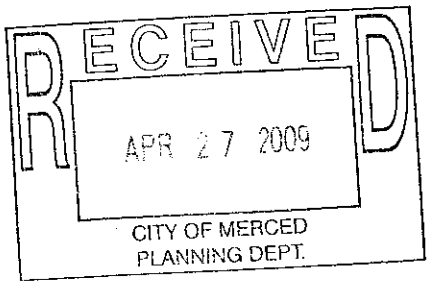
40-1 The commenter states that the City has vastly underestimated the number of vehicle trips per day associated with the proposed project. The number of stores serviced at a distribution center is limited by the number of service bays at the proposed facility. The assumptions regarding the number of trucks at the proposed distribution center is discussed on page 4.11-20 and 4.11-22 of the DEIR. No further response or analysis is warranted.

40-2 The commenter suggests that Wal-Mart may close their distribution centers in other parts of the state and service all their stores from one center. Please see Master Response 1: Growth Inducement and Expansion, which addresses this issue. The Draft EIR is only required to analyze the project description that has been identified and is unable to predict decisions that may be made by Wal-Mart, including decisions regarding other distribution centers.

41

April 1, 2009

Ms. Kim Espinosa
Project Director
Merced Planning Department
678 W. 18th St.
Merced, CA 95340



Kim,

Why is it that Health Risk Assessments are only taken seriously in the Wal-Mart DEIR when it comes to the children of the employees? What happens if you admit that the health risks resulting from the distribution center are so bad for children that the distribution center should not have on-site child care, but the distribution center is fine for all the children who currently live in Southeast or attend our schools? What is NOT good for the goose it good for the gander? That's pretty insensitive and very insulting to me.

41-1

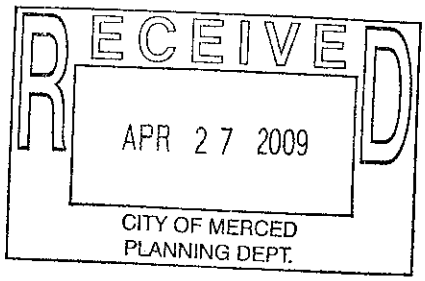
Mike Baldwin
Merced-Mariposa Asthma Coalition - Steering Committee
559-903-4570
41810 Rd 40L
Coarsegold, Ca 93614

41-1 The commenter questions why the DEIR (and supporting HRA) concludes that the increased exposure of children, schools, and residents located near the project site to project-generated TACs is considered a less-than-significant impact (as discussed in Impact 4.2-4), but that an on-site child daycare center for employees' children shall not be provided. To clarify, Mitigation Measure 4.2-2b states that an on-site child daycare center for employees' children shall not be provided unless supported by the findings of a comprehensive HRA performed in consultation with SJVAPCD.

The comprehensive HRA prepared for the proposed project, which is included in Appendix C of the DEIR and discussed under Impact 4.2-4, analyzes the potential health effects of nearby off-site residents, workers, and schools. The HRA and impact discussion did not address the potential health effects to children at a possible on-site daycare facility because a daycare facility is not included in the project description. Therefore, the DEIR did not conclude that a daycare facility should not be located on the project site.

42

March 15, 2009



Kim Espinosa
Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Ms. Espinosa,

According to Section 5 of the Wal-Mart Distribution Center, Wal-Mart did a search for alternative sites based on specific "physical criteria for the selection of potential sites." Really? And one of those criteria is "absence of development". Seriously? THEN WHY SELECT A SITE NEXT TO MY NEIGHBORHOOD!!!! 42-1

This is the WRONG site and a HORRIBLE location! Go with the "NO PROJECT" alternative!

Thank you.

Benny Banda

437 Hydrangea

(209)
756-9528

42-1 The commenter questions the selection criteria for potential sites identified in the DEIR's alternatives analysis. Specifically the commenter questions the "absence of development" criteria, given the fact that residences are located in the proximity of the project site. To clarify, the "absence of development" criteria refers to development on the project site. Particularly when searching for industrial zoned sites, existing development on a site may present a variety of environmental concerns, such as soil contamination and hazardous materials in existing structures. These environmental issues are often extremely costly to remediate. For additional discussion of the alternatives analysis, please refer to Master Response 12: Alternatives.

43

April 13, 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Ms. Kim Espinosa
Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Ms. Espinosa:

Truckers have a tough life. They are required to take 10 hours of rest during a 24 hour period. Where is this going to take place? At the distribution facility? On the side of the road?

If the city is going to require WM to keep all trucks on site, that site needs to be equipped to support not only truckers working directly for Wal-mart, but their suppliers as well. Signs and an enforcement policy by the police must be adopted to keep truckers from resting not just on the main streets leading to the distribution center, but throughout the community. 43-1

Sincerely,

Priscilla Banda
Signature

Priscilla Banda
Print Name

437 Hydrangea Ct
Address

209 947-8582
Phone

43-1 The commenter raises concerns about social and crime problems that could potentially arise as a result of an increase in long-haul truck drivers in the community. Please see Response to Comment 12-18, which addresses this issue.

44

Espinosa, Kim

From: Alma Delia [silverspring7@yahoo.com]
Sent: Friday, April 17, 2009 7:32 AM
To: Espinosa, Kim
Subject: Wal-Mart Distribution Center

Hello, I'd just like to write that I've been following the news on the Wal-Mart distribution center for the past couple of months. I understand that some members of the Merced community believe that bringing a distribution center to our area would greatly increase the pollution in our valley. Although I can see where they might be concerned, one has to realize that this county is made up of largely rural and agricultural communities.

One of our biggest problems is unemployment which is particularly high especially when seasonal workers are out of jobs. If we want to become more industrial and create more jobs, then we have to accept the good with the bad. This county needs those jobs badly for its residents and shooing away another large retailer is NOT going to help put food on peoples' tables. If we want to reduce dependence on our already taxed social programs, then we need to create jobs, not throw more money at the situation. 44-1

I vote that our city bring the Wal-Mart distribution center to town. I hope that the City of Merced does too!

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Alma Barocio
3112 Denver Ave #7
Merced, CA 95348
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

44-1 The comment addresses the merits of the proposed project, recommends project approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

45

Espinosa, Kim

From: Dale Beard [dale.beard@sbcglobal.net]
Sent: Sunday, April 19, 2009 9:40 PM
To: Espinosa, Kim
Subject: In Favor of Wal-Mart Distribution

Kim,

I received a flier opposing the center. I feel it would be a plus for our economy & the fear of pollution, property values & traffic bogus. 45-1

For what it's worth...

Dale Beard
3369 Tuolumne Ct.
Merced Ca. 95340
209 384-0932

45-1 The comment addresses the merits of the proposed project and indicates that environmental issues are not a concern. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

46

March 23, 2009

Kim Espinosa
Planning Manager
City of Merced
678 W. 18th St.
Merced, CA 95340

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Re: Walmart Distribution Center

Dear Ms. Espinosa,

The proposed site for the Walmart distribution center consists of 70% prime farmland. We need to follow the Merced County General Plan and keep this land as is and protect its resources. If this site is developed it will have a significant impact. Converting 229 acres of prime farmland is not responsible and there will be negative impacts if so. 46-1

I don't think it is economically viable to turn prime agriculture land no agriculture use. This would be a substantial loss of prime soil and should be considered when reviewing this application.

Please deny development on this site.

Thank you.

Gayle Besecker
Signature

Gayle Besecker
Print Name

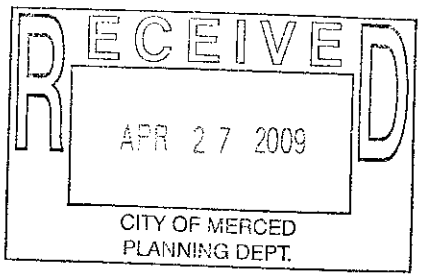
2545 E Childs
Address

(209) 723-6473
Phone

46-1 The commenter restates the percentage and acreage of prime farmland on the project site identified in the Draft EIR. The commenter states development of the project would result in a significant impact and the farmland should be protected. Please refer to Master Response 5: Agricultural Resources which addresses the issue related to conversion of important farmland.

47

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Dear Ms. Espinosa,

A large sound wall barrier between the Wal-Mart site and the nearby homes is very helpful, but it isn't without problems. Particularly, graffiti is a problem in these neighborhoods already, and it is guaranteed to spill over onto this sound wall. When that happens, how will that be addressed? Who will pay for cleanup of graffiti? How will homeowners be compensated for the reduced property values of living next to such an eyesore? 47-1

I'm very disappointed that your consultants took such a narrow view of this project and refused to study the effects of urban decay on the neighborhoods. Just because this isn't a store doesn't mean there won't be urban decay. The physical and surrounding area will look different (and not for the better) once this project is built. Property values will be hurt and these residents will have a hard time protecting their streets from urban decay. 47-2

Sincerely,

Kyle Boeder
2545 E. Childs Ave

47-1 The comment raises concern related to graffiti on the sound wall, which is required by the DEIR to mitigate noise impacts. This issue is addressed in Responses to Comments 84-1 through 84-3.

47-2 The commenter indicates that the DEIR does not address the urban decay impacts to surrounding residential communities and corresponding impacts of decreasing property values. Please see Master Response 11: Economics and Urban Decay, which addresses this issue.

48

March 23, 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Kim Espinosa, Planning Manger
Merced Planning Department
678 West 18th Street
Merced, CA 95340

Re: Distribution Center EIR

Dear Ms. Espinosa:

I am writing in regards to the Wal-Mart distribution center proposal. This site should be protected and not developed on. This area serves as a nesting habitat for birds specifically the Swainson's hawk and it is likely to occur that it will nest in close proximity of the site. This is a protected bird and therefore should not have it's nesting interrupted by developers. 48-1

The CNDDB has documented occurrences of this specific type of bird nesting within five miles of this site. By developing on it, we risk effecting special status wildlife. –A distribution center is not worth the risk.

Do what's right and protect wildlife. Thank you for your consideration of my concerns.

Megan Besecker
Signature

Megan Besecker
Print Name

2545 E. Childs Ave
Address

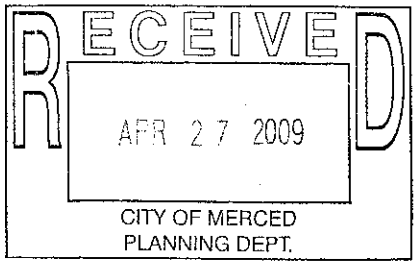
Merced, CA 95341

Phone

48-1 The commenter makes a number of references to potential impacts to Swainson's hawk but does not disagree with the finding in the DEIR or otherwise question the adequacy of the document. Please refer to Master Response 10, which addresses this comment and other comments regarding impacts and mitigation for Swainson's hawk and burrowing owl.

49

March 23, 2009



Kim Espinosa
Planning Department
City of Merced
678 West 18th Street
Merced, CA 95340

Re: Walmart Distribution Center

Dear Kim:

Based on the environmental studies recently released, I am opposed to Walmart distribution center going on this site. Building on prime ag land sets a bad precedent and the City should not develop at this area. By doing this, it can create incentives for farmland owners to sell their land for development and consequentially taking away our agricultural lands. 49-1

We don't need to development on this site, we need to keep and protect what we have. Please do the right thing and oppose this proposal.

Sincerely,

Pat Besecker
Signature

Pat Besecker
Print Name

2545 E Childs Ave
Address

209 723 6473
Phone

49-1 The commenter states opposition to the proposed project and states that developing on prime agricultural land sets a bad precedent, including incentives for other farmland owners to sell their land for development with resulting loss of agricultural lands. Please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

50

April 14, 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Kim Espinosa, Project Director
Merced Division of Planning
678 W. 18th St.
Merced, CA 95340

Ms. Espinosa,

We're a city with an abnormally high asthma rate. I read about particulate matter in the distribution center draft environmental impact report, and discovered that Merced's General Plan has recommendations on how to reduce the PM10 emissions from roads maintained by the City. Are there certain actions that Wal-Mart will be required to fund, in order to achieve our goals of reducing PM10? I don't think it's fair to make us taxpayers pay this cost. 50-1

Thank you,

Aurora P. Bettencourt
Signature

AURORA P. Bettencourt
Print Name

686 San Antonio Ct
Address

Merced, CA 95348

Phone

50-1 The commenter would like to know if there are any actions that the project applicant would be required to fund in order to reduce PM_{10} emissions in the City of Merced. Please see mitigation measures 4.2-1 (pages 4.2-31 through 4.2-35) and 4.2-2 (pages 4.2-38 through 4.2-41) of the DEIR. The fair share of all required air quality mitigation measures would be funded by the applicant.

51

Espinosa, Kim

From: Walker, Dawn on behalf of city, council

Sent: Friday, March 06, 2009 8:39 AM

To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill

Cc: Davidson, Dana; Quintero, Frank; Conway, Mike; Espinosa, Kim; Schechter, Jeanne

Subject: FW: Wal-Mart Center in Merced

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Ray Blevins [mailto:blevins-r@sbcglobal.net]
Sent: Thursday, March 05, 2009 9:43 PM
To: city, council
Subject: Wal-Mart Center in Merced

Merced City Council Members:
I strongly support the development of the Wal-Mart Center in Merced. This is an opportunity to have a major business with a large employment. Merced needs this!!
W. Ray Blevins, DDS

51-1

51-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

52

Dear Sirs

I am writing in regards to the Wal Mart issue. I urge you to improve the building & the center. Due to the hugeness of unemployment in Merced this is just the thing Merced needs

Inga Boarden
1901 Calimyra Ave
Merced CA 95340

52-1

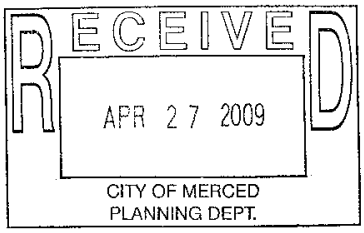
RECEIVED
MAR - 3 2009
CITY OF MERCED
PLANNING DEPT.

Letter 52 Response	Sige Borden Undated

52-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

53

Kim Espinoza, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, CA 95340



Ms. Espinoza:

As a teacher in Merced I'm disappointed that the City Planning Department is considering a Wal-Mart distribution center near three local schools.

The kids I teach every day have enough on their plates that make their daily education challenging.

The distribution center adds more to their daily challenges in ways not expected at school. The proposed distribution center will significantly increase air pollution onto kids with serious respiratory problems. Students who walk to and from school will also have to worry about the hundreds of big delivery trucks driving all around them each week. 53-1

This project will bring impacts that these kids and schools don't need. The Planning Commission should recognize that this location is not a good fit and may cause harm to our kids.

Susan Boykin
115 E. 20th Street
Merced, CA 95340

Susan A. Boykin
4-23-2009

53-1 The commenter expresses concern that the project would be located near three local schools. The commenter states that kids with respiratory problems will be affected by increased air pollution and increased truck traffic in the area. Please refer to the response to comment 16-8 which discusses how the schools were included in the HRA performed for the project and comment 17-12, which discusses how the relative locations of these school was analyzed in the traffic analysis.

54

Espinosa, Kim

From: JUDITHBCA@aol.com
Sent: Friday, February 27, 2009 9:52 AM
To: Espinosa, Kim
Subject: Wal-Mart

Let's build the damn thing already. The Stop Wal-Mart Action Team will find something wrong with the report because if you look for trouble, you will find it, and they are hell-bent on stopping this wonderful project. Let the digging begin. 54-1

Judith Breckenridge
Atwater

A Good Credit Score is 700 or Above. See yours in just 2 easy steps!

2/27/2009

54-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

55

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

4.12.2009

Ms. Kim Espinosa
Merced Planning Department
678 West 18th Street
Merced, CA 95340

Dear Ms. Espinosa:

Regarding the Distribution Center site, the Draft EIR states that various pollutants attributable to the construction could harm groundwater and lead harm to aquatic organisms. The Draft EIR also says that in order for Wal-Mart to acquire the NPDES General Industrial Stormwater Permit the proponents must devise a Storm Water Pollution Prevention Plan using Best Management Practices.

The problem with this is that many cities and counties in California are abandoning Best Management Practices in favor of the more innovative and effective standard of Integrated Management Practices. The Governor's Office has even actively encouraged the new standards because they provide far greater provisions for waste and pollution management. 55-1

Given that IMP's seem to be the future of waste water and storm water management, why shouldn't we use this Project to start a trend of using IMP's by requiring the same with approval? A local truly concerned about its citizens would go beyond just allowing the bare minimum and would require standards that actually are proven to better protect its citizens. Thus, the Project should not be approved unless such approval is tied to a requirement of using IMP's.

Elvis A Brock
Signature

ELVIS BROCK
Print Name

5736 E. ST Hwy 140
Address

7236295
Phone

55-1 The comment raises concerns regarding potential of groundwater contamination from construction. Also, the commenter requests that integrated management practices (IMPs) are used instead of best management practices (BMPs). Mitigation Measure 4.6-1a describes the NPDES construction permit and SWPPP with the required performance standards that have been shown to prevent contamination to surface water and groundwater or reduce to less-than-significant levels. IMPs are types of BMPs such as bioswales, permeable pavements, and other low impact development approaches that can act as both flow control and water quality treatment facilities. IMPs are incorporated within the overall array of BMPs and do not replace them. See also, Master Response 8: Runoff Water Quality.

56

Espinosa, Kim

From: Judy` Brown [jdja3054@yahoo.com]
Sent: Friday, April 17, 2009 8:57 AM
To: Espinosa, Kim
Subject: Wal-Mart

My husband and I fully support bringing the Wal-Mart distribution center to Merced. It is time the city leaders quit trying to make Merced something that it isn't. The distribution center will bring jobs to Merced and the environmental issues will be dealt with in an appropriate manner. Merced should be doing everything in its power to bring jobs to Merced. 56-1

Judy and J.D. Brown

56-1 The comment addresses the merits of the proposed project, recommends approval, and indicates that environmental issues would be handled appropriately. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

57

Espinosa, Kim

From: budgirl@surfbest.net
Sent: Sunday, March 22, 2009 2:33 PM
To: Espinosa, Kim
Subject: Walmart Distribution Center

Kim;
I wanted to give my view on this Walmart Distribution coming to Merced. With today's economic we Can't afford to Not let it come here.
We are living in a recession that our grandparents lived thru and can't believe I am or my grandchildren are having to experience this as well. Haven't we learned anything from History?
If it will brings jobs that will put money back into the city, how can we say NO.
As far as the trucks traveling the highway, they will travel the highway anyway's. WE only have one main highway in our community. Weather they come out of Merced or are passing through Merced, they will still be on the road.
I have heard they have one of the cleanest fleet of trucks in the state, and all trucks have an emission standards to follow anyway, what more can we ask?
By the time the City decides to allow this firm to join our city, it maybe too late, look at what happened in Fresno just a few weeks ago. Now they are trying to get other developers to come and clean up Central Fresno. 57-1
The way we are suffering as a State and Nation, how can we as a City say NO?
We Need Jobs to buy food, and keep our Homes, and get the basic items for day to day living. We have a opportunity offered by a Big Company wanting interest in Merced, I don't get why its such a Big Question!!
We need to think of tomorrow and our Children and Grandchildren and Ourselves, as what we need Now, TO KEEP our families together and surviving this terrible situation the government has allowed our Nation to get into..
Thank you for allowing me to express my view, and hope someone does read this.
Please Vote YES for the Walmart Distribution Center for Merced CA.
Thank you,

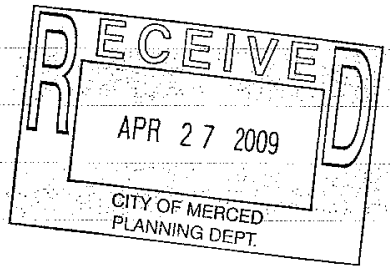
budgirl@surfbest.net
March 22, 2009

57-1 The comment primarily addresses the merits of the proposed project, recommends approval, and dismisses environmental concerns. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

58

April 23, 2009

Kim Espinosa, Planning Manager
City of Merced, Planning Division
678 West 18th Street
Merced, CA 95340



Dear Ms Espinosa,

I am concerned about the proposed Wal-Mart distribution center. My greatest concern relates to the location of the proposed facility. In my opinion, the center is planned too close to schools and to housing and that it may degrade the aesthetic appeal of the new parkway, which will become a major gateway not only to our city but to the new University. 58-1 58-2

Impacts which are unavoidable should be kept away from neighborhoods and school yards.

Thank you.

David Burke

David F. Burke
711 Juniper Ct
Merced, CA 95348

58-1 The commenter expresses concern that the project would be located too close to schools and housing. Please refer to the response to comment 16-8 which discusses how the schools were included in the HRA performed for the project. Please refer to the response to comment 12-23 for about the potential health effects of nearby residents, workers, and schools. Please refer to the response to comment 17-12, which discusses how the relative locations of nearby schools were analyzed in the traffic analysis.

58-2 The commenter states that the proposed project may degrade the aesthetic appeal of a nearby parkway. The project's aesthetic and visual impacts were evaluated consistent with the requirements of CEQA in Section 4.13, "Visual Resources." As described therein, implementation of the project would result in less-than-significant impacts on a scenic vista or scenic resources (see Impact 4.13-1, page 4.13-6). As described on page 4.13-7 (see Impact 4.13-2), the project would alter the visual character of the proposed project site and significantly impact the visual character of the surrounding area, resulting in a potentially significant impact. Mitigation is recommended to reduce this impact to a less-than-significant level (see page 4.13-13). The commenter does not offer any evidence on how the project would result in significant aesthetic impacts, and does not raise any issues with the environmental analysis provided in the DEIR; therefore, no further response can be provided.

59

Espinosa, Kim

From: Manuel Byrd [mbyrd@transcountytitle.com]
Sent: Wednesday, March 25, 2009 3:27 PM
To: Espinosa, Kim
Subject: Walmart Distribution Center

Kim,

I really hope that this Walmart Distribution Center comes to Merced. In a very tough times where unemployment is high, our area desperately needs the jobs. When at times I think that we make it too hard for businesses to come into the area, we should be doing everything possible to bring the businesses in. 59-1

Thank you,

Manuel Byrd

59-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

60

Espinosa, Kim

From: Charlene Calhoun [chrclh@att.net]
Sent: Friday, February 27, 2009 10:48 AM
To: Espinosa, Kim
Cc: Charlene Calhoun

I feel that this would be a big plus to Merced. In this time where there aren't very many jobs we need to find a way to bring jobs here. The sooner ther it gets started the better. 60-1

2/27/2009

60-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

61

23 de Marzo de 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Señora Kim Espinosa
Departamento de Planificación
Ciudad de Merced
678 West 18th Street
Merced, CA 95340

Estimada Señora Espinosa,

Animo la ciudad a proporcionar unos, si no todo, del centro de distribución de Wal-Mart DEIR en Español. Esto es un proyecto grande para Merced y es un estudio importante. Es algo que impresionará la comunidad, así que usted debe sentirse obligado a traducirlo y permitir a la gente que solamente habla Español el proceso de comentar sobre el proyecto.

Gracias,

Edoardo Carmona
2499 E. Gerard Sp #18
Merced, Ca.

The attached comment letter regarding the Wal-Mart Distribution Center Draft Environmental Impact Report has been translated by:

Juan F Olmos

Juan Olmos

Maintenance Worker III

Title

5-5-09

Date

English Transcription:

LETTER 9 *(Corresponds with LETTER #61)*

March 23 2009

Misses Kim Espinosa
Planning Department
City of Merced
678 West 18th St
Merced CA 95340

Dear Misses Espinosa,

I encourage the city to provide some, if not all, the Wal-Mart distribution center DEIR in Spanish. This a big project for Merced and it's an important study. It's something that will impress the community, therefore you must feel obligated to translate and allow the people that only speaks Spanish in the comments process for this project. 61-1

Thanks,

Edoardo Carmona
2499 E. Gerard Sp#18
Merced CA

61-1 This comment addresses issues related to language barrier and translation of CEQA documents. Please refer to Master Response 2: Language Barrier and Public Review Period, which addresses these issues.

This page intentionally blank.

62

Espinosa, Kim

From: Ericka [erickac@yahoo.com]
Sent: Monday, April 27, 2009 10:22 AM
To: Espinosa, Kim
Subject: Wal-Mart Distribution Center

Dear City Council Members,

I can not see the advantage of having the Wal-Mart distribution center in Merced. Ever since moving to Merced from Los Angeles almost three years ago, I too have been concerned about the unemployment level in Merced, as well as the number of citizens struggling with poverty.

But this proposed project just doesn't seem to be the answer! There is going to be more pollution. Merced citizens are not guaranteed to get the jobs. Property values will probably go down in the area around the center. And a big center like this does not add to the beauty of Merced.

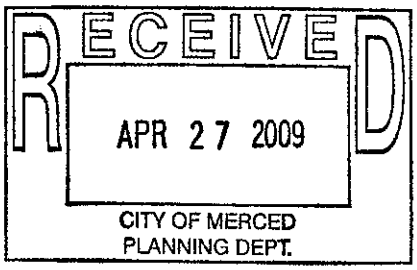
62-1

What about encouraging businesses that will move into the downtown area, create jobs, and create a more attractive downtown Merced that the citizens would like to go to, and will also attact shoppers that will spend their dollars in Merced?

We really have to think about the long term effects of all of this. If Merced wants to grow, what about doing it in a way that beautifies the City, instead of creating a more industrial, polluting, inner city atmosphere?

Sincerely,
Ericka Carr

What's growing in your garden?
http://mercedshares.blogspot.com



62-1 The commenter primarily addresses the merits of the project, along with general economic effects, including property values. CEQA does not require lead agencies to evaluate economic or financial impacts. The Draft EIR appropriately focuses on environmental effects, as required by CEQA. The commenter also expresses concerns related to "pollution," in general. Project-related impacts to air quality are analyzed in the Draft EIR under Section 4.2 "Air Quality," impacts to water quality are analyzed in the Draft EIR under Section 4.6 "Hydrology and Water Quality," and impacts related to hazardous materials are addressed in the Draft EIR under Section 4.10 "Public Health and Hazards." The commenter does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

63

Espinosa, Kim

From: Walker, Dawn on behalf of city, council

Sent: Monday, April 06, 2009 8:09 AM

To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill

Cc: Davidson, Dana; Conway, Mike; Quintero, Frank; Schechter, Jeanne; Espinosa, Kim

Subject: FW: WALMART CENTER

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Useopc30@aol.com [mailto:Useopc30@aol.com]
Sent: Saturday, April 04, 2009 6:05 PM
To: city, council
Subject: WALMART CENTER

PLEASE DO EVERYTHING YOU CAN TO APPROVE THE DISTRIBUTION CENTER ASAP. | 63-1

KENNETH CARTER
3415 PASEO VERDE AVE.
MERCED, CA 95348

WE NEED THE JOBS NOW.....

Hurry! April 15th is almost here. File your Federal taxes **FREE** with TaxACT.

63-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

64

Espinosa, Kim

From: Walker, Dawn on behalf of city, council

Sent: Friday, March 06, 2009 8:36 AM

To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill

Cc: Davidson, Dana; Conway, Mike; Quintero, Frank; Espinosa, Kim; Schechter, Jeanne

Subject: FW: WAL-MART CENTER

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Useopc30@aol.com [mailto:Useopc30@aol.com]
Sent: Thursday, March 05, 2009 11:33 AM
To: city, council
Subject: WAL-MART CENTER

WE SUPPORT THE WAL-MART CENTER, MAINLY FOR THE NEW JOBS.

DON'T LET THE LOONS OF THE WORLD DELAY THE PROJECT. 64-1

THIS IS AMERICA, WE SPEAK AND READ ENGLISH.

THANK YOU,

KENNETH AND PEGGY CARTER
3415 PASEO VERDE AVE.
MERCED, CA. U.S.A.

A Good Credit Score is 700 or Above. See yours in just 2 easy steps!

64-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

65

Espinosa, Kim

From: Walker, Dawn on behalf of city, council

Sent: Friday, March 06, 2009 8:38 AM

To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill

Cc: Davidson, Dana; Conway, Mike; Quintero, Frank; Espinosa, Kim; Schechter, Jeanne

Subject: FW: Wal-Mart support

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Mike Carter [mailto:dmikecarter@sbcglobal.net]
Sent: Thursday, March 05, 2009 9:42 PM
To: city, council
Subject: Wal-Mart support

Council Members:

I strongly urge you to approve and support the proposed Wal-Mart facility in Merced. With our extremely high unemployment figures here the additional jobs will help our families.

I personally shop at Wal-Mart and enjoy doing so. Many of those in Merced do so as well-especially those needing to find a way to make their dollars go as far as they can.

65-1

Some have tried to make Wal-Mart a political issue for some reason but this is no time for petty bickering when so many jobs are at stake. We are fortunate that Wal-Mart has chosen to locate here in our community and we need to be thankful for this blessing and not let Wal-Mart go to another community who would welcome the new jobs.

Sincerely,

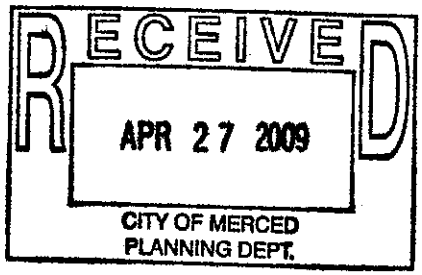
Mike Carter
Merced, CA

65-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

66

CA License # 710358

Outdoor Creations
204 West 27th Street
Merced, CA 95340
209 384-9020



April 27, 2009

Re: Review & Comment of D.E.I.R. for proposed Wal-Mart Distribution Center

To: Whom It May Concern

From: Alan Claunch
Owner

Dear Sir or Madam: After studying the D.E.I.R. I have compiled a list of comments that pertain to the information provided for public comment regarding the proposed Wal-Mart regional distribution center. The Section in question will be cited to help clarify and aid in a response.

Table 2-1 4.6-2 "Long term degradation of surface water quality from project related contaminants." I believe that a storm run off system can be designed and installed that would decrease the 24 Hour storm runoff volume for the entire 235 acre site from 26.2 af post development to 8-12 af. I believe that by increasing the holding capacity of storm runoff a greater amount of water would be made available to recharge ground water aquifers. I believe this system would be economically feasible and would be a benefit to the applicant and the City of Merced. 66-1

Table 2-1 4.12-1 "The increase demand for water supply and distribution is less than significant and no mitigation measures are required." I believe this to be an incorrect statement and this impact should be studied more. 66-2

The chart on Table 4.12-4 for domestic water usage fails to include the amount of water potentially used for landscape irrigation. 66-3

Table 2-1 4.12-4 "Increased demand for electricity and required extension of electrical infrastructure." I agree with the mitigation measures and would like to add the following: Study the feasibility of using electric vehicles on site to move products and people while taking advantage of the solar charging capabilities. Construct shade structures to include photovoltaic cells and misting systems. 66-4

Table 2-1 4.13-2 "Substantial degradation of the visual character or quality of the site and surroundings." I think the landscape plan should use California native plant material. I do not see a cost benefit to keeping any existing almond trees and I would use as little turf as possible. 66-5

66-1 The commenter suggests a decrease to the 24-hour storm runoff volume and increase to the detention pond holding capacity to make a greater volume of water available for groundwater recharge. A retention time of up to 72 hours has been approved by the City. Retention times as they pertain to potential groundwater recharge is described in Impact 4.6-4 of the DEIR. See also Master Response 7: Detention Basins and Drainage.

66-2 The commenter suggests that the statement on Table 2-1 in the DEIR that "The increase in water supply and distribution is less than significant . . ." is incorrect and should be studied more. Please see Response to Comment 30B-1, which addresses this issue.

66-3 The comment indicates that landscape irrigation water availability was not included in Table 4.12-4. See response to comment 30B-1. The WSA and UWMP include landscape uses.

66-4 The commenter recommends that the DEIR require or include a study of "the feasibility of using electric vehicles on site to move products and people while taking advantage of the solar charging capabilities" and to "construction shade structures to include photovoltaic cells and misting systems." Many of these features are discussed in the mitigation measures presented in the air quality analysis in Section 4.2 of the DEIR. Please refer to Mitigation Measures 4.2-2d and 4.2-6d regarding the use of on-site alternative energy, and Mitigation Measure 4.2-2d regarding the use of electric or hybrid-powered yard tractors. Implementing on-site shade features is discussed in Mitigation Measure 4.2-2b.

66-5 The commenter suggests that the landscaping plan use native plant materials, and that as little turf as possible should be used. The project's visual resources impacts were evaluated consistent with the requirements of CEQA in Section 4.13, Visual Resources," of the DEIR. As described therein, the project would result in potentially significant visual character and visual quality impacts, and mitigation measure 4.13-2 is recommended to reduce significant impacts to less-than-significant levels (see page 4.13-13). The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided. This comment is noted for the City's consideration during review and approval of the project. No further response is necessary.

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67

Espinosa, Kim

From: Walker, Dawn on behalf of city, council

Sent: Tuesday, March 17, 2009 8:16 AM

To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill

Cc: Davidson, Dana; Quintero, Frank; Conway, Mike; Schechter, Jeanne; Espinosa, Kim

Subject: FW: Wal-Mart EIR Language Translation Request

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: tom@clendeninbros.com [mailto:tom@clendeninbros.com]
Sent: Monday, March 16, 2009 2:08 PM
To: city, council
Subject: Wal-Mart EIR Language Translation Request

Dear City of Merced Council Members,

I am opposed to having the Wal-Mart EIR translated into different languages. This is just another stall tactic by those who oppose any type of development in our community. The planning department is already granting the community an extra 15 days to comment on the EIR. Please keep the hearing date on schedule. 67-1

Thank you for your time.

Sincerely,
Tom Clendenin

67-1 The commenter expresses opposition to translation of the EIR into other languages. This comment does not raise environmental issues or any issues regarding the adequacy of the Draft EIR. The comment is noted.

68

Espinosa, Kim

From: Walker, Dawn on behalf of city, council

Sent: Friday, March 13, 2009 8:18 AM

To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill

Cc: Davidson, Dana; Conway, Mike; Quintero, Frank; Schechter, Jeanne; Espinosa, Kim

Subject: FW: WalMart

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Darlene Clouse [mailto:darlene.clouse@sbcglobal.net]
Sent: Thursday, March 12, 2009 9:32 PM
To: city, council
Subject: WalMart

Merced City Council Members,

Please do not extend the time frame on the WalMart vote. We have wasted enought time already.

68-1

We need WalMart and any other company that will offer jobs to our community. Our people need help finding employment now.

Vote yes.

Thank you,

Darlene Clouse

68-1 The commenter expresses opposition to extension of the "time frame" for the decision on the project. This comment does not raise environmental issues or any issues regarding the adequacy of the Draft EIR. The comment is noted.

69

Espinosa, Kim

From: James Clouse [j.clouse@sbcglobal.net]
Sent: Tuesday, April 07, 2009 2:10 PM
To: Espinosa, Kim
Subject: WAL-LMART

MERCED NEEDS JOBS. YES YES TO WALL-MART DISTRIBUTION CENTER.

MERCED ALLIANCE FOR RESPONSIBLE GROWTH SHOULD GET OUT OF MERCED AND TAKE THEIR FAIRY SHRIMP WITH THEM. 69-1

EVERYONE WANTS GOOD JOBS, SO BE GLAD WALL-MART WANTS TO BUILD IN MERCED. LETS GET IT DONE.

JIM CLOUSE
2254 LAKESIDE DR
MERCED 95340
723-3995

69-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

70

April 2, 2009

Kim Espinosa
Project Manager
Merced Planning Division
678 West 18th Street
Merced, CA 95340

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Ms. Espinosa,

I am writing in support of project alternative #3 for the proposed Wal-Mart distribution center. I think it makes the most sense for the city to put the distribution center as far away from residential homes and schools as possible. I sympathize 100% with the folks in Southeast Merced. I wouldn't want it in my neighborhood or near my children either. I hope the city will do the right thing and move it away from residents. 70-1

Thank you,

Susan Coggin
Signature

Susan Coggin
Print Name

1836 Barnett Wy
Address

Merced CA

Phone 384-2180

70-1 The commenter expresses support of Alternative #3. The commenter does not raise any issues regarding the adequacy of the DEIR's analysis. The comment is noted.

71

Espinosa, Kim

From: Bingaman, Jamie
Sent: Thursday, March 12, 2009 8:38 AM
To: Espinosa, Kim
Subject: FW: Walmart Distribution Center project

-----Original Message-----
From: Davidson, Dana
Sent: Thursday, March 12, 2009 8:36 AM
To: Bingaman, Jamie
Subject: FW: Walmart Distribution Center project

For the record.

From: Walker, Dawn **On Behalf Of** city, council
Sent: Thursday, March 12, 2009 8:28 AM
To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill
Cc: Davidson, Dana; Conway, Mike; Quintero, Frank; Schechter, Jeanne
Subject: FW: Walmart Distribution Center project

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----
From: Ann Crawford [mailto:anncbf@att.net]
Sent: Tuesday, March 10, 2009 8:25 AM
To: city, council
Subject: Walmart Distribution Center project

To the Merced City Council;

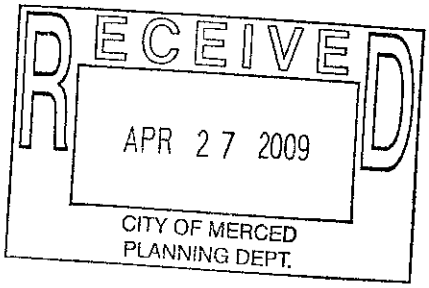
Please DO NOT delay the decision on the Walmart Distribution Center project.
Our community is in a desperate employment situation at this time.
A six month delay will not satisfy the opponents for this project.
Thank you,
Ann Crawford

71-1

71-1 The comment speaks against further delaying a decision on the proposed project and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

72

March 12, 2009



Kim Espinoza, Planning Manager
Planning Department-City of Merced
678 West 18th Street
Merced, CA 95340

Ms. Espinoza,

I think the traffic is very terrible already. Having this warehouse here will bring more truck traffic into out streets and close to our homes and children. People think that this isn't really a big problem now, but wait until reality is faced when the biggest corporation, Wal-Mart starts to own are town and run our are streets with there 900 diesel trucks. There's already lots of trucks using our streets in Merced and most of them are from an existing distribution center already in place in the area. 72-1

Our air quality is a health crisis in Merced and the San Joaquin valley already and bringing this warehouse will cause more health problems, and accidents throughout Merced. I understand we need the jobs but, the Wal-Mart distribution center is not the right choice. 72-2

Concerned Citizen,

Emzie Cobbs
Name
1950 merced ave
Address
merced Ca. 95340
Emzie Cobbs
Signature

72-1 The commenter expresses concern about increased truck traffic in the City. Section 4.11 of the DEIR, "Traffic and Transportation" analyzes impacts associated with truck traffic. Please also refer to Master Response 6: Trucks and the Transportation Analysis, which addresses truck traffic. The existing conditions analysis considered the mix of traffic on area roadways and at study intersections. The comment does not raise issues related to the adequacy of the DEIR.

72-2 The commenter expresses general concern regarding air quality and health, as well as traffic safety. The Draft EIR addresses project-related impacts to Air Quality in Section 4.2 "Air Quality," and impacts related to traffic safety are addressed in Section 4.11 "Traffic and Transportation." Please also refer to Master Response 13 regarding air quality-related public health concerns. The comment does not raise issues with the adequacy of the DEIR. The comment is noted.

73

March 19, 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Kim Espinosa
Project Manager
City of Merced Planning Division
678 W. 18th Street
Merced, CA 95340

Ms. Espinosa,

Upon reading the Draft Environmental Impact Report on the Wal-Mart Distribution Center, it seems to me that some compromise could be made between you, the city who wants this project and the residents in South Merced, those who will be directly impacted. Reduce the size by half. A smaller DC will mean less truck traffic, something that is more appropriate for that location. 73-1

I agree that even if Wal-Mart is not approved to build on that site, then some other company will build on it. Maybe that is for the best. This Wal-Mart project is just too big. A smaller warehousing facility means fewer trucks and at the same time, will create some jobs. Both sides can win if everyone is willing to compromise. 73-2

Sincerely,

Emily DeCremer

493 Beckman Way

Merced, CA 95348

(209) 386-2577

73-1 The commenter suggests an alternative to the project, which includes a distribution center that is half of the size proposed and which operates at half the capacity. Section 5 of the DEIR evaluates impacts of a "Reduced Site Plan and Operations" Alternative relative to the proposed project. This alternative is similar to the commenter's suggestion, except that rather than a 50% reduction in size and operation, the Reduced Site Plan and Operations Alternative is a reduction of 25%. Please see Section 5 "Alternatives to the Proposed Project" for a discussion of this alternative (page 5-17) and Master Response 12: Alternatives.

73-2 The commenter agrees with the DEIR's assumption for the No Project Alternative that in the absence of approval of the proposed project, the site would not likely remain vacant and would most likely be developed with a similar use by a different company. The commenter re-emphasizes the idea for a reduced size alternative. Please see Response to Comment 73-1, which discusses the Reduced Site Plan and Operations Alternative in Section 5 of the DEIR.

74

Espinosa, Kim

From: midge eck [midgeyosemite51@hotmail.com]
Sent: Friday, April 10, 2009 9:34 AM
To: Espinosa, Kim
Subject: Walmart

I believe that we should move forward with the Walmart Distribution Center. I think we are displaying arrogant behaviors when we attempt to squash employment opportunities for our populace. It may not be a perfect plan but I believe Walmart has proved to be a good neighbor in other communities. 74-1

Mary Eck
629 Mockingbird Court
Merced, Ca. 95340

Windows Live™: Keep your life in sync. Check it out.

74-1 The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues of adequacy regarding the Draft EIR. The comment is noted.

75A

John Englert
855 South Orchard Dr
Merced, CA 95341
(209) 722-1323

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

April 26, 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Attention: Kim Espinosa

Dear Kim Espinosa, Planning Manager,

I question how we went from a new university with a new campus parkway with limited access to an interchange to service an Industrial complex. We were going to turn Merced into university town & make it cultural and appealing. Now we turn onto campus parkway full of trucks and drive by huge warehouses with trucks. I think the only winner here is Wal-mart. 75A-1

Thank you,

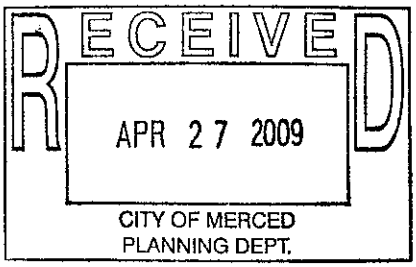
John Englert

75B

John Englert
855 South Orchard Dr
Merced, CA 95341
(209) 722-1323

April 26, 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Attention: Kim Espinosa

Dear Kim Espinosa, Planning Manager,

Subject: Wall-Mart Distribution Center DEIR

In the DEIR the traffic reports appear to be based on how many trucks they plan to start with and add it to what traffic they say will be here in 20 years which makes there contribution to traffic much smaller. 75B-1

In the DEIR it suggests that everyone will come in on Gerard. A study should be done on impact of traffic coming in on back and side roads.

I question weather they will ever create enough extra taxes to pay for roads & upkeep, all of the extra infrastructure and services. 75B-2

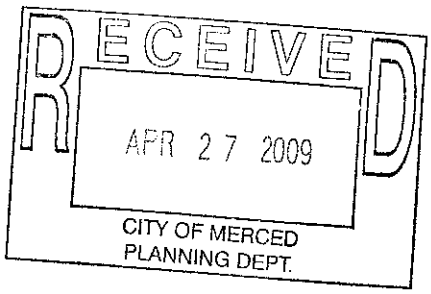
I also believe that alternative site #2 would have much less visual impact and traffic impact. Save-Mart and overpass are already all light up, it is already noisy from freeway traffic, truck traffic would not have as many back ways to come in and it would not be the one of the first things you saw going to the university. There would not be as many homes effected. A better route for Save-Mart trucks could also be created. 75B-3

Thank you,

John Englert

75C

March 26, 2009



Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Re: Opposition to Wal-Mart Distribution Center

Dear Ms. Espinosa,

The DEIR for the Wal-Mart Distribution Center states that the existing infrastructure is set to accommodate 644 tractor/trailer trips per day. However, it does not mention the number of vehicles associated with the 1,200 people that would be employed by such a center. The DEIR should specify what public transportation accommodations are being made for the proposal, particularly for the 1,200 potential employees. It should discuss the lighting, cross walks, bus routes, bicycle routes, and all safety items associated with public transportation. Is Wal-Mart going to provide an employee shuttle to reduce air quality issues? What devices is Wal-Mart going to implement to encourage employees to use alternative transportation methods to the distribution center? What infrastructure costs are affiliated with making the distribution center pedestrian friendly and accommodating? Thank you. 75C-1

Sincerely,

John Englert
855 S. Orchard Dr.
Merced, CA 95341

75D

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

March 13, 2009

Ms. Kim Espinosa
Merced Planning Division
678 W 18th St.
Merced, CA 95340

Dear Ms. Espinosa,

I am writing to advocate Alternative Site 3. While I do not want this large distribution center near Southeast Merced, if it has to come, keep it away from the neighborhoods! West of 99 makes much more sense, especially with the existing industrial activity. Please do what is fair. Keep it away from our schools and homes. 75D-1

Sincerely,

John Englert

855 S. Orchard Dr

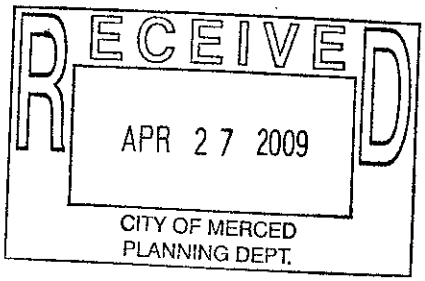
Merced, CA 95341

75E

John Englert
855 South Orchard Dr
Merced, CA 95341
(209) 722-1323

April 26, 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Attention: Kim Espinosa

Dear Kim Espinosa, Planning Manager,

Subject: Wall-Mart Distribution Center DEIR

During the construction of Mission Interchange we had periods of trucks running 12hrs. A day 6 days a week. The noise was terrible. Sunday was the only peaceful day of the week. I understand the Distribution Center will be running 24 hours a day year round with no end and it is a Significant and unavoidable nuisance.

During the construction the roads around my home were torn up by trucks. The county keeps filling in pot holes but they are in need of more repair. The construction lasted only a short time and the roads deteriorated. The report did not address upgrading existing roads or where the money will come from to pay for it. 75E-1

During the construction I was run off the road several times, stuck behind trucks that couldn't male turns, lost one windshield from loose roadway being kicked up, was out of telephone service several times from trucks running over telephone boxes and this was only during a short construction period. At Kibby and Childs there is already not enough room for trucks to make turns onto Kibby if anyone is at stop sign. You either have to backup or trucks have to stop on Childs and wait for you. The report does not state if that is included in project or who pays for it.

The environmental impact report states that trucks waiting to unload would be able to park in long entrances. McLane is very small compared to Wal-Mart and have trucks stacked on both sides of Kibby many times two deep in the dirt (or mud when wet). Very often it has trucks blocking it down to one lane and is hard to get through. It looks like Kibby has more room than Wal-marts driveways. How will the city control the trucks at Wal-mart if they can't at McLane? 75E-2

At Save-Mart trucks are allowed to come without an appointment. The report does not state how they will control trucks with no place to go. I am concerned the will be parking anywhere they can pull off of road. This I believe will impact whole area not only my home. 75E-3

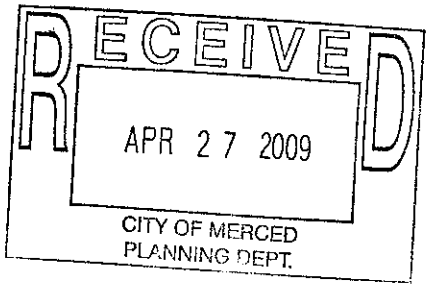
Thank you,

John Englert

75F

John Englert
855 South Orchard Dr
Merced, CA 95341
(209) 722-1323

April 26, 2009



Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Attention: Kim Espinosa

Dear Kim Espinosa, Planning Manager,

Subject: Wall-Mart Distribution Center DEIR

I have sent a prior letter addressing loss of property value and it's exclusion from DEIR. Having looked at DEIR and learning more about Wal-Mart Distribution Centers I am more concerned. The DEIR uses Significant and unavoidable for many of my concerns: Long term traffic operational noise; Substantial Degradation of Visual Character or Quality of Site and Surroundings; Cumulative Air Quality Impact; Cumulative Noise Impact; Cumulative Visual Impact. 75F-1 75F-2

I still do not believe this could be excluded from DEIR. I bought my home in 1981 in an area of protected AG land, not by a 1 million sq. ft. Distribution Center My home value will be lowered. Why would you want to by it with Wal-mart Distribution Center upwind of you? 75F-3

Thank you,

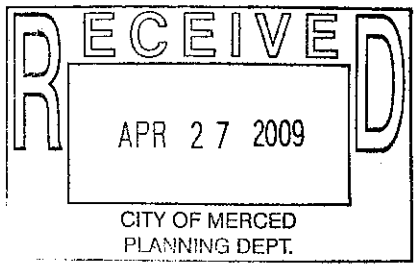
John Englert

75G

John Englert
855 South Orchard Dr
Merced, CA 95341
(209) 722-1323

April 26, 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Attention: Kim Espinosa

Dear Kim Espinosa, Planning Manager,

Subject: Wall-Mart Distribution Center DEIR

My home is located down wind of building site. I will be getting dust, fumes, suit and any other airborne particles from operation of Wal-mart. I could not find mitigation in DEIR. 75G-1

In a previous letter I asked how much the wind air temperature would be raised coming off of roofs, solar panels and asphalt. I have no air conditioning. Irrigation lowers the wind temperature asphalt & roofs will raise it. I could not find study or mitigation in DEIR. 75G-2

This project states it will use landscaping for visual, lighting & sound mitigation. It also will use landscaping to clean runoff water. I have noticed that McLane does not have as much landscape as it started with and has not replaced fallen trees. Crown Cork started out with very nice landscaping and after they went out of business much of it died, new business keeps it clean but not as nice. Once Wal-mart is in how will the city enforce that they keep and maintain if they decide not to? 75G-3

There is a bicycle path proposed to go to West entrance I would like to see a bike and pedestrian path go to South East corner to provide safe access through site from East. 75G-4

I will object to draining water into Fairfield Canal I would already be getting airborne pollutants I do not want to irrigate with there waste water also. 75G-5

I also would want to have variety of trees as high as building and light standards. 75G-6

Thank you,

John Englert

Letter 75A-G Response	John Englert ➢ 75A–April 26, 2009 ➢ 75B–April 26, 2009 ➢ 75C–March 26, 2009 ➢ 75D–March 13, 2009 ➢ 75E–April 26, 2009 ➢ 75F–April 26, 2009 ➢ 75G–April 26, 2009

75A-1 The commenter focuses primarily on the merits of the project. The commenter does raise issues with truck traffic. DEIR Section 4.11 "Traffic and Transportation" appropriately addresses impacts related to truck traffic. Please also see Master Response 6: Trucks and the Transportation Analysis. The comment does not raise issues regarding the adequacy of the DEIR. The comment is noted.

75B-1 The comment suggests that the DEIR's traffic section inflates the baseline, which the commenter suggests reduces the project's contribution to traffic impacts. The proposed project's relative contribution to traffic and assessment of impacts was based on the City's traffic impact criteria and guidelines. Please also see Response to Comment 5-3, which addresses this issue.

75B-2 The commenter questions the ability of the project to generate taxes for infrastructure installation and maintenance. CEQA does not require the DEIR to analyze financial impacts; however, these individual issues, as they relate to environmental effects (as opposed to financial impacts) are analyzed in the Draft EIR for the proposed project. The comment does not raise environmental issues or issues regarding the adequacy of the Draft EIR. However, as a point of reference, it should be noted that the City would require the proposed project to pay approximately $4.2 million in impact fees (based on 2009 fee levels; see Response to Comment 16-5) for public services.

75B-3 The commenter expresses support for Alternative Site #2. The commenter does not raise issues with the adequacy of the DEIR. The comment is noted.

75C-1 The commenter suggests that the traffic section analyzed only trucks and not employee-generated traffic. Table 4.11-12 in the DEIR provides a summary of the expected number of trucks and autos, which includes the employees trips associated with full operation of the facility. The assumptions regarding mode choice and potential affect to pedestrian, bicycle and transit operations are described in more detail on page 4.11-4 and in the Traffic Impact Analysis report in Appendix E of the DEIR. Other issues raised by the commenter are identified as mitigation in the DEIR's "Air Quality" section (Section 4.2) including employee shuttles, encouragement of alternative modes of travel, and accommodations for alternate modes of transportation. Please see Mitigation Measures 4.2-2a through 4.2-2e in the DEIR. Issues associated with infrastructure costs are not analyzed in the DEIR because these are not environmental issues and therefore not required for analysis under CEQA.

75D-1 The commenter expresses support for Alternative Site #3. The commenter does not raise issues with the adequacy of the DEIR. The comment is noted.

75E-1 The commenter states that noise associated with construction of Mission Interchange was terrible and comments that the proposed project would run 24 hours a day year round and would be a significant nuisance. The commenter references road deterioration and driving hazards as a result of another construction project in the area and states that the DEIR did not address whether the applicant will make upgrades to existing roads. Commenter references utility and traffic safety issues she experienced associated with another construction project. Commenter states that the intersection at Kibby and Childs Road does not provide enough room for trucks to make turns

onto Kibby if others are stopped at stop sign. The commenter states the DEIR did not address whether improvements would be made to this intersection and who would pay for the improvement.

Truck noise associated with the project is analyzed in Section 4.8, 'Noise', of the DEIR. Specifically, Mitigation Measure 4.8-3 (pages 4.8-24 through 4.8-26) would require the project applicant to implement several measures to reduce the exposure of existing sensitive receptors to project generated traffic noise levels. After mitigation, the impact would remain significant and unavoidable because it would not be possible to design a sound barrier that provides enough reduction to reduce the resultant noise level to less than the City's "normally acceptable" standard of 60 dBA Ldn for residential land uses and meet the required aesthetic and design requirements. CEQA provides that lead agencies can consider significant environmental impacts and approve projects if there are overriding benefits.

Regarding roadway maintenance and disrepair, please see Response to Comment 96B-5.

Based on the particular operational characteristics of the proposed project, turning radii was addressed in Impact 4.11-2, Section 4.11, 'Traffic and Transportation', of the DEIR. Impact 4.11-4 addressed impacts of construction vehicles and equipment on traffic and local roadways. Implementation of Mitigation Measures 4.11-2a and 4.11-2b would reduce traffic design feature hazards and construction vehicle impacts on local roadways to a less-than-significant level.

75E-2 The commenter expresses concern related to truck staging. The issue of trucks parking and waiting was considered in the analysis and addressed in the DEIR under Mitigation Measure 4.11-2a. The commenter does not raise issues with the adequacy of the DEIR. The comment is noted.

75E-3 The commenter expresses concern related to truck staging and parking while awaiting to pick-up and deliver goods. The issue of trucks parking and waiting was considered in the analysis and addressed in the DEIR under Mitigation Measure 4.11-2a. See also the response to comment 12-18 concerns potential social effects associated with truck drivers. The commenter does not raise issues with the adequacy of the DEIR. The comment is noted.

75F-1 The comment expresses concern that property values will decrease with implementation of the project. Issues associated with property value are not considered environmental issues and are therefore not required to be analyzed under CEQA. Please see Master Response 11: Economics and Urban Decay, which addresses this issue.

75F-2 The commenter indicates that the DEIR uses the term "Significant and Unavoidable" as the conclusion for certain impacts. The commenter is correct, but does not take issue with the accuracy of these conclusions and does not raise further issues with the adequacy of the DEIR. The comment is noted.

75F-3 The commenter indicates that the DEIR does not address the impacts of decreasing home values. This is an economic effect and is not required to be analyzed under CEQA. Please see Master Response 11: Economics and Urban Decay, which provides a detailed response to the issue.

75G-1 The commenter is concerned about impacts of airborne particles and odors associated with the proposed project affecting his home. Please see Impacts 4.2-1, 4.2-2, and 4.2-5 and Mitigation Measures 4.2-1, 4.2-2 of the DEIR.

75G-2 The commenter states that the project would "likely create an urban heat island or heat sink" and questions why this issue was left out of the DEIR. According to EPA (See

http://www.epa.gov/hiri), "the term 'heat island' describes built up areas that are hotter than nearby rural areas. The annual mean air temperature of a city with 1 million people or more can be 1.8–5.4°F (1–3°C) warmer than its surroundings. In the evening, the difference can be as high as 22°F (12°C). Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality."

While information is available about the relationships between the surface parameters (i.e., albedo) of a site and a project's potential to generate waste heat, it would be difficult to determine whether a project's contribution to an existing UHI would be cumulatively considerable without speculation. This is particularly the case for the proposed project because its size, and the proportion of low-albedo surface area, are low relatively to the size of the city's urban area. In addition, there are no established methods for quantifying the UHI around the City of Merced.

75G-3 The commenter notes that the project will include landscaping, and questions how the landscaping will be maintained. The project's visual resources impacts were evaluated consistent with the requirements of CEQA in Section 4.13, Visual Resources," of the DEIR. As described therein, the project would result in potentially significant visual character and visual quality impacts, and mitigation measure 4.13-2, "Prepare and Submit a Landscaping Plan," is recommended to reduce significant impacts to less-than-significant levels (see page 4.13-13). As described in the mitigation measure, all vegetation shall be maintained by an automatic irrigation system. The landscaping and irrigation plans and details shall be subject to review and approval by the City. The City shall create and adopt a mechanism that will ensure that Wal-Mart Stores East, LP maintains the landscaping in accordance with the adopted plan. As part of the CEQA process, the City must adopt a program for reporting or monitoring mitigation measures that were adopted or made conditions of project approval (CEQA Guidelines Sections 15091[d], 15097). The monitoring program is implemented to ensure that the mitigation measures identified in the EIR are implemented.

75G-4 The commenter recommends a bike path to the southeast corner of the site in order to provide safe access through the site from the east. The commenter does not identify any environmental impacts that this bike path would mitigate. This comment does not raise issues regarding the DEIR's adequacy. The comment is noted.

75G-5 The commenter expresses concerns regarding water drained to Fairfield Canal. The Fairfield Canal is preferred by MID as stated on page 4.6-11. See Master Response 7: Detention Basins and Drainage regarding MID conditions of approval for drainage from proposed project.

75G-6 The commenter requests to have a variety of trees as high as the building and light standards installed at the site. Please refer to response to comment 66-5. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided. This comment is noted for the City's consideration during review and approval of the project. No further response is necessary.

To: Kim Espinoza, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

My name is Jaime Enrique. I am a teacher in Merced who is concerned about the young ~~Childens'~~ health. When you make your decision, please think thoroughly how this distribution center will affect students with respiratory issues. On a regular basis I have students staying home with asthma which is affecting their education. You and other people will make that decision. Please concider all the advantages and disadvantages to this center.

Thank you for reading my letter.

Jaime Enriquez 04/23/09

463 Petunia Ct.
Merced, CA 95341

Jaime Enrique

76-1

76-1 The commenter expresses concern about the project's affects to children's health, including students at nearby schools who have respirator issues. Please refer to the response to comment 16-8 which discusses how the schools were included in the HRA performed for the project. Please refer to the Master Response 13 regarding the commenter's concern about project-generated emissions of air pollutants and the public health concerns (including asthma). Please refer to the response to comment 17-12, which discusses how the relative locations of nearby schools were analyzed in the traffic analysis.

77

Espinosa, Kim

From: Keith Ensminger [keith@kramertranslations.com]
Sent: Monday, March 02, 2009 8:25 AM
To: Espinosa, Kim
Subject: Wal-Mart

Dear Kim,

I welcome the Wal-Mart distribution center, although I have a concern about its location. It would make much more sense to build the distribution center on the south side of Hwy 99 near the Savemart warehouse. Truck traffic would turn away from the city instead of being directed near residential neighborhoods and schools. The planned expressway would have much less traffic if Wal-Mart was on the south side of Hwy 99, thereby allowing residents and UC students safer and less congested travel. I understand a mall is planned for the south side of Hwy 99, but a mall could just as easily be located on the north side and have easier access for residents. 77-1

I support the Wall-Mart distribution center but would prefer the site be located on the south side of Hwy 99 for better traffic flow and safety.

Kind regards,

Keith Ensminger
Kramer Translation
893 Massasso St.
Merced, CA 95341
209-385-0425 tel
209-385-3747 fax

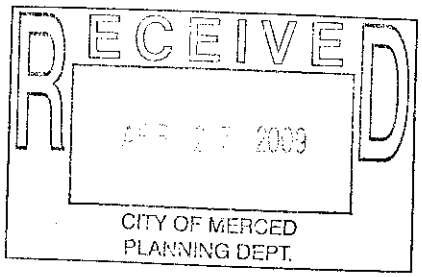
3/2/2009

77-1 The commenter expresses support for the project concept, but suggests that it be located on a different site south of Highway 99 to avoid impacts to neighborhoods and traffic safety. Section 5 of the DEIR, "Alternatives to the Proposed Project" includes an evaluation of three off-site alternatives. The commenter does not identify a specific location (other than South of SR 99) and does not raise issues with the adequacy of the DEIR. The comment is noted.

78

April 2, 2009

Kim Espinosa
City of Merced
678 West 18th Street
Merced, CA 95340



Re: Merced Wal-Mart Distribution Center Project

Dear Kim,

As a long-time resident of Merced, I embrace the area's culture and Native-American history. The Draft EIR regarding the Project mentions that subsurface Native-American skeletal remains may be unearthed and disrupted due to the construction of the Distribution Center. Doing so would be to disrespect a race and culture which should be afforded more deference and in fact a reverence. Not much is known about the local Yokut tribe and damaging an area where burials may have occurred would not only harm their memory but also harm a chance to discover and learn more about them. I ask the City consider this when deciding on whether to approve this project. 78-1

Signature

ROBERT ESQUEDO
Print Name

430 Lily Drive
Address

Merced CA 95340

(209) 722-4213
Phone

78-1 The commenter expresses concern about the potential to unearth and disrupt subsurface Native-American skeletal remains during construction of the project. The commenter asks the City to consider this when deciding whether to approve the project.

Please refer to Section 4.4, 'Cultural Resources', of the DEIR for analysis of the project's potential to uncover human remains or destroy/damage as-yet undiscovered prehistoric or historic cultural resources. Implementation of Mitigation Measure 4.4-1 and 4.4-2 (pages 4.4-5 through 4.4-6 of the DEIR) would reduce these potentially significant impacts to a less-than-significant level. The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided.

79A

4/23/09

Dear Planning Manager: Kim Espinosa

I live on 2237 Concord Square, in Merced. Currently when I walk my dog each evening I have to cover my face with a mask to avoid the truck exhaust as they pass us on Childs Ave. 20 years ago when I moved to Merced from Ohio to accept a teaching job with MCOE (Merced County Office of Education) I had no allergies. Today I fight sinus infections and have a yearly bought with Bronchitis. Merced's air is one of the worst in the nations. I attribute the air quality to the onset of my allergies.

I have recently paid

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APR 27 2009
CITY OF MERCED
PLANNING DEPT.

79A-1

COPY OF REVERSE SIDE ATTACHED

off my house here, and consider Merced my home. If the Wal-Mart Distribution Center goes in to the Merced area, it will cause me to leave my home and job for health reasons.

Please consider the air quality ramifications due to 74,812.1 tons of unmitigated carbon monoxide on the health of children & area residents. Without our health what is the accumulation economic sources?

I beg you to consider healthy options to rebuilding Merced's economic base.

Cordially,

Kris Eslick (Kristen E Eslick)
2237 Concord Square
Merced, CA 95341
H 209-725-1256

79A-1
Cont'd

79A-2

79B

April 20, 2009

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CITY OF MERCED
PLANNING DEPT.

Kim Espinosa
Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Dear Ms. Espinosa:

I was reviewing the traffic portion of the Wal-mart distribution center EIR. I am concerned that the roadways in my neighborhood were not constructed in a manner such that they could support 2,400 vehicle trips in and out of the distribution center per day. 79B-1

A simple drive down the 99 shows how much those trucks rip up the road – and how quickly. I don't think the city is doing enough to prepare for maintaining the roads in the area for that level of truck service. 79B-2

Could a special fee be placed on WM based on truck traffic to and from the facility to help pay to maintain the roads in the area? Its not like we're talking about 2,400 compact car trips. These are big 18-wheelers that will carry heavy loads, make wide turns and quickly chew up the roadways. 79B-3

Thank you for your consideration.

Kristin E Eslick
Signature

Kristin E. Eslick
Print Name

2237 Concord Sq.
Merced, Ca 95341
Address

209-725-1256
Phone

79C

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APR 27 2009
CITY OF MERCED
PLANNING DEPT.

3/26/09

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Dear Ms. Espinosa:

Truck traffic on Childs Ave and Gerard Ave should be restricted during the school day and the period immediately before and after school when children are present. Students and parents should not have to navigate to and from school while fighting distribution center traffic. If Wal-mart doesn't like it they should find another location far away from our children. 79C-1

Perhaps trucks traffic should be restricted at all times on Gerard and Childs. That way our children would be safe. A truck route could be created to and from the 99 which is far away from schools and homes. 79C-2

Sincerely,

Kristin E Eshck
Signature

Kristin E. Eshck
Print Name

2237 Concord Dr.
Merced, CA 95341
Address

209-725-1252
Phone

79D

Kim Espinosa, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, CA 95340

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APR 27 2009
CITY OF MERCED
PLANNING DEPT.

4/29/09

Ms. Espinosa:

The Wal-Mart distribution Center idea is a really bad one for south Merced. Local teachers and parents are upset because we know that south Merced will become less safe and more polluted just to win over a project that won't generate a dime of sales tax revenue for the City and doesn't guarantee that Merced residents will get the jobs created. As far as I've seen, Merced gets the traffic, pollution, bad property values and gets no trade-offs in return for the residents who live in the immediate area. Before the City Council approves this project it needs to do more to prevent the trucks and pollution from spilling into the neighborhood, and then it needs to cut a deal with Wal-Mart for that company to pay impact fees to Merced so take the sting out of the damage to this neighborhood. 79D-1

Kristine E Ehlich 209-725-1256
Name

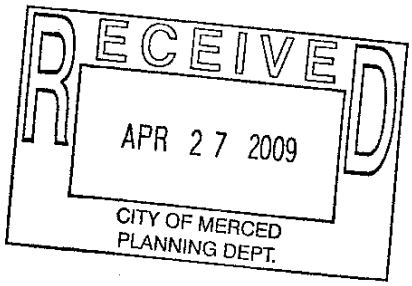
2237 Concord Square
Address

Merced, CA 95340
City, State, Zip

Kristine E Ehlich
Signature

79E

March 13, 2009



Kim Espinosa
Project Manager
Division of Planning
678 W. 18th St.
Merced, CA 95340

Dear Ms. Espinosa:

In regards to the draft environmental impact report for the Wal-Mart distribution center here in Merced, why doesn't the city annex the county land where alternative site 2 is currently located as well as some surrounding land? Put the center on the other side of 99 and create the necessary buffer zone between the industrial land and any potential residential land. 79E-1

Thank you.

Kristin E. Eslick
Signature

Kristin E. Eslick
Print Name

2237 Concord Square
Address

Merced, CA
95341

Phone 209-725-1256

79F

3/21/09

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Ms. Kim Espinosa
Project Manager
City of Merced Planning
678 W. 18th Street
Merced, CA 95340

Ms. Espinosa:

I wanted to share a few thoughts on the Wal-Mart distribution center environmental impact report. First, I encourage you and the city to explore a location that is as far away from residential neighborhoods as possible. If you look at other Wal-Mart distribution centers, they're located far away from people's homes. Perhaps you should look at possible sites that would be as far removed from neighborhoods, but still accessible to the highway. 79F-1

Second, as your own study suggests, a smaller sized distribution center will decrease the amount of negative impacts on air quality. The best thing you can do to minimize the air quality impacts on the city would be to not approve this project. 79F-2

Thank you,

Kristin E. Eslick
Signature

Kristin E. Eslick
Print Name

2237 Concord Square
Address

Merced Ca 95341

209 - 725 - 1256
Phone

79A-1 The commenter expresses concerns about the poor air quality in Merced and high rates of health problems. Please refer to Master Response 13.

79A-2 The commenter is concerned about the impacts of the proposed project on air quality, and the associated health effects that she will experience as a direct result of the project's impact on air quality. Please see Master Response 13, regarding the relationship between the project, air quality, and public health.

79B-1 The commenter raises issues related to vehicle trips causing roadway wear. Issues associated with roadway maintenance are discussed in Response to Comment 96B-5 and 182B-1. Please also see the Master Response 6, which addresses trucks and the transportation analysis.

79B-2 The commenter raises issues related to vehicle trips causing roadway wear. Issues associated with roadway maintenance are discussed in Response to Comment 96B-5 and 182B-1. Please also see the Master Response 6, which addresses trucks and the transportation analysis.

79B-3 The commenter asks about the potential for the City to require a fee for roadway maintenance. Issues associated with roadway maintenance and financing are discussed in Response to Comment 96B-5 and 182B-1.

79C-1 The commenter raises issues related to conflicts between school-related pedestrians/traffic and heavy truck traffic. The issue of truck trips near schools was analyzed in Section 4.11 of the DEIR and Mitigation Measures 4.11-2b and 4.11-4 specifically address the issue of trucks and schools. The comment does not raise issues regarding the adequacy of the DEIR. The comment is noted.

79C-2 The commenter raises issues related to conflicts between school-related pedestrians/traffic and heavy truck traffic. The issue of truck trips near schools was analyzed in Section 4.11 of the DEIR and Mitigation Measures 4.11-2b and 4.11-4 specifically address the issue of trucks and schools. The comment does not raise issues regarding the adequacy of the DEIR. The comment is noted.

79D-1 The commenter addresses the merits of the project and also raises the issues of traffic, pollution, and economic effects. CEQA does not require analysis of economic effects and the DEIR does not address these non-environmental impacts. However, regarding traffic and pollution, the Draft EIR analyzes these environmental issues under sections 4.2 "Air Quality," 4.6 "Hydrology and Water Quality," 4.10 "Public Health and Hazards," and 4.11 "Traffic and Transportation." The commenter does not raise issues related to the Draft EIR's adequacy. The commenter recommends that the City Council require "impact fees;" however, the comment does not include any specific recommendations for such fees. It should be noted that the Draft EIR requires fee payment as mitigation for various impacts such as cumulative impacts to intersections. It should also be noted that the City will require the applicant to pay approximately $4.2 million in impact fees (based on 2009 fee levels; see Response to Comment 16-5) for public services. The comment is noted.

79E-1 The commenter expresses support of a slightly modified Alternative Site #2. The comment does not raise issues with the adequacy of the DEIR. The comment is noted.

79F-1 The commenter suggests that the project be located on a more remote site to avoid impacts to neighborhoods. Please see Response to Comment 94-3, which addresses this issue.

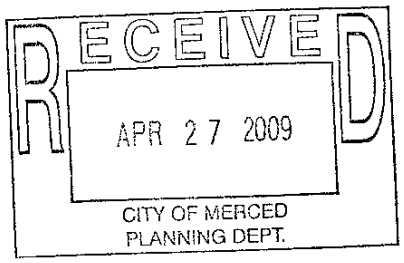
79F-2 The commenter underscores the DEIR's conclusions related to the Reduced Site Plan and Operations Alternative discussed in Section 5 of the DEIR. The commenter then recommends denial of the project to avoid air quality impacts. The commenter does not raise issues regarding the adequacy of the DEIR. The comment is noted.

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80

4.5.09

Ms. Kim Espinosa
Project Director
Merced Planning Division
678 West 18th Street
Merced, CA 95340



Ms. Espinosa,

I am writing in regards to the environmental report on the distribution center in Merced.

As I understand, there are monitoring stations all over the San Joaquin Valley and some are located within 5 miles of the proposed site. How about placing some monitoring stations right on the site itself? Therefore, you will get an even more accurate measure of air pollutants in Southeast Merced. Please ensure this happens during both the winter and summer months. 80-1

Thank you for you consideration of my request.

Alejandro Espinoza
Signature

Alejandro Espinoza
Print Name

2213 Birchwood Ct
Address

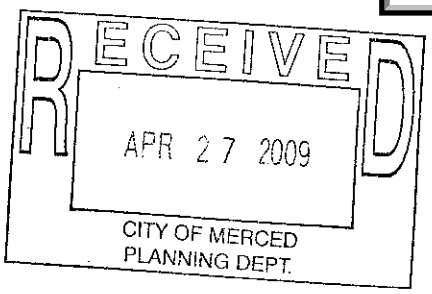
Merced CA 95341
City, State Zip

722-8806
Phone Number

80-1 The commenter argues that air quality monitoring stations should be placed onsite to get an accurate measure of air pollutants in southeast Merced. The purpose of reporting monitoring data in the Section 4.2.1 Environmental Setting is to characterize the *regional* air quality in the SJVAB. The monitoring stations in Merced are set up and operated by SJVAPCD. SJVAPCD selects the monitoring locations based on the physical location of the site with respect to the sources of regional pollutants and precursors and the population or the area represented a particular monitoring site. SJVAPCD uses the monitoring data for regional air quality planning in the SJVAB. The air emissions sources in the project area are not different from the representative emissions sources in the region. Setting up a monitoring station at the project site would not likely to offer any more information on existing air quality than already detailed in the DEIR and would not alter the impact conclusions supported in the DEIR analyses.

81

3/28/09



Kim Espinosa
Project Director
Merced Planning Division
678 W. 18th Street
Merced, CA 95340

Dear Ms. Espinosa,

I had the chance to review the Air Quality section of the Wal-Mart Distribution Center Environmental Impact Report. I'm curious as to why you didn't include Particular Matter 2.5 in your Toxic Air Contaminate Review? You state that there is no "routine way" to study diesel PM. 81-1

Hmm...seems to me that you need to find one. How many years have you been planning this distribution center? 5? At least give those of us who live near the site the courtesy to look at similar examples of distribution centers built next to schools and neighborhoods. Don't short change us on this project. 81-2

Thank you,

Linda Farias

Linda Farias
348 Donner Rd
Merced, CA 95341

81-1 The commenter questions why $PM_{2.5}$ was not included in the analysis of TACs. The following information about PM_{10} and $PM_{2.5}$ is explained on page 4.2-4 of the DEIR:

> Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG (EPA 2006a). Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less (ARB 2006).

All forms of $PM_{2.5}$ are not considered TACs; however, diesel PM is a TAC and all emissions of diesel PM that would be generated on the project site were examined in Impact 4.2-4 and the HRA. Please see the response to Comment 12-23 for a summary of this analysis.

81-2 The commenter requests that the air quality analysis examine the emissions from similar examples of distribution centers. According to the applicant, construction and operation of the proposed project would be most similar to the existing Wal-Mart distribution center located in Apple Valley, CA. This includes the number of truck trips that would be generated by the facility, which is used in the traffic analysis in Section 4.11, and ultimately the emissions estimates in the air quality analyses presented in Section 4.2.

Espinosa, Kim

82

From: Leslie Fiedler [recarn8@netscape.net]
Sent: Sunday, April 19, 2009 11:16 AM
To: Espinosa, Kim
Subject: Walmart

My name is Leslie Fiedler. I live at 3025 Colony Park in Merced.

I am writing to voice my support for the Walmart Distribution Center. I am tired of watching environmentalists, good ole boys, Asthma Groups and people who are old fuddy duddies with their head in the sand running the whole agenda for the poeple of Merced.

They say they know what is best for us all. Well they haven't asked me my opinion on what I think is best for me and Merced. I do not agree with Lydia Miller and Kyle Stockard. Maybe they need to tour the town with me to see what I see. We need big business in the area.

I have lived here since 1985. I have watched Merced change from a booming, fun Air Force town with things to do, great businesses and quality people to a Welfare ridden, gang banging, meth town. My relatives back east hear nothing but the horrors of the forclosure rates, gang problems, and Merced being in the Meth Corridor. 82-1

The fact is we need jobs here. If the people who have asthna don't like that fact they can move. You are never going to get people to shop downtown if they don't have money. Downtown died a few years ago and the Farmer's Market became a gang heaven. Maybe if we get quality jobs for quality people we can drive out the riff raff and start rebuilding this town.

Walmart is a good idea. We need jobs here. Not in Madera or Livingston. It is not going to cause any more pollution than already blows in from the bay area or else where.

Please don't listen to these people who are old or too "green" to see what Merced really needs.PLEASE VOTE FOR THE WALMART CENTER

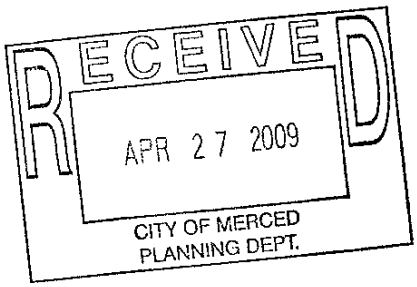
Thank You

Leslie Fiedler
209-383-6797

82-1 The comment primarily addresses the merits of the proposed project, recommends approval, and dismisses environmental concerns. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

83

Merced City Council &
Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Re: Construction Noise Impacts

Dear Merced City Council and Ms. Espinosa,

While the construction hours outlined in the DEIR are reasonable, they are not reflective of the existing environment in Merced. There are many children walking and riding bicycles to school throughout the year. Obviously, this is much more frequent during the active school year, particularly during school hours. I would like the city to consider changing the hours of construction for the Wal-Mart Distribution Center to 8:30am to 3:30pm. This would significantly decrease the amount of harmful pollutants children might be exposed to on a daily basis. 83-1

Thank you,

Robin Fisher
Name

113 Sweetwater Ave
Address

Merced CA. 95340
City, State, Zip

Robin Fisher
Signature

4-16-09
Date

83-1 The commenter requests that the City restrict hours of construction to 8:30 am to 3:30 pm to "significantly decrease the amount of harmful pollutants children might be exposed to on a daily basis." Impact 4.2-4, Exposure of Receptors to Toxic Air Contaminants, includes discussion about the potential health risk from short-term construction-related emissions of TACs. This analysis concludes the following:

> Thus, because the use of off-road heavy-duty diesel equipment would be temporary in combination with the highly dispersive properties of diesel PM (Zhu and Hinds 2002) and further reductions in exhaust emissions, project-generated, construction-related emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. Compliance with the ISR rule, as required by law, would also reduce diesel PM exhaust emissions. As a result, this impact would be less than significant.

No mitigation is required because the impact would be less than significant. Therefore, it is not necessary for the City to implement mitigation to reduce this impact. Furthermore, as shown on Figure 2 of the HRA, which is include Appendix of the DEIR, the closest school to the construction activity would be Weaver Elementary School located more than 2,500 feet away. At this distance school children are not anticipated to be exposed to substantial levels of construction-generated TAC emissions.

84

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Dear Ms. Espinosa,

I am writing with regards to the wall barrier discussed in "Mitigation Measures 4.8-3: Implement Measures to Reduce Exposure to Traffic from Project". I think it a fine gesture by the applicant to build a sound wall barrier between the affected residences and the distribution center. The final environmental impact report should address policing graffiti prevention on the wall barrier, perhaps at the cost of the applicant. Further, the applicant should have to pay for property value estimates both before and after the barrier wall is built, compensating the property owners the difference should the values decrease after the wall is built. Part of the current housing crisis is banks unwillingness to make loans to homeowners and homeowners unable to sell homes they cannot afford to keep. It's the responsibility of the City of Merced to protect any current or future homeowners from falling into another situation in which people's home values drop exceedingly because of a development project they city has approved. Please address this more thoroughly in the final environmental impact report.

84-1

84-2

84-3

Sincerely,

Name

118 Sweetwater Ave
Address

Merced Ca 95341
City, State, Zip

Timothy Fisher
Signature

02/16/2009
Date

84-1 The commenter suggests that the applicant should pay for policing of the sound walls for graffiti prevention. The City of Merced currently provides police service to the area and would be responsible for patrolling the area to prevent crime, such as vandalism. However, vandalism is not an environmental effect and the EIR does not need to consider non-environmental effects when identifying feasible mitigation measures.

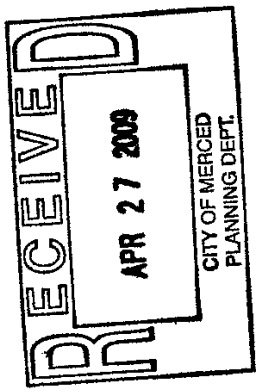
84-2 The commenter suggests that the erection of a sound barrier may affect property value and that the applicant should pay for assessment and reimburse the owner for any decrease in property value due to the erection of the sound barrier. Property value alone is not an environmental issue and CEQA does not require that an EIR consider non-environmental issues when identifying feasible mitigation measures. For informational purposes, however, it is notable that the effect of sound barriers on property value is an emerging issue in the field of noise and acoustics analysis. Only a few studies are currently available, but these studies reach varying conclusions regarding the effect of noise barriers on property values. One study indicates that noise barriers increase property value by as much as 10% (Benoit 2002), while others indicate a slight decrease in value (Appraisal Journal 2008).

84-3 The commenter indicates that it is the responsibility of the City to keep property values from falling. While this is not an environmental issue and is not required to be addressed per CEQA, it is important to note that the City is not charged with controlling property values, and as exemplified by the recent nation-wide downturn in the real estate market, fluctuations in the real estate market are not generally within the control of municipalities.

85A

4/23/9

Kim Espinoza, Planning Mgr
City of Merced Planning Division
678 W. 18th St.
Merced Ca 95340



Dear Ms. Espinoza,

I am concerned that the proposed Wal Mart D.C. approval process has not given sufficient consideration to the many negative impacts such as the many concerns over environmental impacts and quality of life for our community.

I feel the process is being unnecessarily rushed, and more time given for the public to consider the project. 85A-1

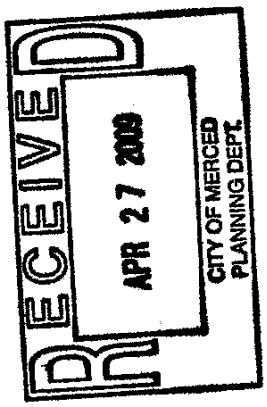
Thank You 85A-2

Douglas G Fleming

Douglas G Fleming
3624 Loyola Ct
Merced Ca 95348
209 947-4852

85B

Kim Espinoza, Planning Mgr
City of Merced Planning Div
678 W 18th St
Merced Ca 95340



Dear Ms Espinoza,

I am very concerned about the lack of consideration for the record of WalMart as an employer. The employees are undercompensated, and turnover is atrocious. Employee rights are widely, routinely violated. WalMart has been convicted of knowingly & deliberately employing undocumented aliens in Federal Court.

They have overstated both the number of workers they will hire and the compensation they will receive.

85B-1

Thank You

James [illegible]
3624 Loyola Ct
Merced Ca 95348
(209) 947 4852

Letter **85A-B** Response	Douglas G. Fleming ➢ 85A–April 23, 2009 ➢ 85B–Undated

85A-1 The comment expresses concern that the Draft EIR did not sufficiently evaluate environmental impacts and quality of life. However, the commenter offers no specific criticism of the Draft EIR's analysis. The Draft EIR appropriately evaluates the proposed project per the requirements of CEQA. The comment is noted.

85A-2 The commenter suggests that the public review period was inadequate. Issues related to the adequacy of the public review period are addressed in Master Response 2: Language Barrier and Public Review Period.

85B-1 The commenter raises issues associated with Wal-Mart's employment practices and employee compensation. These are not environmental issues, and are not required to be analyzed under CEQA. The Draft EIR, consistent with CEQA requirements, focuses on environmental issues and does not address employment practices or compensation. The comment is noted.

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86

April 1, 2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Ms. Kim Espinosa
Planning Director
Planning Division, City of Merced
678 West 18th Street
Merced, CA 95340

Reading your assessment of what an "odor" means in the environmental impact report for the Wal-Mart distribution center, it's so reassuring that you report there is "no discrete source of odor in the vicinity of the project site." There are no repugnant smells in the Merced air. 86-1

Do you leave your office at all? Do you venture outdoors? As a commuter who travels from Merced to the Southside of the Bay Area, there is a noticeable smell between both regions.

I also appreciate your "1-day site visit" to the area where the distribution center will be built. Here is a suggestion. Travel up to Red Bluff or Porterville and stand outside their Wal-Mart distribution centers. Maybe take some Toxic Air Contaminant samples while you are at it. 86-2

Let us know what you find. Thank you.

Eleazar A. Flores
Signature

Eleazar A. Flores
Print Name

3496 San Bruno Ct.
Address

Merced, CA 95348

(209) 383-9052
Phone

86-1 The commenter states that there is a "noticeable smell" in the Merced air. As discussed on Page 4.2-11 of the DEIR, the ability to detect odors is quite subjective. The DEIR's assertion that there are no discrete sources of odor in the vicinity of the project site is based on a 1-day visit to the proposed project site. The commenter does not provide clarification on the source of this "noticeable smell"; therefore no further response is necessary. The comment does not raise issues with the adequacy of the DEIR. The comment is noted.

86-2 The commenter suggests that TAC samples be collected at other Wal-Mart distribution centers in the region. The commenter does not state the purpose of this exercise and how it would add to the environmental analysis of the proposed project. Air quality measurements typically need to be performed in a continuous manner. The type of "grab samples" that the commenter is suggesting would be of little or no value to the analysis in question. A large number of samples over a range of local meteorological conditions would need to be collected to get any kind of representative data. SJVAPCD recommends the preparation of an HRA, which includes dispersion modeling, for projects that are likely to emit TACs. The project has met this requirement through the preparation of an HRA as detailed on Page 4.2-4. As stated in Section 3.2.2 of the HRA, which is included in Appendix C of the DEIR, the modeling analysis for emissions of [TACs] evaluated each of five years (2000-2004) of sequential hourly meteorological data to determine the highest annual concentrations for use in the HRA.

87A

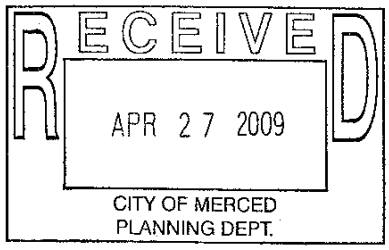
Merced City Council &

Kim Espinosa, Planning Manager

City of Merced Planning Division

678 West 18th Street

Merced, CA 95340



Re: Noise Impacts

Dear Merced City Council and Ms. Espinosa,

While the construction hours outlined in the DEIR are reasonable, they still pose a public safety issue for children in Merced.

There are many children walking and riding bicycles to school throughout the year. Obviously, this is much more frequent during the active school year, particularly during school hours. I would like the city to consider changing the hours of construction for the Wal-Mart Distribution Center to 8:30am to 3:30pm. This would significantly decrease the amount of harmful pollutants children might be exposed to on a daily basis. 87A-1

Regards,

Jason Flores

Jason Flores
5740 E. Olive Ave.
Merced, CA 95340

87B

Kim Espinoza, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, CA 95340

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CITY OF MERCED
PLANNING DEPT.

Hello

My name is Jason Flores, I am 26 years old and a lifelong resident of Merced, California. I grew up in east Merced with my parents and two siblings. Growing up in the area, and Central Valley, I have witnessed my older brother and my mother develop respiratory problems, such as slight cases of asthma. I am very concerned about the proposed Wal-Mart distribution center coming to Southeast Merced. I am concerned about the environmental hazards the distribution center poses for the surrounding community. I have nephews that are toddlers and live in the area, and I must say that I worry about the future of their health. With 3 ~~so~~ public schools within 2 miles of the proposed Wal-Mart distribution center, the Merced City Council should be taking the health of the local community seriously, without a cornucopian mentality.

87B-1

87B-2

Jason Flores

Jason Flores
5740 E. Olive Ave.
Merced, CA 95340

Letter **87A-B** Response	Jason Flores ➢ 87A–Undated ➢ 87B–Undated

87A-1 The commenter raises concern related to construction hours and presence of school children. Please refer to response to comment 83-1, which addresses this issue.

87B-1 The commenter expresses concern that the project would be located too close to housing. Please refer to Master Response 13. The comment does not raise issues with the adequacy of the DEIR. The comment is noted.

87B-2 The commenter expresses concern that the project would be located too close to schools. Please refer to the response to comment 16-8 which discusses how the schools were included in the HRA performed for the project. Please also refer to Master Response 13. The comment does not raise issues with the adequacy of the DEIR. The comment is noted.

This page intentionally blank.

88

Espinosa, Kim

From: Mike Flores [mikeflores2000@gmail.com]
Sent: Friday, April 17, 2009 2:12 PM
To: Espinosa, Kim
Cc: mikeflores2000@gmail.com
Subject: Wal-Mart distribution center report

Dear Ms. Espinosa,

Diversifying Merced's economy is long overdue. Based on the Air Quality portion of this detailed report I am confident Wal-Mart will
do an excellant job of mitigating the deleterious effects of the distribution center. Global warming is a global issue that will require a global effort to solve and reverse. No one firm can be held accountable nor can responsible industry be hampered.
I vote YES to Wal-Mart Distribution Center for Merced. 88-1

Regards,

Michael Flores
2626 Capella Dr.
Merced, CA 95341
(415) 675-1919

88-1 The comment primarily addresses the merits of the proposed project, recommends approval, and dismisses environmental concerns. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

89

Espinosa, Kim

From: ghford@att.net
Sent: Thursday, March 19, 2009 9:47 PM
To: Espinosa, Kim

I would like to say this Wal Mart Warehouse is probably the best thing to happen to merced. Our growth in industry anhd jobs has allways been held back by the city fathers for years but it seems like we may be able to move ahead now. Since Castle AFB closed (which hurt) but the University came, The new race track would have been really great, now the warehouse will be a big boost. With the economy as it is jobs are needed badly and this is great, keep going we need it. It is allway amaizing that there are allway people that just want to stop anything good from happening. (Spend more money for translations (this is America and we speak English, I have nothing against and body but they have interpreters), worring about trucks that don't hurt anyone plus they will not be going throughthe city to get to the location,I have been atrucker for 32 years and my truck never hurt anybody and i had to travel into and around all cities picking up and delivering cars and if they are worried about a little smoak, that has been almost abolished now. Why do people have to be so discrimating and not wanting progression, more money for merced and more jobs. Get a life folks and let other people enjoy life and make a decent living, it won't hurt you, but may God bless you and talk to you stright because we all have a right to persuit of happyness. Merced don't let this fail and go down the tube. Personnaly I am far more concerned about the mess that is planned for Gst which is going to be a long drawn out disaster, Also thing about our econamic times now. 89-1

Thanks for the good work

Grant & Helen Ford
3240 Franklin Rd
Merced Ca., 95348
2097696341

89-1 The comment primarily addresses the merits of the proposed project, recommends approval, and dismisses environmental concerns. The comment does not raise issues related to the adequacy of the Draft EIR. The comment is noted.

90

Espinosa, Kim

From: ghford@att.net
Sent: Tuesday, March 03, 2009 12:29 PM
To: Espinosa, Kim
Subject: wal-mart dist center

i can not relate to someone not wanting positive growth for merced there are many people who would love a job which wal mart can provide.so lets roll !! 90-1

Helen

3/3/2009

90-1 The comment addresses the merits of the proposed project. The comment does not raise environmental issues or issues related to the adequacy of the Draft EIR. The comment is noted.

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91

March 28, 2009

Ms. Kim Espinosa
City of Merced
678 West 18th Street
Merced, CA 95340

Re: Merced Wal-Mart Distribution Center Project

Ms. Espinosa:

The suggestions the Draft EIR makes, which Wal-Mart will likely take into consideration to protect against the potential problems with storm water runoff, are inadequate for our future needs. First of all, using BMP standards are on their way out and many cities are using IMP's (Integrated Management Practices). Many cities have already begun using IMP's as the standard and as such Merced should do the same.

The Draft EIR states that the usual regulatory measures will mitigate pollution from storm water impacts over time. That may happen - but this may be avoided sooner if IMPs were the standard. This begs the question of whether Merced should begin with a new standard and require Wal-Mart to switch to IMPs if their Distribution Center Project is to be approved. Without an IMP standard, storm water runoff and the associated pollution could wind up being more costly than expected. 91-1

Chris Fox
Signature

Christopher Fox
Print Name

95343 Merced, CA
Address

N. Lake Rd. UC Merced

(562) 201-9196
Phone

91-1 The commenter prefers the use Integrated Management Practices (IMPs) instead of Best Management Practices (BMPs). See response to comment 51-1 regarding IMPs.

92

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APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Jeff Freitas
Freitas.jeff.s@gmail.com
459 W. 25th St.
Merced, Ca 95340

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340
Fax: (209) 725-8775
Email: espinosak@cityofmerced.org

RE: Public Comments for Wal-Mart Distribution Center DEIR

Air Quality Comments

1) **(2-13, from Table 2-1)** The last paragraph of 4.2-2a states: "*The (mitigation) requirements listed above can be met through any combination of on-site emission reduction measures* ***or offset fees****, including those required and additional measures listed in Mitigation Measures 4.2-2b, 4.2-2c, 4.2-2d, and 4.2-2e for emissions of CAPs; and Mitigation Meaures 4.2-6b and 4.2-6d for emissions of GHGs below; however, any on-site reductions of CAP emissions must be both quantifiable and verifiable to be credited towards the requirements of the ISR Rule.*"

   The inclusion of an "offset fee" alternative implies that Wal-Mart can bypass SJVAPCD's ISR Rule by simply writing a check to SJVAPCD in the form of "mitigation offset fees". Wal-Mart could then disregard any and all mitigation options such as constructing solar panels, participating in an employee trip reduction program or an urban forest program, etc. Paying "mitigation offset fees" will not prevent pollution from being dumped on Merced residents and will lead to increased exposure to toxic emissions. Increased exposure to diesel PM and other TACs also increases indirect health costs for the taxpaying public, as shown in a report titled "The Benefits of Meeting Federal Clean Air Standards in South Coast and San Joaquin Valley Air Basins" by Jane Hall and Victor Brajer. 92-1

2) **(4.2-46, from Table 4.2-9)** Outbound truck trip distances (and therefore emissions) are based on the assumption that trucks would only travel to the 49 existing Wal- 92-2

Mart stores, yet Wal-Mart distribution centers *typically service between 75-100 stores.* Wal-Mart has shown a clear history of growth and has already demonstrated interest in expanding current stores and building new ones, such as the case in Livingston. **The truck trip assumption should also present estimates that account for probable future regional growth and assume the Distribution Center running at full capacity, not only the minimum baseline of 49 existing stores.** (this is an environmental issue, apart from the regional Urban Decay issue which is dismissed by both the City of Merced and Wal-Mart on Page 1-3)

92-2 Cont'd

3) **(Appendix A – Air Quality Data, Health Risk Assessment Appendix A – Detailed Emission Calculations)** The particulate emissions from Diesel-Fueled Engines appear to only consider truck activity taking place directly on-site (the assumptions include only the total distances traveled by all trucks within the site boundaries). **Health risk assessment calculations should include *all* particulate emissions, <u>including those released in surrounding neighborhoods</u>.** Also, please provide a deeper explanation of the calculations, including assumptions for ingress/egress travel, the decrease of daily truck trips from 900 to 644, and the line-source statement: *"Travel distance determined by multiplying the number of ingress/egress volumes in the line source (102) by the per volume side length of 12 feet."*

92-3

4) **(4.9-9)** *"... the County currently experiences a 10.9% unemployment rate" & "... it is anticipated that the proposed project would likely draw largely from the local employment pool, including the unemployed."*

Again, this is non-binding. There are no real assurances that employees will come from the Southeast Merced unemployment pool. **With Central Valley unemployment reaching approximately 20%, many higher-qualified individuals could be willing to commute from Turlock, Modesto, or even Fresno for these jobs. To mitigate this situation, Wal-Mart should sign a local hiring contract to verify they will hire only from Merced or Southeast Merced.**

92-4

<u>Traffic Comments</u>

1) **(2-16, from Table 2-1)** *"The Applicant shall fully fund* ***or contribute its fair share of funding*** *for the development of a Class II Bike Lanes along Childs Avenue and Gerard Avenue from Parsons Avenue to the project's eastern boundary line..."*

(4.11-32) *"The project would be required to improve,* ***or contribute*** *to street improvements in accord with the mitigation measures identified in this EIR for cumulative impacts."*

92-5

These are not strong mitigation statements – they are non-binding promises Wal-Mart employs in the EIR in order to reduce impacts to *"less-than-significant"*. In the past, both the City and County of Merced have been given the short end of the stick by big developers who make promises they don't keep. These statements provide no assurance or method of deliberation for ensuring that Wal-Mart "pays its fair share" of the transportation infrastructure costs.

2) **(4.1-22)** The traffic scenario entitled, *"2010 Background Condition without project"*, appears to be inflating the trip counts using speculative data that incorporates future housing projects that may never come to pass. It seems possible that the speculative residential trip counts are surpassing the allowable LOS threshold and masking Wal-Mart impacts, whose trip count contribution becomes less-than-significant because they become 5% of the overall increased projected trip volume and are no longer the initial trigger of an intersection's LOS failure.

92-6

3) **(4.1-29)** **"***The project design shall incorporate a designated on-site waiting area within the site between Gerard Road and the truck gate that is located further within the site."*

92-7

The site plan does not appear to provide for additional parking for waiting trucks, as given in the above statement.

4) **(4.1-66)** **"***The widening of the roadway, however, may require right of way acquisition, the need for utility relocation and, approval by Caltrans. With implementation of this mitigation measure, the cumulative impact would be reduced to a less-than-significant level. "*

92-8

Impacts should still be considered ***Significant***, because the mitigation is purely speculative, and the Final EIR cannot provide any legal assurance that this mitigation can/will actually occur.

92-8
Cont'd



92-1 The commenter is concerned about the ability of the applicant to implement off-site air quality mitigation in the form of offset fees paid to SJVAPCD rather than choosing to do on-site mitigation. Please see pages 4.2-32 through 4.2-35 and pages 4.2-38 through 4.2-40 of the DEIR, which describes required mitigation measures that shall be implemented on-site. Thus, the applicant cannot circumvent doing some minimum amount of on-site mitigation as required in mitigation measures 4.2-1b-e and 4.2-2b-c. In addition, please see response to comment 118-5 regarding the ability of the ISR program to result in air quality mitigation inside the SJVAB, and thus, the residents of the City of Merced would experience a direct benefit of air quality mitigation.

It should also be noted that the pollutants and precursors addressed by the ISR program—NO_X and PM_{10}— are pollutants of regional concern. Therefore, effective mitigation can reduce these pollutants anywhere in the SVAB. For instance, NO_X is a precursor to ozone and, as explained on page 4.2-3 of the DEIR, ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of ROG and NO_X in the presence of sunlight. Therefore, in order to reduce ozone levels in the SJVAB, NO_X can be reduced anywhere in the SJVAB. PM10 is also a pollutant of regional concern, except when it is emitted in large quantities from a single point or stationary source. In the case of the proposed project, most emissions of NO_X and PM_{10} would be generated by mobile sources operating throughout the region, including employee commute trips, outbound delivery truck trips, and inbound delivery truck trips. Even the smaller quantities of NO_X and PM_{10} that would be generated on-site would be from truck activity occurring throughout the project site rather than at one centralized location.

In addition, the commenter is concerned about increases in diesel PM, which is considered a TAC. Please see impact 4.2-4 of the DEIR which evaluates exposure of residents to increases in diesel PM. This impact was found to be less than significant.

92-2 The commenter suggests that the air quality analysis performed in the DEIR did not analyze the maximum potential for emissions associated with the proposed project. The air quality analysis was performed using the assumptions obtained from the traffic study prepared for the project (DKS 2008) and information provided by Wal-Mart about the number of existing stores that would be served by the proposed distribution center. In addition, if other retail stores would be developed in the future, the analysis of mobile-source and other sources of emissions associated with those future projects would be required in the environmental documents used to approve them, and mitigation would be required for significant levels of emissions. Please also refer to response to comments 17-8 and Master Response 1: Growth Inducement and Expansion, which addresses the potential for the proposed distribution center to spawn new retail stores.

92-3 The commenter states that the HRA should examine the diesel PM emissions generated by off-site truck activity in addition to on-site truck activity. The diesel PM emission generated by off-site truck travel was not addressed by the HRA for multiple reasons. High volumes of trucks would not pass in close proximity to any schools, worker sites, or residential dwellings. As stated on page 4.11-21 of the DEIR, 90% of the truck trips to and from SR 99 would be assumed to use the Mission Avenue Interchange and Campus Parkway and the other 10% of truck trips from and to SR 140 West would be assumed to continue on SR 140 and use Tower Road. As stated in Tables 4.2-7, 4.2-10, and 4.11-12 of the DEIR, the project would generate approximately 643 (one-way) truck trips per day. As stated on page 4.11-21 of the DEIR, 90% of the truck trips to

and from SR 99 would be assumed to use the Mission Avenue Interchange and Campus Parkway. This route would not pass by any local schools. The closest receptor to this route would be the farm house located on the south side of Gerard Avenue (east of Campus Parkway). Generally, the emission rates of trucks traveling at higher speeds along this segment of Gerard Avenue (and other local roads) would be substantially lower than the emission rates of slow-speed truck travel (i.e., less than 15 mph) and idling that would occur on the project site. Also, it is not anticipated that long queues of trucks would idle at the intersection of Gerard Avenue and Campus Parkway because, as stated Table 4.11-14 of the DEIR, the peak hour LOS of this intersection during both the morning and afternoon peak hours would be C with an average delay of approximately 30-35 seconds. Moreover, the roadway-segment LOS along Gerard Avenue and Campus Parkway are expected to be LOS A, as shown in Table 4.11-15.

In addition, the combined traffic volumes on these local routes, including all vehicle types, are not expected to be high enough to necessitate an analysis of TAC emissions from the vehicle traffic. The highest traffic volumes are expected to be on Campus Parkway and SR 140 but they would not exceed 20,000 ADT, even under future conditions (2030 plus project). These traffic volumes are not considered substantial with respect to the guidance in ARB's Air Quality and Land Use Handbook: A Community Health Perspective (ARB's Handbook), which is discussed on page 4.2-25 of the DEIR. ARB's Handbook provides guidance concerning land use compatibility with TAC sources and offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs including freeways and high-traffic roads. ARB's Handbook recommends that planners avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. Due to their low traffic volumes this recommendation would not apply to any of the local roads in the project area. This is why the diesel PM emissions generated by off-site truck activity were not addressed in the HRA. This analysis and source types included is consistent with common practice and recommendations from SJVAPCD for such project types where the analysis shall focus on on-site sources.

The commenter also requests an explanation of the calculations used in the HRA, including the assumptions for ingress/egress travel, the number of daily truck trips. The assumptions in the HRA are consistent with the information included in Section 4.11 of the DEIR, "Traffic and Transportation" and also in the Traffic Impact Analysis included as Appendix E of the DEIR. Please also refer to Master Response 6: Trucks and the Transportation analysis for more information related to truck traffic.

The commenter also requests clarification regarding the following statement about line-sources: "Travel distance determined by multiplying the number of ingress/egress volumes in the line source (102) by the per volume side length of 12 feet."A line source was used to characterize truck travel, as recommended in SJVAPCD's Guidance for Air Dispersion Modeling (August 2006), Appendix A (Appendix A), Section 2.0 CEQA Health Risk Assessments (available at <http://www.valleyair.org/busind/pto/tox_resources/modeling%20guidance%20w_o%20pic.pdf>). A line source consists of a row of evenly-spaced volume sources. The width, which equal to a volume source's length, of 12 feet was used for each volume source in the line source because that is the typical length of a travel lane. Thus, there is a mathematical relationship between the width of the volume sources used to make up a line source and the length of the travel route represented by the line source. In this case, the egress travel route is 36 feet longer than the ingress travel route and consists of 5 more volume sources (105 vs. 102).

92-4 The comment indicates that there is no guarantee that the "project would likely draw largely from the local employment pool, including the unemployed," as assumed in the DEIR, and the comment expresses concern that the project may draw employees willing to commute from

outlying communities, especially given the high unemployment levels in the region. The comment is based on a quotation from the Draft EIR's discussion of population and housing (Section 4.9). However, the Draft EIR does not indicate that the "local employment pool" is restricted to the city of Merced. Furthermore, the analysis of impacts related to population and housing is not concerned with commuters from outlying communities, but rather from employees relocating from areas outside the region, which would increase the population of the local communities and could subsequently result in impacts to the environment. The comment is correct in the assertion that there are no assurances that employees will come from the Southeast Merced unemployment pool; CEQA does not require that an EIR analyze indirect physical impacts (such as those resulting from population growth) based on assurances, but on events and occurrences that are "reasonably foreseeable." (*State CEQA Guidelines* Section 15064[d]) As described in the Draft EIR (p. 4.9-9), based on Merced's high unemployment rate combined with the relatively low level of education and advanced training required for most of the jobs generated by the proposed project, it is reasonably foreseeable that the project would draw largely from the local unemployment pool. However, the commenter's concern that employment will not be restricted only to Southeast Merced is not an environmental issue, and is consequently not required to be analyzed under CEQA. Please also see Response to Comment 29-19, which includes additional information related to this issue. The comment is noted.

92-5 The commenter references statements in the DEIR and suggests that the mitigation text, specifically for traffic impacts, is "non-binding." However, the mitigation measure identified by the commenter clearly indicates that Wal-Mart "shall" completely or partially fund the improvement. Please see Response to Comment 105-1, which explains the City's process for mitigation enforcement. Please also see Response to Comment 96B-5, which explains the City's process for calculating "fair share" contributions.

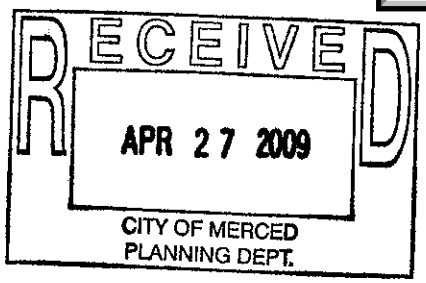
92-6 The comment suggests that the DEIR's traffic section inflates the baseline, which the commenter suggests reduces the project's contribution to traffic impacts. The proposed project's relative contribution to traffic and assessment of impacts was based on the City's traffic impact criteria and guidelines. Please also see Response to Comment 5-3, which addresses this issue.

92-7 The commenter indicates that the site plan does not include the waiting area required in the stated mitigation measure. The mitigation measure in question, Mitigation Measure 4.11-2a, requires a change to the project site plan and provides a clear description in the mitigation measure text of the precise location for the waiting area. If the site plan had indicated a waiting area the mitigation measure would not be necessary, since the waiting area would have already been part of the proposed project. No changes to the DEIR are necessary.

92-8 The commenter questions the "less-than-significant" conclusion for the cumulative traffic impact at SR 140 between Santa Fe Avenue and Kibby Road Roadway Segment, suggesting that the success of this implementation measure is speculative. Note that the page number provided by the commenter (4.1-66) is not correct. This impact can be seen in the DEIR on page 6-30. While this mitigation measure does require actions by the City that may be time-consuming and difficult to achieve, the City is dedicated to this improvement and will work with Caltrans and property owners to ensure that the mitigation measure is implemented.

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93



April 2, 2009

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340

Dear Ms. Espinosa,

It's unfortunate that the DEIR says Wal-Mart will only comply with 'recommended control measures' regarding exposure to contaminants through airborne emissions. This is particularly alarming given the size and scope of this development, both during construction and once it's built.

As the Planning Manager, it is your duty to make recommendations to the city council regarding the city's position on the DEIR. I implore you to recommend that Wal-Mart do more than just the recommended control measures to control exposure of airborne pollutants. There is nothing that Wal-Mart can do curb a significant increase in particulate matter generated by diesel truck traffic. A more detailed mitigation plan should be included in the DEIR. Thank you.

93-1

Sincerely,

Chris Ballew MD

3554 Beals Ave
Merced, CA 95348
209-723-2342

93-1 The commenter suggests that the applicant will only comply with the SJVAPCD's "recommended control measures" to reduce air quality impacts during construction and operation and expresses concern about truck-generated emissions of diesel PM.

The DEIR does, in fact, go above and beyond SJVAPCD's recommended control measures for construction emissions. The project shall comply with SJVAPCD Regulation VIII. The purpose of Regulation VIII is to reduce the amount of PM10 entrained into the atmosphere as a result of emissions generated from anthropogenic (man-made) fugitive dust sources. The DEIR includes enhanced and additional fugitive dust control measures that go beyond compliance with Regulation VIII. The SJVAPCD's recommended approach to mitigating construction emissions focuses on a consideration of whether all feasible control measures are being implemented, which the project is complying with. The commenter does not clarify on why compliance with these recommended measures is not adequate and does not offer any additional mitigation measures.

SJVAPCD's GAMAQI includes a short list of recommended construction equipment mitigation measures. Mitigation measures 4.2-1a, 4.2-1b, and 4.2-1c all apply to construction equipment exhaust and are more specific and detailed than SJVAPCD's recommended list of measures. Thus, the DEIR includes all feasible mitigation measures to reduce construction emissions and is not restricted to SJVAPCD "recommended mitigation measures." In addition, implementation of these measures would reduce construction-related emissions to a less-than-significant level.

Similarly, SJVAPCD's GAMAQI recommends mitigation measures for different categories of operational emissions. In addition to compliance with SJVAPCD Rule 9510: Indirect Source Review, the DEIR includes Mitigation Measure 4.2-2e whereby the applicant will enter into an emissions reduction agreement with SJVAPCD. This measure is not "recommended" by the DEIR or required by SJVAPCD; it is required by the DEIR. Under this measure, the applicant shall fund projects in the SJVAB, such as replacement and destruction of old engines with new more efficient engines. The agreement requires the applicant to identify and propose opportunities for the reduction of emissions to fully mitigate the project's operational emissions of ROG and NOx to less than 10 TPY, and includes opportunities for removal or retrofit of stationary, transportation, indirect, and/or mobile-source equipment. Thus, the project is doing its fair share to reduce or offset its emissions beyond compliance with SJVAPCD Rules and recommended mitigation measures. Implementation of these measures would reduce construction-related emissions to a less-than-significant level.

The commenter further argues that a more detailed mitigation plan be included in the DEIR. The DEIR lists required mitigation measures that will be incorporated into the project. In addition, construction and operation of the proposed project shall comply with SJVAPCD's ISR rule (Rule 9510), as required by law. The applicant shall have an AIA application approved by SJVAPCD before issuance of a building permit from the City of Merced. The AIA shall quantify operational NO_X and PM_{10} emissions associated with the project. This shall include the estimated operational baseline emissions (i.e., before mitigation), and the mitigated emissions for each applicable pollutant for the project, or each phase thereof, and shall quantify the offsite fee, if applicable. The ISR rule states that the applicant shall include in the AIA application a completed proposed MRS for on-site emission reduction measures selected that are not subject to other public agency enforcement. The MRS is a form listing on-site emission reduction measures committed to by the applicant that are not enforced by another public agency along with the implementation schedule

and enforcement mechanism for each measure. A proposed MRS shall outline how the measures will be implemented and enforced, and will include, at minimum, a list of on-site emission reduction measures included; standards for determining compliance, such as funding, record keeping, reporting, installation, and/or contracting; a reporting schedule; a monitoring schedule; and identification of the responsible entity for implementation. The AIA and MRS prepared for the project, and the emissions reduction agreement entered into with SJVAPCD, will be established and enforced and will ensure that the required emissions reductions are realized.

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94

Chris Gallery MD
Lucy Snyder RN
3554 Beals Ave.
Merced, CA 95348
209-723-2342

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

April 25, 2009

Kim Espinosa
City of Merced - Planning Department
678 W. 18th
Merced, CA 95340

Re: Opposition to the Proposed Wal-Mart Distribution Center

Dear Ms. Espinosa,

We are opposed to the Wal-Mart development. Wal-Mart is proposing to build it's Merced distribution center in the middle of a residential neighborhood, less than two miles away from four public schools. The central valley is already one of the most polluted air basins in the country. The truck exhaust will worsen this problem severely.

In the table 4.2 - 10 of the DEIR, the project is estimated to produce 12,708 tons of unmitigated carbon dioxide per year. The San Joaquin Valley cannot afford any increase of unmitigated pollutants to it's air. We are already experiencing crisis level asthma and respiratory illnesses in Merced County. The Air Impact Assessment process as described in the DEIR does not adequately address mitigation measures. How specifically will Wal-Mart mitigate on-site actual emissions from vehicles entering and exiting the center? Off-setting mitigation measures in another area in the future does not help the residents that live in Merced. We need immediate mitigation measures both regionally and locally. 94-1

Wal-Mart is not stating that all trucks coming into the center will be hybrid diesel engines. Even if Wal-Marts fleet of trucks were hybrids, how will Wal-Mart regulate subcontracted trucks coming into the facility? 94-2

The only valid argument for the center is job creation. If this center were located in a more remote region of the county, the jobs would still be created, but the neighborhood impact would be lessened. Has Wal-Mart guaranteed that all job positions would be filled by local employees? This project if approved will lessen the quality of life in our city. Yes, Merced county needs jobs, but not at any cost. 94-3

Sincerely,
C Gallery & Lucy Snyder
Chris Gallery MD & Lucy Snyder RN

94-1 The commenter expresses concern about the air quality in Merced County and the high rates of asthma and other respiratory illnesses among the population. Please refer to Master Response 13.

The commenter also states that the AIA process as described in the DEIR does not adequately address mitigation measures. Please refer to responses to comments 17-14, 22-1, and the fifth paragraph of response to comment 93-1.

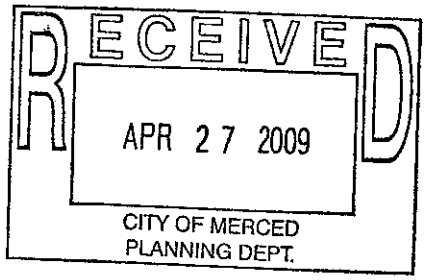
The commenter also states that "off-site mitigation measures in another area in the future does not help the residents that live in Merced." On-site emissions of CAPs would be reduced by Mitigation Measures 4.2-1b, 4.2-1d, 4.2-1e, and 4.2-2d. These measures, along with Mitigation Measures 4.2-1a, 4.2-1c, 4.2-2a, 4.2-2b, 4.2-2c, and 4.2-2e would reduce construction- and operational emissions of CAPs (regionally and locally) to a less than significant level, as discussed under Impacts 4.2-1 and 4.2-2.

With regard to the commenter's concern about the localized effect of project-generated emissions, on-site emissions of TACs are analyzed under Impact 4.2-4 and determined to be less than significant.

94-2 The commenter indicates that the applicant does not identify the percentage of "hybrid" trucks and questions how non-Wal-Mart trucks would be regulated. Wal-Mart is not proposing to use a hybrid fleet for its tractor trailers. Please see Response to Comment 96B-9 for more information on regulating non-Wal-Mart trucks. The comment does not raise issues related to the adequacy of the DEIR's analysis.

94-3 The comment suggests that placement of the proposed project in a more remote location would reduce impacts to the neighborhood (the commenter does not identify specific impacts). Three off-site alternatives were evaluated in the Draft EIR (See DEIR Section 5 "Alternatives to the Proposed Project." Alternative Site #3 is located in southwest Merced near the Merced Municipal Airport, which is a relatively "remote" location. Section 5 of the Draft EIR compares the impacts of this Alternative to the impacts of the proposed project. As indicated in Table 5-8, the impacts associated with Alternative Site #3 are generally greater than those resulting from the proposed project. Therefore, the Draft EIR appropriately analyzes an alternative site that is more remote than the project site. The commenter also raises issues related to filling of positions by local employees, which is not an environmental issue. For more discussion on the topic of local employment, see Response to Comment 92-4. For more discussion related to project alternatives, see Master Response 12: Alternatives. The commenter does not raise issues regarding the adequacy of the Draft EIR's analysis.

95



Kim Espinosa, Directora de Planificación
Ciudad de Merced Departamento de Planificación
678 West 18th Street
Merced, CA 95340

Re: El Reporte del Impacto Ambiental de Wal-Mart

Kim Espinosa,

¿Por qué será que guías de votante, formas de DMV, formas médicos y formas de IRS son escritos en muchos idiomas differentes estos dias, pero el reporte del impacto ambiental de Wal-Mart no es? ¿Cómo puede la cuidad privar el derecho de la gente que no habla Inglés por no traducir ninguna parte de esto en Español?

Nadie gustaría vivir al lado de un grande edificio feo industrial como esto, pero es muy conveniente para descargar esta cosa donde minorías viven para que sea aprobado antes que nuestra comunidad comprenda realmente lo que la ciudad y Wal-Mart tienen planeado.

Haga lo que es el razón y permite que las minorías estén aparte de un proceso VERDADERO.

Fernando Garcia
3042 Bellevuard
Atwater Ca 95301
Fernando García

The attached comment letter regarding the Wal-Mart Distribution Center Draft Environmental Impact Report has been translated by:

Juan F. Olmos
Juan Olmos

Maintenance Worker III
Title

5-5-09
Date

English Transcription:

LETTER 3 *(Corresponds with LETTER #95)*

Kim Espinosa, Planning Director
City of Merced Planning Department
678 West 18th Street
Merced, Ca 95340

RE: Wal-Mart Environmental Impact Report

Kim Espinosa,

Why would it be that voting guides, DMV forms, medical forms and IRS forms are written in many different languages these days, but the Wal-Mart's environmental impact report it is not? How could the city deprive the right of the people who do not speak English by not translating any of it in Spanish?

Nobody would like to live next to a big ugly industrial building like this, but it is very convenient to discharge this thing where minorities live to be approved before our community really understands what the City and Wal-Mart had planned. 95-1

Do what is right and permit the minorities to be part of a TRUE process.

Fernando Garcia
3042 Bellevue Rd.
Atwater CA 95301

95-1 This comment addresses issues related to language barrier and translation of CEQA documents. Please refer to Master Response 2: Language Barrier and Public Review Period, which addresses these issues. The comment also raises issues related to the aesthetics of an industrial building. Regarding the aesthetics of an industrial building, it should be noted that the project site is currently designed and zoned for industrial use by the City's General Plan and Zoning Ordinance, respectively. Therefore, the development of this site with these uses has been previously evaluated in the EIR prepared for the City's General Plan Update. Also, even if the project is denied, the site would almost certainly be developed with a similar industrial use. However, the Draft EIR for the proposed project analyzed the aesthetic impacts associated with development of the proposed project. The Draft EIR concludes that, with implementation of mitigation measures (submittal of a landscape plan and lighting plan), the impacts to visual resources would be reduced to a less-than-significant level. The comment does not raise issues with the adequacy of the Draft EIR's analysis.

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96A

Espinosa, Kim

From: Tom Grave [tgrave@sbcglobal.net]
Sent: Wednesday, March 04, 2009 3:42 PM
To: city, council; Espinosa, Kim
Subject: Public Review Period for Wal-Mart Draft EIR

Good Afternoon-

I would like to respectfully request that the review period for the Wal-Mart Distribution Center Draft EIR be extended from the announced 60 days to at least 90 days. According to the California Environmental Quality Act (CEQA), a review period of more than 60 days would be warranted in the case of "unusual circumstances" (15105). I would submit that the following factors would support a claim of unusual circumstances: (1) the sheer volume of the EIR; (2) the highly technical nature of the document; (3) the magnitude and importance of this project; and (4) the language groups (primarily Spanish and Hmong) who lack ready access to the contents of the EIR; time will be required to provide outreach to these groups. 96A-1

CEQA (15140) says "EIRs shall be written in plain language..."
CEQA (15141) says "The text of draft EIRs should normally be less than 150 pages and for proposals of unusual scope or complexity should normally be less than 300 pages."

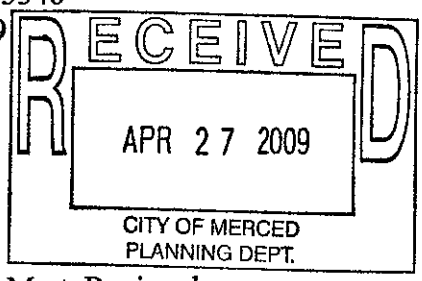
I would like to further request than consideration be given to placing this matter as an action item on the agenda of the next City Council meeting, March 16.

Thank you.

Tom Grave
3425 Sueno Ct.
Merced, CA 95348
385-3503

96B

3425 Sueno Ct.
Merced, CA 95348
April 27, 2009



Kim Espinosa, Planning Manager
City of Merced
678 West 18th Street
Merced, CA 95340

RE: Draft Environmental Impact Report: Proposed Wal-Mart Regional Distribution Center

Dear Ms. Espinosa,

I offer the following comments regarding the Draft Environmental Impact Report for the proposed Wal-Mart Regional Distribution Center. Please give them consideration and response pursuant to the California Environmental Quality Act (CEQA).

Executive Summary, page 2-69
The following statement is made at the top of the page above Table 2-2: "Note that the City may wish to calculate and require the project to contribute on a pro-rata basis to the improvements (Improvement Measures) described below and based on the information in Table 2-2 below, or identified in Table 6-7 on page 6-29."

First, the use of "may" conveys uncertainty and perhaps it indicates that a decision will be deferred to some time in the future. How and when will the determination be made to require or not a pro-rata contribution? What facts will be brought to bear in order to make this decision? The lack of clarity about these points is not acceptable. Second, it is not clear at Table 2-2 or at Table 6-7 what the "Improvement Measures" are. These need to be identified in a less confusing manner. 96B-1

Project Location and Site Development, page 3-1
It is stated that City of Merced Water Well 10-R2 is located on the project site. What is the future of this well if the project is built? Will the well continue to be in operation to support the City's water supply and conveyance system? Will an easement be dedicated to permit continued City maintenance of the well? Will fees be involved? How will these be determined? How will the well be expected to affect the water supplied to the project? What measures will be instituted to safeguard the well from contamination from hazardous materials handled at the site? How will the well be protected from contaminants occurring in storm water run-off from the site? 96B-2

Necessary Entitlements, page 3-4
One of the entitlements required for the proposed project would be the abandonment of the Kibby Road right-of-way. This action would involve a General Plan amendment. How will the Kibby Road closure affect traffic patterns in southeast Merced? Has this 96B-3

been studied? Where are the analyses and data? Should Wal-Mart be assessed a fee for the right-of-way abandonment? 96B-3 Cont'd

Project Background, page 3-11
One of the reasons given by Wal-Mart for selection of this site is "the location's proximity to the labor pool of Merced." What are the characteristics of this labor pool? Do they match the requirements of the Wal-Mart jobs? What type of training will there be for prospective employees? What are the assurances that jobs will be given to Merced residents? 96B-4

The possible location of the Wal-Mart distribution center in the City of Merced represents a business relationship between the two entities. Accordingly, a contract should be drawn up, stipulating the number of jobs to be allocated to Merced residents, the hourly wages to be paid, the health and other benefits, including deductibles and co-payments, and so forth. There should also be specified the penalties that would be incurred by Wal-Mart in the event any terms of the contract are violated.

City Objectives, page 3-11
One of the objectives listed: "To encourage development of projects that will contribute toward improving roadways adjacent to the proposed development site."

Where are the agreements that set forth just how Wal-Mart will contribute toward improving roadways adjacent to the site? How will fees be determined? How would a "fair share" be identified? How will Wal-Mart be expected to defray costs associated with on-going wear and tear to surrounding roadways? How will nearby county-maintained roads be affected? Has the County of Merced been contacted regarding these issues? 96B-5

Right now, the Campus Parkway is being constructed. It will directly serve the needs of the Wal-Mart distribution center, yet this roadway has not been funded in any great measure, if at all, by Wal-Mart. Taxpayers have also funded the Mission Interchange at state highway 99, which will directly serve both Wal-Mart and the University of California at Merced. How will the needs of UC Merced at full build-out be served when the Mission Interchange and the Campus Parkway are glutted by 900 diesel trucks per day?

Buildings and Operations, page 3-12
The main building for the Wal-Mart distribution center is identified as a 1.1 million-square-foot warehouse. Where will the aggregate material come from to pour this huge concrete slab? What will be the impact on current aggregate mining operations in eastern Merced County? Will there be an expansion of these mines? Has this issue been analyzed? When and where? 96B-6

A large number of trucks will be hauling aggregate and/or mixed concrete to the site. How many truck trips are estimated? What will be the impact on County roadways? Are there agreements between Wal-Mart and the County concerning road degradation and necessary maintenance and repairs? How much dust will likely be generated by the truck

trips? Will there be other air contaminants? How will these be studied? How will they be mitigated? 96B-6 Cont'd

Proposed Sustainability and Energy Conservation Measures, pages 3-14, 15
"According to Wal-Mart representatives" is not an adequate basis for establishing assurance that the measures will actually be implemented. What are the guarantees that steps will be taken toward the sustainability goals as set forth? To what degree do these goals need to be reached? What are the consequences if there is not a high level of effort toward reaching these goals? 96B-7

Construction and Operation, page 3-15
"According to Wal-Mart representatives" again is not acceptable. Where are the assurances?

"Wal-Mart has indicated its intention to continue to monitor these technologies and incorporate those that are effective, reliable and make business sense." What is the standard? There needs to be a stronger commitment, and Wal-Mart needs to be held accountable. The welfare of the overall community needs to take precedence over issues related to "business sense." 96B-8

Transportation, pages 3-15, 16
"According to Wal-Mart representatives..." does not offer an adequate level of assurance that the stated actions will occur.

Throughout the discussions of the Wal-Mart truck fleet, there is no mention whatsoever of the many trucks serving the distribution center that are independently owned and operated. The other Wal-Mart distribution centers in California are served by a significant percentage of non-Wal-Mart trucks. To what standard of "superior" environmental performance will these independent trucks be held? What are the assurances? How is Wal-Mart to be held accountable? Why was no mention made in the EIR of independent trucks and truck operators? 96B-9

Agricultural Resources, pages 4.1-1 to 4.1-13
The Environmental Impact Report (EIR) for the Merced Vision 2015 General Plan states that the General Plan designates urban growth areas that contain less productive agricultural lands. But in the case of the proposed Wal-Mart project, 70% of the 230 acres to be developed are considered "prime farmland". This means it is the best land for the long-term production of agricultural crops. Indeed, application of the California Land Evaluation and Site Assessment (LESA) model to the proposed Wal-Mart parcel yields a significance score of 88.4 out of 100 possible points. Why would the City of Merced wish to contribute to the alarming pace of conversion of prime soils to non-agricultural uses? Surely a site could be found for the Wal-Mart distribution center that would not involve such loss of productive land. Not only is the 230-acre parcel of concern, but as the current EIR sets forth, "...industrial uses adjacent to agricultural land can result in land use conflicts and create incentives for agricultural producers to discontinue agricultural operations and sell their land for development." (p. 4.1-11) 96B-10

The Wal-Mart EIR is unequivocal in its assertion that the conversion of farmland involved in the proposed project is a significant impact. There is the further statement that no mitigation is available. This is not accurate. Rather, it is commonly the case that counties and municipalities in California mitigate for the loss of productive agricultural land by setting aside through permanent easements similar parcels of land. In the present instance, we would recommend a 4:1 mitigation, whereby Wal-Mart would be required to offset their use of 230 acres of farmland by purchasing and placing in easements a total of 920 acres of agricultural land in the vicinity of Merced. 96B-10 Cont'd

Air Quality: Environmental Impacts
During discussion of vehicle trips and associated emissions, the following was stated:

> No adjustments were made to account for increased fuel efficiency of Wal-Mart's truck fleet due to its participation in the U.S. EPA's SmartWay Transport Partnership. The Partnership is a voluntary program; therefore, although the current Wal-Mart fleet would have better than average fuel efficiency, nothing mandates them to continue to stay in the program. (p. 4.2-26) 96B-11

Would there be any reason not to require, through the City's contract with Wal-Mart, that Wal-Mart continue its participation in this program? Such a requirement should be made, along with specified penalties in the event participation is discontinued.

On page 4.2-27, the following sentence appears: "Modeling was based on project-specific data (e.g., size and type of proposed use and vehicle trip information from the traffic analysis prepared for this project (DKS Associates 2008) and truck trip information from an existing Wal-Mart distribution centers in California (McAlexander, pers. comm., 2007)". (emphasis added) It is unclear whether the truck trip information was obtained from one or more than one distribution center. This needs to be clarified. Which distribution center or centers? How was it determined that the data obtained would be relevant to the proposed project? 96B-12

Air Quality: Mitigation Measure 4.2-1d
How are opacity and porosity measured? What type of equipment is required? How will this process be monitored?

On page 4.2-33 there is mention of carryout and trackout "within rural areas, construction projects 10 acres or more in size..." Why is this reference even included? After all, the site is urban and 230 acres in size. Is this simply a "boilerplate" specification that EDAW routinely pumps out? 96B-13

Air Quality: Mitigation Measure 4.2-2b
"Elements of the employee trip reduction program may include..." (emphasis added) The requirement is too vague. What will Wal-Mart be held to? How will the standard be enforced? Why would a 25% reduction in single occupancy vehicle trips by employees 96B-14

take 3 years to accomplish? Is this just an arbitrary figure? How will the baseline be established, given that the number of employees will increase over time? 96B-14 Cont'd

Air Quality: Mitigation Measure 4.2-2c
How will the City determine the applicant's fair share monetary contribution toward the costs of bicycle lanes? What factors will be considered? 96B-15

Geology, Minerals, etc.: Mitigation Measure 4.5-5
"On-site monitoring by a geotechnical engineer..." Would monitoring occur daily, on a periodic basis, or what other frequency? This needs to be specified. 96B-16

Hydrology: Mitigation Measure 4.6-2
How would the proposed stormwater detention ponds prevent contaminants from invading the groundwater? The basins are described as having a maximum depth of 5 feet below ground surface (page 4.6-10) , yet on page 4.6-22 "stormwater treatment system detention basins" are said to be 10 feet deep. Which is the correct figure? What assurances are there that during periods of heavy runoff the finer particles of contaminants will be able to fall out of suspension and remain in the detention basin, rather than moving on to infect groundwater or surface sources of water? Detention basins are said to be "conceptually designed". This suggests that an actual system similar to that proposed has not been identified, observed, and studied to assess its effectiveness. Is that the case? 96B-17

Noise: Mitigation Measure 4.8-3
"The applicant shall maintain its truck fleet in proper working condition, including truck mufflers and exhaust systems, according to manufacturers' specifications."
Here, as elsewhere in the EIR document, there is no mention of standards or requirements that would apply to independent (non Wal-Mart) trucks. Failure to address standards, monitoring and enforcement for independent trucks is unacceptable. What is the percentage of independent trucks at the existing Wal-Mart distribution centers? How will this figure change if the proposed distribution center becomes operational? How will the percentage of independent trucks change as additional Wal-Mart stores and Super Centers are built throughout the region? 96B-18

Public Health and Hazards
Page 4.10-10: "The project site is located over 4 miles west of the Merced Municipal Airport and approximately 10 miles northwest of the Castle Airport." (emphasis added) A quick check of the map reveals that the project site is actually east of Merced Airport and southeast of Castle. It is puzzling that such an error could have escaped the attention of the many reviewers of the EIR document. What other inaccuracies and errors might there be in the EIR? Wasn't there a standard or a process in place to prevent this type of mistake? 96B-19

Traffic and Transportation
Page 4.11-3: "Parsons Avenue is a two-land urban street serving as a minor arterial road from Childs Avenue north to Old Lake Road." This is a very misleading statement. At 96B-20

some future time, say 10 years from now, the various segments of Parsons Avenue might be joined to form an arterial road as described. But many obstacles exist, not the least of which is the lack of a bridge across Bear Creek! Again, how was this error missed by the many individuals who reviewed the document? How many other misstatements and factual errors might there be? 96B-20 Cont'd

Traffic and Transportation: Mitigation Measure 4.11

Without any details set forth in the EIR, how can the conclusion be drawn that an update of the Safe Routes to School Plan will reduce potential conflicts between school and Wal-Mart traffic to a less-than-significant level? Is the update solely the City's responsibility? Who will pay the costs? 96B-21

Utilities and Public Services: Mitigation Measure 4.12-4

Statements using the words "such as" and "and/or" are not specific enough. Without specificity, how can it be concluded that the impact is less-than-significant? 96B-22

Utilities and Public Services: Impact 4.12-7

How could fire service vehicles respond to the project site, 3.9 miles from Station 54, within a response time of 4 to 6 minutes? Emergency vehicles would have to navigate a variety of intersections in an urban environment, with the potential of significant traffic. 96B-23

Utilities and Public Services: Impact 4.12-8

The Police Department Central District Station, which provides first response to the project area, is 5.2 miles away. How could a police vehicle cover that distance for an in-progress call in a response time of 2 to 4 minutes? 96B-24

Other Issues

1. **Prostitution.** This type of facility is ripe for prostitution. Indeed, similar warehouse operations in California have identified prostitution as a problem. In the case of Merced, this situation takes on a particularly ominous aspect, since there is a high school nearby. Have there been conversations with the Merced Police Department regarding enforcement as it relates to prostitution? Have you questioned other warehouse facilities to learn about this potential problem? 96B-25

2. **Property Values.** Can it be imagined that residences in the vicinity of the project will hold their value once the distribution center becomes a reality? Who would be interested in purchasing a home located so close to this huge facility, with its hundreds of trucks rolling by 24 hours a day, 7 days a week? This impact should have been thoroughly addressed in the EIR. Certainly, it should be included in the Final EIR, and I so request. 96B-26

3. **Other Air Basins.** How will adjacent air basins be affected by this project? With a distribution center located in Merced, trucking routes will be significantly altered, with the potential of impacts on air quality in other air basins. Have these entities been contacted about the proposed project? Why wasn't this topic addressed in the EIR? 96B-27

4. **Heat Island.** This massive building, surrounded by many acres of paved surfaces, will likely create a heat island or heat sink. What will be the impact? Why was this issue left out of the EIR? 96B-28

In conclusion, I appreciate the opportunity to comment of the Draft EIR for the proposed Wal-Mart distribution center in Merced. I reserve the right to comment further, especially upon circulation of the Final EIR. Please keep me informed of any and all meetings, hearings, and publications relating to this project.

Yours truly,



Thomas C. Grave
3425 Sueno Ct.
Merced, CA 95348

96A-1 The commenter raises issues associated with availability of the CEQA documents in languages other than English and the size and complexity of the document, and requests an extension of the public review period. The issues raised in this comment are fully addressed in Master Response 2: Language Barrier and Public Review Period.

96B-1 The commenter examines text above Table 2-2 in the DEIR and indicates that the word "may" suggests a lack of enforceability. However, the purpose of Table 2-2 is to allow the City the option of using the table as a tool for calculating the project's fair share of traffic improvements. The word "may" does not suggest that the mitigation measures actually requiring the fair share contribution are optional. Furthermore, since the DEIR was released to the public, City staff has made revisions to the DEIR to provide additional clarity. Specific fair share percentages have been added to the traffic mitigation requiring fair share payments. These revisions to the DEIR can be seen in Section 4 "Revisions and Corrections to the Draft EIR."

96B-2 The comment raises concerns over potential effects of the project on domestic Well No. 10-R2, located on the proposed project site. See Master Response 9: Groundwater Quality regarding potential for well contamination from leaking storage tanks. See Master Response 8: Runoff Water Quality which addresses comments pertaining to stormwater quality to groundwater.

96B-3 The commenter questions whether the abandonment of Kibby Road right-of-way was assumed in the traffic analysis. As one of the project entitlements, the abandonment of the Kibby Road right-of-way between Childs Avenue and Gerard Avenue would be carried out by the City to allow for development of the proposed project. The effect of this action was considered in the traffic analysis, including the potential re-routing of traffic associated with the Kibby Road project.

96B-4 The comment raises specific questions related to the nature of the local labor pool and the degree to which the project would employ Merced residents. The commenter offers suggestions that would help ensure Merced residents are employed by the proposed facility. However, the issue of employment practices with respect to local labor is not an environmental issue, and CEQA does not require EIRs to examine this issue. Please see Response to Comment 92-4 for additional discussion related to this topic.

96B-5 Merced Municipal Code Section 17.04.060 requires full public improvements be installed and streets dedicated prior to a certificate of final inspection being issued in accordance with the City's Standard Designs and the General Plan. The design and manner of these improvements are further spelled out in Merced Municipal Code Sections 17.58 (Road Improvements), MMC 18.12 (Design), MMC 18.32 (Improvements), and the latest adopted edition of the City's "Standard Designs of Common Engineering Structures Manual." The applicants will need to install full public improvements per the above for those roads along the project's perimeter (Gerard, Childs, and Tower).

In addition to those roadway improvements, the applicants are required to pay the City's Public Facilities Impact Fees per MMC 17.62 and the Regional Transportation Impact Fees per MMC 17.64. For those additional roadway improvements called for in the mitigation measures in the Draft EIR, the applicant's "fair share" of those improvements will be determined by the City Engineer in conformance with professional engineering practices and in proportion to the project's proportion of roadway traffic per Table 2-2 in the Draft EIR.

Roadway maintenance for all City streets and roads are funded by the City through various sources including gas taxes, state bond monies, Measure C sales tax revenue, maintenance districts, and the City's Community Facilities District (CFD) for Services, etc. Besides the Services CFD, which new discretionary residential, commercial, and industrial developments throughout the City have been required to annex to since 2004, there is no other legal mechanism in place for the City or County to charge developers, business owners, or residents for the maintenance of City or County roadways. The Draft EIR spells out the project's impacts on City and County roadways in the vicinity of the project site. The County of Merced was one of the public agencies asked to provide comments on the Draft EIR and the County's comments can be seen at Letter 11.

Regarding the Campus Parkway, the portion of the Parkway currently under construction from the Mission Interchange to Childs Avenue has been funded by the City's Public Facilities Impact Fees, Regional Transportation funds, federal and state funds. As noted above, the applicants will be required to pay the City and Regional impact fees thus contributing to the funding for the Campus Parkway. The Mission Interchange and the Campus Parkway were designed to accommodate traffic from various sources, including the UC Merced Campus, the City's northern growth areas, the residential neighborhoods and future commercial development in Southeast Merced, and current and future development in the more than 750-acre Heavy Industrial area in southeast Merced, which includes the 230-acre subject site.

96B-6 The commenter raises several questions related to the project's potential impact to local aggregate mining operations resulting from the large quantity of aggregate needed to pour the project's pad foundation. It should be noted that Section 3 "Project Description" of the DEIR indicates that the proposed distribution center would "include use of concrete that mixes traditional concrete with industrial bi-products, including fly ash and slag." (p. 3-15) This would reduce the amount of concrete materials necessary for the foundation. Furthermore, although the proposed structure is large, it is not conceivable that the foundation of one structure could increase aggregate production to the point that local quarries would require expansion, especially given the current downturn in the building industry. Furthermore impacts associated with construction, including trucks hauling materials such as aggregate, are analyzed in the DEIR under Section 4.2 "Air Quality." (See Table 4.2-6 "On-Road Diesel Exhaust.") Traffic-related impacts associated with these trucks is also analyzed in the DEIR under Section 4.11 "Traffic and Transportation." Mitigation Measure 4.11-2b requires development of a construction truck traffic safety plan, as well as a measure to minimize dirt and mud on local roadways. This mitigation measure reduces impacts associated with construction truck traffic to a less-than-significant level.

96B-7 The commenter suggests that the sustainability and energy conservation measures outlined in the project description of the Draft EIR may not be enforceable. The commenter further questions the degree to which the measures must be implemented, as well as whether any consequences exist if the measures are not substantially implemented. It should be noted that these measures are, in fact, part of the Draft EIR's project description; failure to develop or operate the project in a manner that is not consistent with the project, as described in the Draft EIR, would constitute a change in the project and additional CEQA review would be necessary. CEQA states that when an EIR has been certified […] no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, [that] changes are proposed in the project which will require major revisions of the previous EIR […] due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. (*State CEQA Guidelines* 15162[a][1]) Consequently, if the actual project construction or operation differs from the project as described in the Draft EIR such that a new environmental effect could occur that was not analyzed in the Draft EIR, the City is required by CEQA to prepare additional environmental analysis. Regarding

the issue of enforceability, the Draft EIR (p. 3-15) indicates that Wal-Mart would submit a sustainability plan to the City of Merced, which outlines how each of the sustainability measures would be incorporated. This provides the City with an additional tool for ensuring that these measures are implemented.

96B-8 The commenter raises the issue of enforceability of the proposed sustainability and energy conservation standards. This issue is addressed above in Response to Comment 96B-7.

96B-9 The commenter asks to what standards of superior performance the "non-Wal-Mart" trucks will held. Approximately 40% of the trucks associated with the proposed distribution center would be Wal-Mart trucks and would therefore be required to meet Wal-Mart's required performance standards. However, the City cannot legally place performance standards on trucks operating outside of its jurisdiction. In addition, it is not feasible for the applicant to place performance standards on the remaining 60% of the trucks that would be coming from outside operators. Wal-Mart does not have control over the other trucking companies and distributors and even if a performance requirement was put in place, Wal-Mart would not be able to monitor or enforce this requirement. These trucks are required to meet all applicable federal and state standards. The DEIR did not assume that all of the trucks would be Wal-Mart trucks and the analysis did not differentiate between Wal-Mart trucks and other trucks, but conservatively assumed all trucks would be typical diesel trucks, not subject to the additional requirements of the Wal-Mart fleet; therefore, the analysis in the DEIR remains appropriate.

96B-10 The commenter identifies the percentage and acreage of important farmland on the project site. The commenter restates conclusions of the LESA analysis in the DEIR. The commenter suggests a better site can be found for the proposed distribution center that would not involve loss of important farmland. The commenter restates conclusions in the DEIR regarding other changes in the environment that could result in conversion of farmland to nonagricultural use. The commenter states conclusions made in the DEIR that no mitigation is available is not accurate. The commenter identifies other municipalities that mitigate for loss of important farmland. The commenter recommends mitigation requiring a 4:1 ratio for conservation of farmland in the vicinity of Merced. Please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

96B-11 Please see mitigation measure 4.2-2c, which requires Wal-Mart to continue participation in the SmartWay program.

96B-12 The commenter requests clarification regarding the trip generation assumptions in the traffic study. Please see Response to Comment 2-2, which addresses this issue.

96B-13 The commenter asks how opacity and porosity are measured, in reference to the requirements of SJVAPCD Regulation VIII, which is required by Mitigation Measure 4.2-1d of the DEIR to reduce fugitive dust emissions during construction of the proposed project. The definition of opacity, and methods for measuring opacity, are provided in Appendix A of Regulation VIII. Information about ways to determine the stabilization of bulk materials (and related porosity) is provided in Appendix B of Regulation VIII. Both Appendix A and B of Regulation VIII can be found at http://www.valleyair.org/rules/currntrules/r8011.pdf. SJVAPCD does not provide a definition or measurement methodology for determining porosity in Regulation VIII; therefore, the City recommends consulting directly with SJVAPCD. Please see Section 4.4 of the FEIR for specific changes to the DEIR Section 4.2, "Air Quality."

The commenter also seeks clarification about the requirements regarding trackout in Mitigation Measure 4.2-1d of the DEIR. Please see Section 4.4 of the FEIR for specific changes to the DEIR Section 4.2, "Air Quality."

96B-14 The commenter asks why Mitigation Measure 4.2-2b in the DEIR states that "elements of the employee trip reduction program *may* include…" Mitigation Measure 4.2-2b establishes a performance standard which requires that "the program shall ensure that at least 25% of employee commute trips occur by some other transportation mode than a single occupancy vehicle," as stated on page 4.2-38 of the DEIR.

The text of Mitigation Measure 4.2-2b has been altered so that a performance standard (i.e., a 25% reduction in SOV employee commute trips) is no longer required. Instead, optional measures are provided to provide incentive to employees to commute in ways other than by SOVs. Pursuant to California Health and Safety Code Section 40717.9, no city, air district, city, or congestion management agency can *require* an employer to implement an employee trip reduction program. However, the City can require feasible mitigation measures, including design features and program incentives, that strive to reduce the total number of employee commute trips. Please see Section 4.4, "Revisions and Corrections to the DEIR Air Quality Section 4.2," of Chapter 4.

The commenter also questions how Mitigation Measure 4.2-2b would be enforced. Text has been added to Mitigation Measure 4.2-2b, which states that "the design measures and program incentives and their effectiveness shall be evaluated annually and reported to the City of Merced." Please see Section 4.4 of the FEIR for specific changes to the DEIR Section 4.2, "Air Quality."

The commenter also questions why Mitigation Measure 4.2-2b would take 3 years to accomplish. The City believes that a year is necessary to optimize all the design features and incentives as more employees are hired to work at the facility. The comment does not include any reasoning about whether implementation of these measures should require a different length of time.

The commenter asks how the baseline would be established "given that the number of employees will increase over time." Revised Mitigation Measure 4.2-2b does not require the establishment of a baseline. Please see Section 4.4 of the FEIR for specific changes to the DEIR Section 4.2, "Air Quality." Also, it cannot be presumed that the number of employees would increase substantially after 3 years of operation.

96B-15 The commenter asks how the fair share contribution of bike lanes would be calculated. Please see Response to Comment 96B-5, which explains the city's process for calculating "fair share" contributions.

96B-16 The commenter asks for specificity as to how often on-site monitoring by a geotechnical engineer will occur. Mitigation Measure 4.5-3 (see page 4.5-17) of the DEIR explains that monitoring by a geotechnical engineer will occur during all earthwork activities at the site and that oversight by the geotechnical engineer shall occur during all excavation, placement of fill, and disposal of materials removed from and deposited on the subject site and other sites. More specificity cannot be given at this time as it is unknown how many days of earthwork will occur for the project; however, it is important to note that the mitigation measure requires that monitoring will occur during "all" earthwork activities and oversight will occur during "all" excavation, placement of fill, an disposal of materials. Therefore, monitoring and oversight would be frequent.

96B-17 The commenter asks several questions related to the proposed detention basins and surface and groundwater quality. Specifically, stormwater detention basin sizing and depth inconsistencies were cited and concerns expressed regarding stormwater facility effectiveness in removing

suspended solids. A question was asked regarding the contextual meaning of "conceptually designed". Actual systems similar to that proposed are commonly used and have proven effective when implemented as designed. See Master Response 7: Detention Basins and Drainage which addresses comments pertaining to stormwater volume. See Master Response 8: Runoff Water Quality which addresses comments pertaining to stormwater facility effectiveness. See Master Response 9: Groundwater Quality, which addresses comments related to the potential impacts to groundwater quality.

96B-18 The comment states that the EIR fails to address the noise mitigation requirements of independent trucks; the standards, monitoring, and enforcement of restrictions on independent trucks; the percentage of trucks that will be independent; and how that percentage will change over time. Independent trucks are not subject to Mitigation Measure 4.8-3 because it is considered administratively infeasible for the applicant to create and enforce rules regarding the specifications of trucks that are not under its control. It is currently estimated that 55-60% of trucks calling on the distribution center would be independent. No changes in trucking ownership percentages are predicted or can be predicted at this time. It should be noted that the analysis associated with Mitigation Measure 4.8-3, Impact 4.8-3 "Long-term Operational Traffic Noise," assumes that no noise control would be in place on trips created by the project beyond those that are part of the original manufacturer specifications. The noise levels presented in Impact 4.8-3 would therefore represent the loudest noise levels from trucks possible. The sound barriers and associated acoustical analysis required under Mitigation Measure 4.8-3 would reduce noise levels from all truck traffic and would contribute the majority of noise reduction applicable to the mitigation.

96B-19 The commenter notes a minor typographical error in the Draft EIR's Public Health and Hazards Section (p. 4.10-10): the description of airport locations with respect to the project site should be revised to indicate that the project site is actually "east" of Merced Municipal Airport, as opposed to "west," and that the site is actually "southeast of Castle Airport," as opposed to "north." The Draft EIR has been revised accordingly; please see Section 4 "Revisions and Corrections to the Draft EIR" for the revised text.

96B-20 The commenter suggests that a statement in the DEIR regarding the roadway configuration of Parsons Avenue is misleading. DKS Associates, preparers of the traffic impact analysis for the DEIR, reviewed this comment and indicate that the DEIR description regarding Parsons Avenue on page 4.11-3 is correct as it refers to the current status of this roadway. No changes to the DEIR are required.

96B-21 The commenter expresses concern that the mitigation measure requiring update to the Safe Routes to School Plan will not reduce impacts to a less-than-significant level and also inquires about the monitoring and the cost. The City of Merced is responsible for execution of a Mitigation and Monitoring Program, which outlines the responsible party and timing of all mitigation measures. This would include Mitigation Measure 4.11-4, the update to Safe Routes to School Plans. Safe Route to School Plans identify measures to improve school commuting, including issues associated with crossing the street, bicycling, walking and potential sources of conflicts with school-related vehicles. Please also refer to Response to Comment 105-1, which discusses issues associated with mitigation enforcement. Regarding cost, CEQA requires the EIR to analyze environmental impacts; CEQA does not require the EIR to evaluate financial impacts.

96B-22 The commenter states that Mitigation Measure 4.12-4 of the EIR (Section 4.12, Utilities and Public Services') uses language that is not specific enough to conclude that the impact would be reduced to less than significant. Mitigation Measure 4.12-4 requires the project applicant prepare and submit to the City a sustainability plan that incorporate the energy efficiency features listed.

The last bullet-point in the required sustainability features reads "using clean alternative energy features, such as photovoltaic cells, solar panels, small wind turbines, and/or fuel cells, to generate power and reduce power consumption." This mitigation measure allows a combination of these alternative energy features to be used in order that these energy features can be more flexibly integrated into the final design of the project. It should further be noted that this mitigation measure is required in conjunction with Mitigation Measure 4.2-2d, which requires the project to "include as many clean alternative energy features as possible to promote energy self-sufficiency (e.g., photovoltaic cells, solar thermal electricity systems, small wind turbines)," as well as Mitigation Measure 4.2-6d, which requires the applicant to "[i]nstall solar panels or other types of alternative energy sources (e.g., wind turbines) on-site or alternative energy sources are installed in all available areas of the project site, including the roof of the warehouse building, the buffer areas surrounding the paved truck yards and employee parking lot, and covered parking areas, walkways, and outdoor areas, to supply electricity for on-site use…."

96B-23 The commenter asks how the fire station 54 response time is 4 to 6 minutes from the project site given its distance (3.9 miles), various intersections, and the potential of significant traffic. As described in Impact 4.12-7 under Section 12, 'Utilities and Public Services', page 4.12-20 of the DEIR, the Department has indicated that average response time to emergency calls is between 4 and 6 minutes. The City of Merced Fire Department has indicated it would be capable of responding to fires and emergencies within the desired response time (Franco, pers. comm.). This comment does not raise any issues about the adequacy of environmental analysis in the DEIR. Therefore, no further response is necessary.

96B-24 The commenter asks how the Police Department Central Station, located 5.2 miles from the project site, could have a response time between 2 and 4 minutes. It is anticipated that officers would typically be responding to calls from their police vehicles and not the police station. The response time for in-progress calls referred to in the DEIR is an average.

96B-25 The commenter raises issues related to increased prostitution and law enforcement. Please see Responses to Comments 12-18 and 43-1, which address this issue.

96B-26 The commenter indicates that the DEIR does not address the impacts of decreasing home values. This is a socioeconomic effect and is not required to be analyzed under CEQA. Please see Master Response 11: Economics and Urban Decay, which provides a detailed response to the issue.

96B-27 The commenter questions how adjacent air basins would be affected by this project given the changes that would occur to existing truck routes. With regard to the outbound delivery truck trips from the proposed distribution center in Merced, the addition of this distribution center would result in a net reduction in truck VMT in California. This is because 49 existing retail stores, which are currently supplied from more-distant distribution centers in Red Bluff and Porterville, would then be supplied by the proposed distribution center in Merced. While this would result in a net increase in truck VMT inside the SJVAB, which is accounted for in Table 4.2-7 and the associated discussion under Impact 4.2-2 as well as Table 4.2-10 and the associated discussion under Impact 4.2-6, it would result in a net decrease in truck VMT outside the SJVAB (i.e., in other air basins).

While, truck VMT associated with deliveries from Wal-Mart's distribution centers to retail stores can be accurately estimated, the truck VMT associated with inbound truck trips to the proposed distribution center in Merced cannot be estimated without extensive speculation. Please refer to response to comment 17-11 for more discussion about the estimation of VMT and emissions associated with inbound delivery trips.

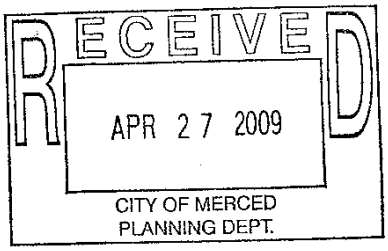
96B-28 The commenter states that the project would "likely create an urban heat island or heat sink" and questions why this issue was left out of the DEIR. According to EPA (See http://www.epa.gov/hiri), "the term 'heat island' describes built up areas that are hotter than nearby rural areas. The annual mean air temperature of a city with 1 million people or more can be 1.8–5.4°F (1–3°C) warmer than its surroundings. In the evening, the difference can be as high as 22°F (12°C). Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality."

While information is available about the relationships between the surface parameters (i.e., albedo) of a site and a project's potential to generate waste heat, it would be difficult to determine whether a project's contribution to an existing UHI would be cumulatively considerable without speculation. This is particularly the case for the proposed project because its size, and the proportion of low-albedo surface area, are low relatively to the size of the city's urban area. In addition, there are no established methods for quantifying the UHI around the City of Merced.

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97

Ms. Kim Espinosa
Merced Planning Department
678 W. 18th Street
Merced, CA 95340



Ms. Espinosa,

I've been reviewing some of the alternative sites for the distribution center which are mentioned in the draft environmental impact report. I am against putting the project at the proposed site, so I hope you will seriously consider site alternative #3 and put it on the other side of Highway 99. 97-1

I understand that is County land and not owned by the City, but if the City Council wants to jobs to be available to its residents, I hope it will work with the County Board of Supervisors and make the project a reality.

Thank you for your time.

Michelle Gray
Signature

Michelle Gray
Print Name

Home
2416 Whipplewood Dr
Address
Atwater, CA 95301

Phone
(209) 769-6002

Work
Sheehy School
1240 W. 6th
Merced, CA 95341

Letter 97 Response	Michelle Gray Undated

97-1 The commenter recommends that the project be developed at Alternative Site #3. Please see the discussions under Responses to Comments 94-3, 111-2, and 203-1, which describe the impacts associated with placement of the project at the Alternative Site #3 location. The comment does not raise issues with the adequacy of the DEIR.

98

Espinosa, Kim

From: Shirley Gregory [shirleygregory2@yahoo.com]
Sent: Friday, April 17, 2009 9:28 AM
To: Espinosa, Kim
Subject: Wal-Mart

Who are these people who oppose Wal-Mart coming to Merced? Are they on the government dool or welfare assistance? We need all the help we can get in Merced for workers. I am FOR WAL-MART DISTRIBUTION CENTER! The environmental people care more about the fish and wildlife than they do human beings. 98-1

Count my vote for WAL-MART!

SHIRLEY GREGORY
2240 YOSEMITE PKWY. SP. 125
MERCED, CA 95341

98-1 The comment addresses the merits of the proposed project, recommends project approval, and does not raise environmental issues or any issues regarding the adequacy of the Draft EIR. The comment is noted.

99

3/28/09

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CITY OF MERCED
PLANNING DEPT.

Kim Espinosa
Project Director
Merced Planning Division
678 West 18th Street
Merced, CA 95340

Ms. Espinosa:

After the reading the mitigation measures in the Air Quality section of the distribution center EIR, I have a question about measure 4.2-1b. Why would the staging area for heavy-duty construction equipment be located as far as possible from sensitive receptors? 99-1

Shouldn't there be some type of measuring receptors on the site, to make sure the amounts of pollution released do not exceed acceptable levels? 99-2

Sincerely,

V. Gresham
Signature

Valarie Gresham
Print Name

124 W 16th 1240 ?
Address

Merced, CA

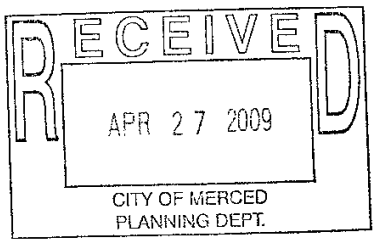
Phone

99-1 The commenter queries about the location of the staging areas for heavy-duty construction equipment and the reason for locating them as far as possible from sensitive receptors. This measure is included as Mitigation Measure 4.2-1b to ensure that the exposure of sensitive receptors (residences, schools etc.) to CAPs and TACs is minimized. Please also refer to response to comment 22-2 for information about minor text changes that will be made to Mitigation Measure 4.2-1b.

99-2 The commenter suggests that emissions onsite should be monitored to ensure that they do not exceed acceptable levels. The project's construction and operational air emissions were estimated using methodologies recommended by SJVAPCD. SJVAPCD has recommended thresholds for a project's construction and operational emissions in its GAMAQI. The GAMAQI also includes a discussion of the basis for these thresholds. These thresholds are the acceptable levels of emissions that a project is evaluated against, and are in place since it is not feasible to monitor the emissions from every single project subject to CEQA. The DEIR relies on these thresholds to make the significance determination for the project's air quality impacts. Please also refer to Master Response 13.

100

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Dear Kim Espinosa,

Please enter the following study from the Center for Transportation Research Argonne National Laboratory titled "Estimation of Fuel Use by Idling Commercial Trucks," January 2006. The figures stated in the attached study should be weighed against those estimates conducted in the Merced Wal-Mart Distribution's DEIR study. Thank you. 100-1

Sincerely,

Chansamay Guzman
Name

157 Sweetwater Ave
Address

Merced, CA 95341
City, State, Zip

Signature

4-20-09
Date

100-1 The commenter requests that a January 2006 study from the Center for Transportation Research Argonne National Laboratory titled "Estimation of Fuel Use by Idling Commercial Trucks" be entered into the DEIR. Although the comment does not specify why this particular study should be included in the DEIR, the City presumes that the commenter is suggesting that the study would improve the air quality or greenhouse gas analysis in some way.

The City's consultants have reviewed the study, which is available at http://www.transportation.anl.gov/pdfs/TA/373.pdf. The abstract states that the study "uses the recently published 2002 Vehicle Inventory and Use Survey (VIUS) to determine the number of commercial trucks in the categories that are most likely to idle for periods of over 0.5 h at a time. On the bases if estimated numbers of hours for both overnight idling by sleepers and long-duration idling by all [vehicle] size classes during their workdays, the total fuel use by idling trucks is estimated to be over 2 billion gallons per year." The commenter provides no justification regarding why this study should be used. The study was published in 2006 and is based on data reports (i.e., VIUS) produced in 2002 that represent the national fleet of commercial trucks. In the DEIR, the estimation of emissions from truck idling used to support the discussion under Impacts 4.2-2, 4.2-4, and 4.2-6 used emission factors specific to the type of trucks that would be used at the proposed distribution center and specific to the vehicle fleet in California. As stated in note 8 of Table 4.2-7 and note 9 in Table 4.2-9 in the DEIR, "emissions generated by on-site travel and idling by haul trucks were estimated separately using emission factors from the EMFAC2007 Version 2.3 model (ARB 2006b)." The estimates of emissions from truck idling also account for the type of truck movement patterns expected at the distribution center the amount of time trucks would idle. Assumptions about truck movement activity were based on observations collected during a visit to the existing Wal-Mart distribution center in Apple Valley. For these reasons, the study recommended by the commenter would not help generate more accurate estimations of the project's operational emissions. Therefore, the comment does not raise issues with the adequacy of the DEIR.

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PLANNING DEPT.

101

Law Offices of
Richard L. Harriman
1130 L Street, Suite B
Modesto, California 95354
Telephone: (559) 526-3429
Facsimile: (559) 526-3674
Email: harrimanlaw1@sbcglobal.net

April 27, 2009

VIA HAND DELIVERY

Ms. Kim Espinosa, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, CA 95340

Re: Proposed Wal-Mart Regional Distribution Center
Draft Environmental Impact Report (DEIR)
SCH No. 2006071029
Comments of Valley Advocates and
Merced Citizens for Responsible Planning

Dear Ms. Espinosa:

This office has been retained to prepare and submit comments on the above-referenced Draft Environmental Impact Report. After reviewing the DEIR, including the Appendices contained in Volume 2 of the DEIR, my clients and I have set forth the following comments and objections.

1. Inadequate Analysis and Mitigation of Cumulative and Secondary Adverse Impacts to Agricultural Resources

Section 4.1 of the DEIR, pp. 4.1-1 through 4.1-13, purports to disclose and analyze the adverse impacts from the proposed project on agricultural resources. At p. 4.1-11, the DEIR states

"Because of (*sic*) the project would result in the conversion of 228.68 acres of Farmland and the significant LESA score, the effect on farmland soils is considered a significant impact. Furthermore, industrial uses adjacent to agricultural land can result in land use conflicts and create incentives for agricultural producers to discontinue agricultural operations and sell their land for development.

...

...The City's General Plan EIR further concludes that to achieve the goals of maintaining a compact urban form, and other types of land-use compatibility issues,

101-1

mitigation that would eliminate the loss of agricultural land to urban development is not possible. Therefore, because no mitigation is available to reduce this impact, the impact would remain ***significant and unavoidable***. This conclusion is consistent with the conclusion of the EIR prepared for the Merced Vision 2015 General Plan. It should be noted that the City considered the significant impact associated with the conversion of farmland resulting from the buildout of the General Plan and adopted a Statement of Overriding Considerations (Resolution No. 97-22)." (emphasis included in original)

Similarly, the Summary of Impacts and Mitigation Measures (DEIR, p. 2-5) makes similar findings and relies upon the current City General Plan EIR for the conclusion that:

"...mitigation that would eliminate the loss of agricultural land to urban development is not possible. Therefore, because no mitigation is available to reduce this impact, the impact would remain significant and unavoidable."

However, as noted hereinbelow, the City General Plan and EIR were adopted in 1997, over twelve (12) years ago, and have not been comprehensively updated since then. These commentators respectfully submit that the City General Plan is outdated and inadequate in terms of the current mitigation measures available to and employed by other jurisdictions in the Central Valley, including the City of Davis, Yolo County, and Solano County and other jurisdictions which have adopted Agricultural Elements. Among the mitigation measures available and used by other jurisdictions Agricultural Land Trusts and off-site conservation easements or fee title acquisitions of comparable farmland. In fact, the City of Riverbank in Stanislaus County is in the process of considering the inclusion of such mitigation measures in its General Plan Update. 101-1 Cont'd

Thus, these commentators contend that the City General Plan EIR is outdated and inadequate and that there are readily available and feasible mitigation measures which can reduce or mitigate the cumulative impacts of agricultural land conversion to urban uses in the City and County of Merced and elsewhere in the San Joaquin Valley. Therefore, the Final EIR for the proposed project should include a complete and adequate disclosure and analysis of the specific agricultural buffers, easements, and purchases of comparable agricultural land in Merced County which will mitigate the acknowledged significant impacts to agricultural land.

Second, for purposes of the City's proposed Statement of Overriding Considerations, the FEIR should contain a quantified analysis of the economic losses, including appropriate multiplier effects, to the local and county-wide economies, to be utilized in the City's weighing and balancing procedure required by CEQA and the CEQA Guidelines in the City's findings of overriding consideration. 101-2

Third, the disclosure and analysis of the cumulative adverse impacts to agricultural resources is inadequate, due to the fact that it is too limited in its scope. Specifically, the proposed project purports to serve the present and future Wal-Mart retail facilities, including super-centers, general merchandise stores, in the San Joaquin Valley and Northern California. Consequently, the proposed regional distribution center project in Merced will be the facilitator and "linchpin" of the San Joaquin Valley and Northern California by enabling the expansion of the 101-3

Applicant's retail store operations in the region referred to above. Since Wal-Mart has never provided any agricultural mitigation for **any** of its projects in the Central Valley or elsewhere in Northern California and since virtually all of its projects in these areas have been built upon agricultural land, the FEIR should contain a quantified disclosure and analysis of all of the true direct, secondary, and indirect cumulative impacts to the agricultural resources of the Central Valley and Northern California---not solely the 238-acre proposed project, but also the Porterville Distribution Center and all of the existing, currently proposed, and reasonably foreseeable future retail stores in these areas and should provide for off-site mitigation for the total cumulative impacts from the conversion of agricultural lands to urban use. 101-3 Cont'd

Finally, in addition, the cumulative adverse impacts to agricultural resources from the above-referenced projects should include a quantified disclosure and analysis of the adverse impacts in economic terms to the crop production caused by the cumulative mobile source air emissions should be included in the FEIR for the proposed project, which should include all of the above-referenced retail stores, so that the economic impacts may be weighed and balanced in the Statement of Overriding Considerations. Among the other factors to be considered and weighed should be the possible use of such off-site mitigation habitat to grow the fresh produce which will not be stored in the proposed regional distribution center, as an offset for the economic impact caused by the conversion of the agricultural land for the proposed project. 101-4

2. Inadequate Analysis and Mitigation of Cumulative Adverse Impacts of Mobile Sources to Air Quality

The DEIR purports to disclose all adverse cumulative impacts to air quality from the proposed Wal-Mart regional distribution center. However, the DEIR fails to disclose and to require readily available and feasible mitigation measures which can substantially reduce the significant and unavoidable cumulative adverse impacts to air quality.

Specifically, the FEIR should require the following mandatory mitigation measures.

A. The proposed project shall use on-site Photo-Voltaic and Photo-Thermal Solar panels to provide all electric power, heating, cooling, and hot water for the proposed project operations. In the event that there is not enough space on the distribution center roof [1,100,000 sq.ft. divided by 43,560 sq. ft. per acre = approximately 22 acres under roof], the Applicant shall be required to construct additional on-site solar panels to supply all electricity required for the proposed project. 101-5

B. All on-site vehicles, including all fork-lifts and other support vehicles, shall be electric-powered vehicles.

C. All trucks (tractors) which serve the regional distribution center and retail stores served by the proposed project shall be required to use engines fueled by Compressed Natural Gas or methane (CNG), Liquid Propane Gas (LPG), or other alternative renewable fuels, such as bio-diesel, ethanol, or blends of renewable energy fuels and/or electric-powered vehicles.

D. The on-site fueling station for the proposed project shall provide the fuels referred to in the preceding mitigation measure.

E. The trucks (tractors) for the distribution of fresh produce to the retail stores served by the proposed regional distribution center shall be required to use the fuels referred to in the preceding mitigation measures.

F. The Applicant shall be required to enter into an agreement with Merced Community College or the Merced Union High School District for the purpose of training and employing automotive mechanics with experience in alternative renewable fuel engines and in converting gasoline and diesel engines to use the alternative renewable fuels referred to in the mitigation measures set forth above. 101-5 Cont'd

G. The proposed project shall provide fuel for its employees who use alternative renewable fuel powered vehicles to purchase on-site.

H. The proposed project shall provide on-site electric recharging stations for use by employees, visitors, and guests to purchase electric power to recharge their vehicles on-site.

I. The proposed project applicant shall provide an electric-powered bus or jitneys to to provide transportation or carpooling for its employees who wish to use such service.

3. Energy Conservation

These commentators reiterate and incorporate herein by reference the mitigation measures set forth in paragraph 2 above, which are readily available and feasible, for the purpose of reducing energy usage by the proposed project. 101-6

4. Inadequate Disclosure and Analysis of Fire Protection Services

The total disclosure and analysis of Fire Protection Services for this proposed 1.1 million square foot project is contained on less than one (1) page at Section 4.12 (Utilities and Public Services), at p.4.12-6. This topic is also briefly mentioned on one(1) page in Appendix F, at p. 12. The Summary of Impacts and Mitigation Measures includes one brief reference to the group of services identified as "Public Services---Police, Fire and Schools" at p. 2-60.

At the outset, the DEIR fails to disclose to the responsible and trustee agencies and to the general public that the City has been sued for its failure to comply with its own General Plan Safety Element Policies, Goals, Objectives, and Implementation measures, based upon the failure of the City to construct and have operational two (2) additional fire stations. In fact, the City is required by its General Plan and its ordinances to have a fire station within 1.5 miles of the 101-7

proposed Project. However, the DEIR fails to disclose this information and fails to disclose and analyze the inconsistencies with the General Plan Safety Element and other regulatory requirements of the City. [A true and correct copy of the pending legal action is attached hereto and incorporated herein by reference; see "Attachment A:" ***Merced Citizens for Responsible Planning v. City of Merced*** (Merced County Superior Court Case No. 150872, Court of Appeals Civil Case No. F056076]

In addition, the DEIR fails to disclose or analyze the failure of the City to comply with the mitigation measures set forth in the City General Plan Final Environmental Impact Report (FEIR) which address and mitigate the potentially significant effects of future growth and development on the ability of the City to provide adequate fire protection services to new developments, such as the proposed project. In fact, the City General Plan and other documents referred to in the above-referenced legal action expressly identify a fire station to be constructed and operated within the distance identified and required by the City from the proposed Wal-Mart Regional Distribution Center.

101-7 Cont'd

There is no disclosure or analysis of the mitigation measures of the City General Plan FEIR, adopted and certified in 1997, as required by the California Environmental Quality Act (CEQA) [Public Resources Code section 21000 et seq.]. The fact that the City of Merced is a "charter city," as distinguished from a "general law city," is irrelevant to its duty to comply with CEQA and the mitigation measures approved and adopted by the City in its own General Plan EIR for fire protection services. Given the rapid growth in the City, which occurred between 2003 and 2006, the current City General Plan is invalid and outdated, based upon the fact that it is over twelve (12) years old. Moreover, the current cumulative deficiency in the fire protection services will be substantially exacerbated by the approval of the proposed project. In this context, it should be noted that the City General Plan does not provide for an exclusion from, or waiver of compliance with, the mandatory Safety Element Policies, Goals, Objectives, and Implementation measures. More important, the General Plan EIR does not provide for an exclusion from compliance with, or a waiver of compliance based upon, the proposed project's inclusion of a sprinkler system.

Further, in the Water Supply Assessment (WSA) contained in Appendix F, the DEIR omits any analysis, discussion, quantified calculations, or other facts upon which the EIR Preparer made the determination that the two (2) 300,000 gallon tanks would contain sufficient capacity to mitigate the potential fire hazards caused by the proposed project. Similarly, in the Fire Protection section at p. 4.12-6 of the DEIR, there is no identification of the relevant section(s) of the California Fire Code to support the finding of adequate fire flow for the proposed project.

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Also, there is only a passing reference to a "mutual aid agreement with the Atwater and County Fire Departments," but there is no copy of this Agreement contained in the DEIR, nor is any relevant section quoted in the DEIR or the location of such Agreement disclosed. This information needs to be provided in the DEIR or Appendices.

Since the Mutual Aid Agreement is not contained in the DEIR and there is no disclosure or analysis of the inconsistencies with the General Plan Safety Element and other City regulatory

policies and development standards, the DEIR is inadequate, due to the fact that it does not address how the proposed project will have adequate fire protection from one (1) on-site pumper truck. Likewise, there is no disclosure or analysis of how the proposed mitigation measures and/or conditions will be sufficient to respond to a large-scale fire at a warehouse with multiple chemicals, toxic substances, and hazardous substances stored in the proposed warehouse/distribution center, including domestic cleaning agents, drain cleaners, chlorine bleaches, and other common household chemicals and garden fertilizers that will be stored in the warehouse. The DEIR should disclose a complete list of all such chemicals and toxic and hazardous substances which will be stored on-site and how the fire protection system will deal with these items. 101-8 Cont'd

In addition to the foregoing comments and omissions, it should be noted that, although the proposed project will include sprinklers,

Finally, since the following issues have not been adequately addressed, the Response to Comments should address the following questions:

A. Who will be responsible for providing the personnel to staff and operate whatever fire suppression equipment is intended to be utilized for the proposed project? 101-9

B. Where will the City be constructing the new fire station necessary to provide fire protection services for the proposed project set forth in the City General Plan? 101-10

C. When will the City be constructing the new fire station necessary to provide fire protection services for the proposed project set forth in the City General Plan? 101-11

D. Does the City intend to amend its General Plan Safety Element for purposes of bringing the proposed project into consistency with the General Plan? 101-12

E. Does the City intend to revise and amend its General Plan EIR for the proposed project purposes of CEQA compliance with the mitigation measures, conditions, and other implementation measures included in the GP EIR? [See, ***Lincoln Place Tenants Assn. v. City of Los Angeles*** (2007) 155 Cal.App.4th 425 in support of of position that CEQA mitigation measures approved and adopted by the lead agency and constitute conditions running with the land under state law and must be enforced by the lead or other responsible agency, unless and until the EIR for the General Plan is revised or amended, irrespective of whether the lead agency is a "charter city."] 101-13

5. Statement of Overriding Considerations

These commentators request that the Findings and/or Statement of Overriding Considerations be included with the Final Draft EIR at least ten (10) days prior to the Planning Commission hearing on the proposed project. Further, these commentators expressly request that the Statement of Overriding Considerations include a spreadsheet or table including quantified economic values or other values for all benefits and detriments 101-14

(costs/benefits) considered, weighed, and balanced by the lead agency in the Statement/Findings of Overriding Consideration and identifying the substantial evidence in support of both the findings of benefit and detriment considered by the lead agency in the Statement/Findings of Overriding Consideration.

101-14 Cont'd

Thank you for the opportunity to submit the foregoing comments to the City of Merced regarding this important proposed project

Very truly yours,

RICHARD L. HARRIMAN

cc: Sally Magnani Knox, Deputy Attorney General
Clients

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MERCED COUNTY
10 MAY -5 PM 2:18
CLERK OF THE SUPERIOR COURT

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF MERCED

MERCED CITIZENS FOR RESPONSIBLE PLANNING, a California non-profit unincorporated association, and VALLEY ADVOCATES, a California non-profit public benefit corporation,

Plaintiffs and Petitioners,

v.

CITY OF MERCED, a California municipal corporation, and MERCED CITY COUNCIL, a body politic,

Defendants and Respondents.

BELLEVUE RANCH-MERCED, L.P., a California limited partnership; CROSSWINDS AT BELLEVUE RANCH NORTH, LLC, a California limited liability company; CROSSWINDS BRE II, LLC, a California limited liability company; CROSSWINDS HOMES AT BELLEVUE, LLC, a California limited liability company; ENVISION HOMES, LLC, a California limited liability company; GRUPE INVESTMENT COMPANY, INC., a California corporation; (continued on next page)

CASE NO. 150872

SECOND AMENDED PETITION FOR WRIT OF MANDAMUS

[Code of Civil Procedure Section 1085]

Date Action Filed: December 17, 2007

Hearing Date on Petition: N/A

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KB HOME CENTRAL VALLEY, INC., a California corporation; KIMBALL HILL BELLEVUE RANCH, LLC, a California limited liability company; L.J. STEINER, LLC, a California limited liability company; MERCED PASEO, LLC, a California limited liability company; MERCED RENAISSANCE, L.P., a California limited partnership; MERCED SANDCASTLE, L.P., a California limited partnership; RYLAND HOMES OF CALIFORNIA, INC., a Delaware corporation; SUMMERTON HOMES, LLC, a California limited liability company; WOODSIDE PRAIRIES, INC., a California corporation; WAL-MART REALTY COMPANY, an Arkansas corporation; and DOES 1 through 50, inclusive,

Real Parties in Interest.

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Petitioners, Merced Citizens for Responsible Planning and Valley Advocates, petition this Court for a writ of mandamus, pursuant to Code of Civil Procedure section 1085, directed to the City of Merced, by and through the Merced City Council, and for an administrative stay of action, pursuant to Code of Civil Procedure, section 1094.5(g) and Government Code sections 66474, 66499.34, and 66499.36, and by this verified petition allege the following.

INTRODUCTION

This case concerns a challenge by two (2) citizens' organizations to the continuing violation by the City of Merced ("City") and the Merced City Council ("Council") of the City of Merced 2015 General Plan provisions and subdivision map conditions of approval relating to the protection of public health and safety, human life, and private property, which were adopted by the Merced City Council for the specific purpose of protecting the public health and safety, human life, and private property of the residents of the City of Merced from significant risks due to the City's failure to enforce mandated fire protection requirements set forth in the *Merced Vision 2015 General Plan*, such as subdivision map approvals, development agreements, and other state and local regulations set forth herein.

Petitioners contend that the City is violating its own policies, ordinances, and regulations by engaging in the unlawful approval and improper issuance of building permits, certificates of occupancy, sewer connections, water service connections, and other development entitlements in violation of its own standard Tentative Subdivision Map ("TSM") Conditions of Approval, based on the Merced Vision 2015 General Plan and the Subdivision Map Act [Government Code ("Govt. C.") section 66473 et seq.] sections 66473.5, 66499.34, and 66499.36, due to the fact that such approvals are not in compliance with the City's General Plan Policies, Goals, Objectives, and Implementation Measures, and adopted development standards, which regulate and control the City's adopted fire safety requirements for the travel time and distance from City Fire Stations for public health and safety purposes.

Petitioners ask the Court to order, direct, and command the City of Merced, the Merced City Council, and City Staff persons to perform their mandatory duty to enforce the City's standard Conditions of Approval for TSMs approved by the City Council which incorporate by reference the Policies, Goals, Objectives, and Implementation Measures of the *Merced Vision 2015 General Plan* and other adopted development standards, which regulate the time and distance requirements for the location of Fire Stations and compliance with performance of fire safety standards in the City of Merced.

This action is extremely important for the protection of students, faculty, and administrators who have been recruited and solicited by two (2) state funded institutions of higher learning, Merced Community College (MCC) and the new University of California, Merced (UCM) who may buy or rent homes or rooms in buildings constructed in areas of the City which are underserved and exposed to fire safety hazards as defined in the City's *Merced Vision 2015* General Plan, as incorporated by reference in the City's standard TSM Conditions of Approval. As such, these business invitees to the Merced community give rise to a duty of care for the health and safety of these newcomers so as to create a cognizable threat to public health and safety which is affected with a state interest and a substantial public interest to all residents and taxpayers of the City of Merced, because of the significant potential threat of legal liability to the City of Merced and to the taxpayers in the event of property damage and/or personal injury or death caused by inadequate fire safety services.

Petitioners hereby apply to the Court for an administrative stay, pursuant to Code of Civil Procedure (CCP) sections 1085 and 1094.5(g) and an Order, pursuant to CCP section 527 ***et seq.*** enjoining and restraining the City and its elected officials, agents, and employees from approving any new Tentative Subdivision Maps or Final Subdivision Maps outside of the time and distance requirements for Fire Stations and from approving and/or issuing any new building permits, certificates of occupancy, sewer connections, water connections, and other development entitlements for lots and/or structures located in the non-conforming subdivisions set forth

hereinbelow or any new subdivisions as described hereinbelow. Petitioners request the Court to issue its Order staying all further administrative action in furtherance of the development, construction, and/or occupation of such lots and/or structures located in such non-conforming subdivisions, during the pendency of this action.

PARTIES

1. Plaintiff and Petitioner, Merced Citizens for Responsible Planning ("MCFRP"), is and, at all times mentioned herein was, a California non-profit public benefit unincorporated association, having its principal place of business located in the City of Merced, County of Merced, State of California. MCFRP is a project of Valley Advocates. Among the members of MCFRP is Richard L. Harriman, who, along with his wife, and Kamila Young are property owners, tax-payers, and residents of the Fahrens Creek subdivision, City of Merced, California 95348, approximately one (1) mile from the City of Merced Fire Station 53, located on the south side of Loughborough Drive, between M Street and R Street, which serves the Harriman residence.

2. Plaintiff and Petitioner, Valley Advocates ("VA"), is a California non-profit public benefit corporation, having its principal place of business located in the City of Fresno, State of California. VA is a public interest organization which initiates and prosecutes legal actions on behalf of local residents and citizens' organizations in the public interest in the Central Valley of California, in order to enforce the Constitution and laws of the State of California and the United States of America.

3. Defendant and Respondent, City of Merced ("City"), is a California chartered municipal corporation and is governed by the Merced City Council ("Council"), elected by the voters residing within the jurisdiction of the City; and, as such, the City has jurisdiction and the legal authority to make determinations as a local government entity to approve and issue TSMs and Final Subdivision Maps, pursuant to the Subdivision Map Act and the Merced Vision 2015 General Plan, and to approve and issue building permits, certificates of occupancy, sewer

connections, water connections, and other administrative permits and entitlements for the development, construction, and occupancy of the projects referred to herein. The current members of the City Council are: Ellie Wooten (Mayor), John Carlisle (Mayor Pro Tem), Joe Cortez, Michele Gabriault-Acosta, Noah Lor, James D. Sanders, and William Spriggs.

4. Petitioners are informed believe, and based upon such information and belief, hereon allege that the following-listed Real Parties in Interest ("RPIs") and Does 1 through 50, inclusive, own property in non-complying subdivisions in the City of Merced, as follow, and are in the process of selling and constructing homes outside of the area specified and adopted by the City of Merced in its standard Conditions of Approval for required fire safety and protection of life and property; and, therefore, they are necessary or indispensable parties to this action and are named as RPIs herein, accordingly:

BELLEVUE RANCH-MERCED, L.P., a California limited partnership
16133 Ventura Boulevard, Suite 1400, Encino, CA 91436
North of Cardella, APN Book 224, page 2

CROSSWINDS AT BELLEVUE RANCH NORTH, LLC, a California limited liability company, 22920 Ventura Drive, Novi, MI 48375
North of Cardella, APN Book 170, page 3

CROSSWINDS BRE II, LLC, a California limited liability company
22920 Ventura Drive, Novi, MI 48375
North of Cardella, APN 224, pages 2 and 20

CROSSWINDS HOMES AT BELLEVUE, LLC, a California limited liability company
22920 Ventura Drive, MI 48375
North of Cardella, APN Book 224, page 13

ENVISION HOMES, LLC, a California limited liability company
360 East Yosemite Avenue, Suite 200, Merced, CA 95340
North of Cardella, APN Book 224, pages 17 and 18

GRUPE INVESTMENT COMPANY, INC., a California corporation
c/o Nelson E. Bahler

3255 West March Lane, Suite 400, Stockton, CA 95219
North of Cardella, APN Book 224, page 16

KB HOME CENTRAL VALLEY, INC., a California corporation
c/o David B. Simons
17270 Golden Valley Parkway
Lathrop, CA 95330
South Merced, APN Book 61, page 61

KIMBALL HILL BELLEVUE RANCH, LLC, a California limited liability company
5999 New Wilke Road, Suite 504, Rolling Meadows, IL 60008
[9355 East Stockton Boulevard, Elk Grove, CA 95624]
North of Cardella, APN Book 224, page 5 and Book 224, page 14

L.J. STEINER, LLC, a California limited liability company
554 East Bellevue Avenue, Suite B
Merced, CA 95301
South Merced, APN Book 61, page 64

MERCED PASEO, LLC, a California limited liability company
c/o William Gnass, Esq.
767 East Yosemite Avenue, Suite A
Merced, CA 95340
El Paseo Subdivision, APN Book 170, pages 1 and 2

MERCED RENAISSANCE, L.P., a California limited partnership
c/o Patrick Matthews
3202 West March Lane, Stockton, CA 95219
South Merced, APN, Book 61, page 61

MERCED SANDCASTLE, L.P., a California limited partnership
c/o Patrick H. Matthews
3202 West March Lane, Stockton, CA 95219
Stockton, CA 95219
South Merced, Sandcastle Subdivision, APN Book 61, pages 53 and 59

RYLAND HOMES OF CALIFORNIA, INC., a Delaware corporation
24025 Park Sorrento, Suite 400, Calabasas, CA 91302
North of Cardella, APN, Book 224, pages 4 and 15

SUMMERTON HOMES, LLC, a California limited liability company
c/o Todd Bender
767 East Yosemite Avenue, Suite A, Merced, CA 95340
South Merced, APN Book 61, page 60

WOODSIDE PRAIRIES, INC., a California corporation;
39 East Eagleridge Drive, Suite 102, North Salt Lake, UT 84054
North Merced, APN 224, pages 8 and 9

5. Petitioners are informed believe, and based upon such information and belief, hereon allege that, due to the fact that RPI, Wal-Mart Realty Company ("WMRC") owns real property in the City of Merced and is actively engaged in prosecuting an application for project permits and entitlements for the Wal-Mart Distribution Center "WMDC" located in an area of the City of Merced which currently is underserved in terms of the City's own fire safety standards; and due to this fact, WMRC is a necessary or indispensable parties to this action and is named herein as an RPIs, accordingly:

FACTS COMMON TO ALL CAUSES OF ACTION

6. On December 3, 1982, Kenneth W. Mitten, Fire Chief, Merced Fire Department, promulgated a document, entitled "The Basic Elements of Fire and Disaster Planning for the City of Merced" (1982), which is identified and characterized as a "Master Plan" and "policy guide for managing the fire and emergency environment of the community through a fire protection system." At pages 8-15 of the document, Chief Mitten describes "MASTER PLANNING FOR FIRE PROTECTION," and at Appendix B, there is a diagram of the "HISTORY OF A FIRE," which sets forth the evolution of a fire and the benchmarks which establish the so-called "REFLEX TIME" necessary to respond to a fire. [See true copies of letter to City Manager and City Council, December 3, 1982, pp. 8-15, and Appendix B, marked "Exhibit A," attached hereto and incorporated by reference herein.]

7. Subsequently, after a 1983 review of inspections and other safety programs was undertaken by the Merced Fire Department, Chief Mitten prepared a follow-up on this report for the City Council referred to in paragraph 4 hereinabove with a "Master Plan," entitled "Merced Fire Department Master Plan—Service Level" (no date). At pages 26-32, the "Master Plan" contains a discussion of "flashover," "response time," and "reflex time." With respect to "response time," the document states:

> "At an average of 35 miles per hour, it will take an engine company approximately 3 minutes to cover the I.S.O. criteria of 1.5 miles. Couple this time with the "turnout" time of 30 to 45 seconds and we should be able to put a unit on scene within 4 minutes of dispatch. For each additional one-half mile of response distance, it would be necessary to add one minute to our response time. [p. 29, final paragraph]

Similarly, with respect to "reflex time," the document states:

> "Response to an alarm that was detected immediately, reported and dispatched within 2 minutes, and no more than 1.5 miles from the fire company's location, should be within a 7-minute time period. Add to this a 3-minute set-up time, and our system will reflect a "reflex time" of 10 minutes – a realistic and acceptable "service level."" [p. 32, final paragraph]

Finally, the document addresses Fire Station Location, as follows:

> "Fire Station Location
>
> In a review of our existing facilities, response distances are in general within the I.S.O.'s recommendations. However, various areas within the city limits are beyond that 1-1/2 mile criteria. It is not advocated that a massive relocation effort be initiated, yet the maximum time to any area of the city should be established and a plan developed to bring our response needs within the "time" limits as established."
> [p. 35, middle paragraph]

[See true copies, marked "Exhibit B," attached hereto and incorporated by reference herein.]

8. In 1987, the Merced Fire Department promulgated a document entitled, "Merced Fire

Department Facilities Study (1987-2002)." Included in this document is a "Reflex Time Schedule", as follows:

"1. Reporting and dispatch time – 1 minute: Reporting party dials 911 emergency number, provides information to dispatcher, dispatcher tones out alarm and dispatches appropriate units.

2. Response time – 3-5 minutes: Receipt of alarm information by responding units, turn-out time (donning of safety gear, etc.) actual travel time to scene.

3. Set-up time – 4 minutes: Arrival/on-scene size-up and report, initial equipment layout and initial quick attack.

The above reflex schedule is designed to establish a minimum acceptable reflex capability ***with the objective of an average response distance of approximately one and one-half miles within 3-5 minutes maximum.*** Medical emergencies within this distance are responded to within the six-minute time frame and an initial fire attack (resources to attack a dwelling fire with our basic manpower commitment and a fire flow of 100 gpm) is achieved within a ten-minute time frame." (emphasis added) [p. 4]

The "Facilities Study" continues, as follows:

"1. Time, rather than distance, is a more valid unit of measure for emergency response criteria. The achievable speed over a given distance varies depending on street conditions, street width, volume of traffic, and various other factors affecting traffic flow. Because of these variables, it is possible for fire apparatus stationed two miles from an incident to arrive prior to another fire company stationed only one mile from the same incident. A standard response (travel) time of three to five minutes was developed, using criteria of an average apparatus response speed of 30 m.p.h., or approximate distance of one-half (1/2) mile per minute." [pp. 4-5; see, also, p. 6]

Subsequently, the study finds:

"Phase III"

"Phase III is keyed to acquisition of property and the development of Engine Company No. Six and Seven in the North Central Merced area.

Current growth trends indicate a possible need to acquire property within the North "M" Street/Cardella Road area within 10 to 12 years for the development of Fire Station No. Six. Experienced growth may require the actual purchase of property and facilities development prior to our projections. ***Annual updates of this study must be developed to project actual movement on this facility and Station No. Seven, projected further north in the Bellevue Road area."*** (emphasis added) [p. 26]

Likewise, the Study delineates areas of the City which are not served by existing facilities. [See Attachment B to the Study ("City-Wide Fire Station Coverage"), at pp. B2 and B3] The diagram at p. B5 demonstrates the proposed coverage area projected for the "New Engine #6 at Cardella & "M" St." [See true copies, marked "Exhibit C," attached hereto and incorporated by reference herein.]

9. In 1990, Kenneth W. Mitten, Fire Chief of City of Merced, prepared a document entitled "1990 Fire Department Service Level Report." Again, the "Service Level Report" finds, "Therefore fire attack response "reflex time" is based upon a one and one-half mile response distance with a turn-out and travel time of four to five minutes and a initial set-up time of four to five minutes." [p. 2, paragraph 2, final sentence] The Report continues to state:

> "Again, the map below (Figure 2) compares not only the areas outside of the acceptable "reflex time" response standard, as identified in 1987, but also shows annexations since that time (lined areas) which are now within the city limits. Most of them are outside of our existing "reflex time" capabilities.
>
> ***After reviewing these two illustrations it is obvious that we are not meeting the adopted emergency response standard in a portion of the city.***
>
> ...
>
> It is anticipated that with the addition of fire station five the City will be able to adequately cover the North-Eastern section of the City for the next three to five years. The exact time factor is based upon the projected build-out of the Wathen and Bellevue Ranch projects. It is projected, however, that prior to both of these developments being completed, the City will then need to locate

another fire station, somewhere in the "G" to "M" and Cardella to Bellevue Road area." (emphasis added) [p. 6, paragraph 3]

[See true copies, marked "Exhibit D," attached hereto and incorporated by reference herein.]

10. In 1992, the Merced City Fire Department published its "Strategic Plan" (1992). This document found that the Merced Fire Department's "Master Plan" and "Fire Station Facilities Study need to be reviewed annually." [p. 8, third assumption] Further, the "Administrative Division Action Objectives" include the following: 1) "Update and revise the Merced Fire Department Facilities Study document based upon current demographics and projections;" and 2) "Provide appropriate revisions within the Master Plan to facilitate updates to the city general plan." [p. 11] Third, "Develop an updated emergency response "reflex time" model for the city." [p. 12] Finally, the Report notes:

> "Therefore, the fire protection system response time of four to six minutes is an important aspect in policy issues when considering an adequate service level." (underlining in original) [p. 23, paragraph 4, final sentence]

Later in the Report, in an Inter-Office Memorandum from Kenneth W. Mitten, Fire Chief, to Jim Marshall, City Manager, dated June 4, 1992, the Chief writes:

> "...Through testing and experience it has been documented that the first five to ten minutes of a fire are the most critical. In a residential fire, for example, if you expect to save the occupants and limit the amount of damage within the building, trained personnel must be dispatched and deployed prior to flashover occurring.
>
> Flashover occurs when the contents and smoke within a room or building have been preheated to a point that the entire area explodes into flame. Once flashover occurs, survival of the occupants and containment of the fire to the room or area of origin is doubtful."
>
> ...
>
> Fire station location and apparatus need to be strategically located within the geographical areas that will best insure response times within established parameters. ***The standard criteria is a maximum response distance of one and one half miles (4-6 minutes).*** As the City of Merced grows, it is imperative that the emergency services response times remain within the identified parameters if our service levels are to be maintained."

(emphasis added) [Memorandum , pp. 1-2, at p. 37 (unnumbered), in section following p. 34]

[See true copies, marked "Exhibit E," attached hereto and incorporated by reference herein.]

11. In 1997, the Merced City Fire Department published its "Strategic Plan 1997." Again, in that document, the Merced Fire Department reaffirms the necessity of maintaining a 4-6 minute response time:

"***1997 Objectives***

...

*To maintain 4-6 minute response times and adhere to the Facilities Master Plan by developing and acquiring Station 55.

[See true copy, marked "Exhibit F," attached hereto and incorporated by reference herein.]

12. In 1997, the City of Merced approved and adopted the Merced Vision 2015 General Plan and the Final Environmental Impact Report (FEIR) for the General Plan.

13. The Merced Vision 2015 General Plan includes, Policy UE-1.3, in relevant part, as follows:

"***Policy UE-1.3***
Control the Annexation, Timing, Density, and Location of New Land Uses Within the City's Urban Expansion Boundaries

Implementing Actions:

...

1.3.b The City should adequately plan for public improvements/services to support designated land uses for all areas as they become suitable for development and/or proposed for annexation.

The City should prepare master plans for providing sewer, water, fire protection, Drainage, and other services for all new growth areas after the adoption of the the General Plan. Refer to Chapter 5 -- Public Services and Facilities for specific policies regarding each of these areas.
[General Plan, p. 2-26; true copy, marked "Exhibit G," is attached hereto and is incorporated by reference herein.]

14. The Merced Vision 2015 General Plan includes Section 5.2 "SETTING," which states, in relevant part, as follows:

> "The City's Fire Department Master Facilities Plan is used in the planning of stations that will provide protection within a primary service area. The Department has a goal of maintaining a ***response time of four to six minutes*** for the first crew to arrive at a fire or medical emergency within an assigned district. ***This goal was chosen on the basis of proven factors affecting property damage and, more importantly, life.***
>
> As the City continues to grow in population and area, the fire protection system will have to change if it is to maintain this response time standard. This would require three existing stations to be relocated and four new facilities with personnel and equipment to be added to the system. ***Figure 1*** shows tentative fire station locations." (emphasis added)
> [General Plan, page 5-4; copies of pages 5-2 to 5-4, including ***Figure 1***, marked "Exhibit H," are attached hereto, and are incorporated by reference herein.]

15. City General Plan Section 5.3 "ISSUES AND INTENT" provides, in relevant part, as follows:

> "***5.3.1 Fire Protection***
>
> ***The location of fire facilities is a critical factor in providing adequate fire protection to the citizens of Merced.*** The time and distance that must be traveled to the scene of an emergency can determine whether fire suppression efforts will be successful. The goals, policies, and actions (Goal Area P-2) in this chapter address locational criteria and distribution goals for new fire facilities. Additional goals, policies, and actions relating to fire prevention methods, disaster preparedness, and hazardous materials safety can be found in the Safety Element (Chapter 11)." (emphasis added)
> [General Plan, Section 5.3.1, page 5-16; true copy of this section, marked "Exhibit I," is attached hereto, and is incorporated by reference herein.]

16. In addition, City General Plan Section 5.4 provides, in relevant part, as follows:

Goal Area P-1: Public Facilities and Services provides, in relevant part, as follows:

> ***5.4 PUBLIC SERVICES AND FACILITIES GOALS, POLICIES, AND ACTIONS***

Goal Area P-1: Public Facilities and Services

GOALS

...

■ **New Development Which Includes a Full Complement of Infrastructure and Public Facilities**

POLICIES

P-1.1 Provide adequate public infrastructure and services to meet the needs of future development.

P-1.2 Utilize existing infrastructure and public service capacities to the maximum extent possible and provide for the logical, timely and economically efficient extension of infrastructure and services where necessary.

Policy P-1.1
Provide Adequate Public Infrastructure and Services to Meet the Needs of Future Development.

One of the key elements to promoting a healthy local economy in Merced is the quality of life enjoyed by the City's residents. The quality availability of urban services and infrastructure is found to be an important measure of urban quality.

Implementing Actions:

...

1.1.b Master infrastructure plans for newly developing areas may be prepared and adopted as necessary.

The City may prepare master infrastructure plans for newly developing areas. Individual development Proposals will need to develop plans and specifications for accessing planned City infrastructure.

1.1.c Include in Specific Plans and master plans, a phasing plan for providing access, sewer, water, drainage, flood control, schools, parks, and other appropriate governmental facilities and services.

A phasing plan helps ensure that adequate service facilities can be accommodated in the planning area and that new facilities and services will be provided in a manner that keeps pace with population growth." [General Plan, pp. 5-18 and 5-19; true copy, marked "Exhibit J," is attached hereto and is incorporated by reference herein.]

17. In addition, City General Plan Section 5.4 provides, in relevant part, as follows:

Goal Area P-2: Police and Fire Protection Services provides:

"Goal Area P-2: Police and Fire Protection Services

GOAL

- **A Community Reasonably Safe From Crime and Fire**

POLICY

Policy P-2.1
Maintain Sufficient Public Protection Facilities, Equipment, and Personnel to Serve the City's Needs.

Public protection services and facilities are to be maintained in the City of Merced at a level that promotes the health and welfare of the city's residents. The City is committed to assuring that facilities, equipment and staffing levels of its fire and police service units meet the highest standard that can be accommodated within the resource constraints of the City.

Implementing actions:

2.1.a Periodically review existing and potential station facilities, equipment and manpower in light of protection service needs

Fire-fighting equipment and companies of personnel should be sufficient in number and adequately distributed throughout the planning area in order to allow optimum response time to calls within the primary service areas of a fire station and to ensure prompt availability of additional companies for serious or simultaneous fires. Police service districts should be sized to promote community-based policing concepts and to maintain sufficient personnel to promote crime prevention and to combat criminal activity.

2.1.b Determine that new development is adequately served by fire and police protection services.

Fire stations should be located so that no development in the City is outside the primary response areas (4 to 6 minutes) of at least one firehouse. Development plans should be reviewed with respect to existing and planned future fire sites and police resources."

2.1.c Fire station sites should be selected based on the distribution of land uses and population projected when the area is fully developed.

Merced Citizens for Responsible Planning, and Valley Advocates v. City of Merced, et al.; Merced County Superior Court Case No.150872; VERIFIED SECOND AMENDED PETITION FOR WRIT OF MANDAMUS

Future sites should be located within planned urban service centers based on future use.

2.1.d Ease of access should be a primary consideration in selecting fire station site.

The following guidelines should be considered when siting new firehouse facilities:

a) Fire stations should be located on streets close to and leading into major or secondary thoroughfares.

b) Fire stations should be so located as to minimize delays caused by incomplete street patterns.

c) A fire station should be near the center of its primary service area, measured in terms of driving time to the periphery of this area.

d) Fire stations should be convenient to high value areas of commercial or industrial Districts, but not located in them unless such a location is necessary to maintain the required service radius.

e) Fire stations should be located, as much as feasible, away from other uses which may be sensitive to the noise impacts of frequent alarms.

f) Fire stations and their sites should be designed to fit in with their surroundings, including consideration of open spaces, off-street parking, landscaping, and general appearances especially when located in residential districts.

g) In residential service areas, fire stations should be located in or near those sections which have the highest density."

[General Plan, pages 5-21 to 5-22; true copy of this section, marked "Exhibit K," is attached hereto and is incorporated by reference herein.]

18. On April 4, 2003, Kenneth W. Mitten, Fire Chief, Merced Fire Department, released a document entitled, "Merced Fire/Rescue Strategic Plan 2003." At p. 7 (unnumbered) of this Plan, in Section D. "Five Plus Years," the document states:

> "1) Due to community growth and development, review and revise the City of Merced Community Fire Protection Master Plan (CFPMP) to maintain adequate and affordable service levels, as directed by the City Council."

[See true copy, marked "Exhibit L," attached hereto and incorporated by reference herein.]

19. The Safety Element of the City General Plan also includes specific language confirming the foregoing fire station response time standards:

> "Land Use
> Merced has a variety of land use types. Many of these require tailored fire protection considerations. These land uses are included as follows:
> ...
> Each of these land use types requires somewhat different fire suppression resources (e.g., emergency medical services, hazardous materials response, and heavy rescue). Merced's current policy is to provide emergency response within 4 to 6 minutes and to provide adequate resources to combat fires in these occupancies. The target of this response is to place a fire unit on scene in 95 percent of incidents in five minutes..."

[General Plan, Safety Element, pp. 11-26 and 11-27; true copies, marked "Exhibit M," is attached hereto and incorporated by reference herein; see Figure 11.26]

20. The City's typical Pre-Annexation Development Agreement used in its ordinary course and practice includes boilerplate Conditions of Approval, which often includes:

> "Section 7. If an additional Fire Station or Substation is necessary to meet the adopted fire response time in the City's Community Fire Protection Master Plan, Owner must contribute its proportional share to the construction of such facility."

"Exhibit B, Development Approvals," including compliance with the environmental review document, incorporating the Mitigation Monitoring Program; and

"Exhibit C, Land Use Regulations," including compliance with:

Merced Vision 2015 General Plan, as amended

Charter of the City of Merced, as amended

Merced Municipal Code, as amended

City of Merced Design Standards, as amended

[See City's typical form Pre-Annexation Development Agreement, from which the foregoing excerpts were cited.]

21. On January 2, 2007, the City Council considered the Staff Report prepared by City Staff, dated December 21, 2006 and unanimously adopted a motion approving and adopting Resolution 2007-11, regarding the establishment of priorities as recommended for the development of fire stations; directing staff to seek proposals from architects for the design of fire station 56, to be located at the Merced College site; and to conduct a joint Fire Station Study Session on a temporary (interim) fire station for Bellevue Ranch North. [See Staff Report, dated December 21, 2006 and the Minutes of the City Council Meeting held on January 2, 2007, marked "Exhibit N;" true copies are attached hereto and incorporated herein by reference.] There is no evidence that Resolution No. 2007-11 was rescinded or modified by the Council.

22. On August 22, 2007, the City Planning Commission approved and adopted Amendments to Planning Commission Resolution No. 1175 (Standard Tentative Subdivision Map Conditions) Provision No. 7, which applies to all Tentative Subdivision Maps in the City of Merced, which is included for all subdivisions referred to hereinabove; to-wit:

> "7. All other applicable codes, ordinances, policies, etc. adopted by the City of Merced shall apply."

22. In the Staff Report for Agenda Item L-1-I for the City Council meeting of May 5, 2008, the City Manager and the Fire Chief reported to the City Council:

> "Current balances as of March, 2008 within the Fire PFFP Account total $1,727,020.57. This includes $645,715.87 City and $1,081,304.70 developer. (page 5)
> ...
> Fire Station 56 was designated by the City Council as the top priority. The site acquisition has been completed. The schedule approved by the City Council was to undertake the design work in 2008, and construct the facility in 2010. It is currently projected that Fire Station 56 would be open and operational by then (*sic*) end of 2010. (page 6)
> ...

In the calendar year of 2007 fire station No. 53 responded to 941 incidents. The average response time was 4:24 minutes for the year." (page 7)

[True copy of the Staff Report, marked "Exhibit O" is attached hereto and incorporated by reference herein.]

23. The current Staff Report does not provide a report of the relevant time period, which is the ***longest*** elapsed times for responses outside of the areas previously identified in Exhibit N showing the coverage areas and those developed areas outside the circles showing purportedly adequate coverage, nor does the Staff Report provide an accounting of the development impact mitigation funds received during the "boom" years of 2001-2005 in the City or any funds transferred into or out of the relevant funds. There is no discussion of the call volume or where it was generated, with respect to new development ***outside*** the service rings shown in the attachments to "Exhibit N."

24. Petitioners contend that the Respondents have failed to discharge their mandatory duty set by the Council by Planning Commission Resolution No. 1175, which requires that all "applicable codes, ordinances, policies, etc. adopted by the City of Merced shall apply" and that there is substantial credible evidence to support a finding that the City Council has adequate funds to construct Fire Station No. 56 and that Council Resolution No. 2007-11 expressly authorizes the Council to borrow from other funds to fund the construction of fire stations. [See Exhibit N, which expressly states:

> "This station is recognized in Merced College's Campus plan as well as City plans, and is ready to proceed to construction. The City owns the site, which was recently purchased from Merced College. Staffing for an additional station is available, due to revenues from Community Facilities Districts. The need for this station is the most immediate, evidenced by both the growing call volume in the area, and the amount of development to be served by the station. (see Attachment 2). This station would serve Bellevue Ranch, recently annexed Land (e.g. Absolute-Leeco), and Proposed annexations shown in Attachment 2.)"

25. Moreover, the City Staff Reports do not report on the number of out-of-area students

who are attending both Merced Community College and the University of California, Merced, who have come to the City of Merced specifically because of these two state-funded educational institutions, who reside in the underserved areas outside the service rings identified in the attachments to "Exhibit N." Thus, the fire service standards and regulations adopted by the City of Merced in their General Plan policies and other standards, which have been incorporated by the City into the standard Conditions of Approval for all Tentative Subdivision Maps are affected with a state interest in protecting out-of-area students, faculty, and administrators who have come to the City of Merced expressly for the purpose of attending both post-secondary school institutions funded and supported by the State of California.

26. Petitioners have no adequate remedy at law and, due to the continuing unlawful decisions, actions, and omissions of the City of Merced, acting through its City Council, City Manager, and other City Staff, as alleged herein. Petitioners have been compelled to retain legal counsel to bring this action against the Respondents and Defendants, in order to protect and defend substantial interests of the Petitioners and the general public in the public health, safety, and welfare of the residents of the City of Merced and to protect the City residents and taxpayers from sub-standard fire protection of life and property and from potential significant exposure to liability and monetary damages from claims by residents in recently annexed areas who have not been provided the fire protection system and safety mandated by the City General Plan and other City goals, policies, objectives, implementing actions, memoranda to the City Council, through the City Manager, and City Council Resolution No. 2007-11, as set forth hereinabove.

27. In addition, Respondent City has continued to issue building permits, water and sewer service connections, certificates of occupancy, and other development entitlements, despite the continuing violations of the standard TSM Conditions of Approval incorporating City General Plan Goals, Policies, Objectives, and Implementing Actions, and other adopted development standards, including the City's Fire Protection Master Plan, Subdivision Map Conditions of Approval, and Development Agreement Conditions of Approval, along with the

City's failure to implement the provisions of City Council Resolution No. 2007-11, including the failure to proceed with either the construction and equiping of an operational permanent or temporary or interim fire station at the M Street traffic circle south of Bellevue Road or elsewhere in the Bellevue Ranch Master Planned Community.

FIRST CAUSE OF ACTION

[Violation of City General Plan]

(Failure to Enforce Compliance, Pursuant to Gov't Code Sections 66499.34 and 66499.36)

28. Petitioners re-plead and reincorporate the allegations in paragraphs 1 through 27, inclusive, as though fully set forth herein.

29. Despite the clear and express mandate of the City General Plan provisions cited hereinabove, including the City Fire Protection Master Plan, and memoranda from the City Fire Chief to the City Council, through the City Manager, and the adoption of Resolution No. 2007-11, Respondent City of Merced has failed to provide the planned construction of new City Fire Station 56 (Merced College) or the relocation of Fire Station 53 (Loughborough), which results in numerous subdivisions being in violation of the General Plan fire protection requirements, final subdivision map requirements for numerous developments, City fire protection goals, policies, objectives, implementing actions, and other policies, agreements, and standards adopted by the City Council, as referred to hereinabove. Specifically, all of the homes located north of Cardella Road exceed the two (2) mile **maximum** distance from Fire Station 53 (Loughborough), and the homes under construction north of Bellevue Road and G Street are 3.2 miles from the nearest fire station that serves them, Fire Station 53 (Loughborough), and construction of Station 56 (Merced College) has not yet commenced.

30. In addition, the residences currently within in the adopted 1.5 mile fire services area of Station 53 (Loughborough) are subject to substantial risk to life and property, due to the fact that Station 53 (Loughborough) is currently charged with the duty to provide fire protection

services to a service area far larger than the 1.5 mile radius identified in City Resolution 2007-11, thereby causing an unreasonable risk of timely provision of fire services being unavailable within the 4-6 minute time period within which "flashover" occurs, in the event that the Fire Station 53 personnel and equipment were dispatched outside the designated service area to the area north of Cardella Road, when service was needed within the designated service area of Station 53 (Loughborough), thereby increasing the probability of damage to life and/or property within the 1.5 mile service area required by the fire protection service standards adopted by Respondent City.

31. Moreover, as taxpayers and residents of the City of Merced, the MCFRP members and other members of the public are exposed to both risk of monetary damages from loss of life and property damages, but, also, they are exposed to increased financial risk resulting from increased fees caused by lawsuits brought against the City to recover damages for the inadequate fire protection services, based upon the violation of the City's own mandatory TSM Conditions of Approval, which incorporate fire safety standards, as well as the nationally accepted standards set forth in the exhibits attached hereto.

32. In the early part of 2007, prior to filing suit, Petitioners' counsel raised this issue before the City Council, sitting in public session, by asking the City Manager when the City would have the new fire stations constructed and fully operational, and the City Manager stated that he did not know when the next new fire station would be constructed and fully operational. In August, 2007, Petitioners' counsel contacted the City Attorney by telephone and asked when the new fire station planned for the Bellevue Ranch Master Plannned Community would be constructed to serve the new development proceeding outside the City's adopted service area, and the City Attorney informed Petitioners' counsel that he would be turning this matter over to the developers of the projects outside the adopted service area for them to solve the problem. On December 17, 2007, when this suit was filed, no permanent or temporary fire station was

constructed or operational to serve the area north of Cardella Road or in the areas of south Merced identified in the real property owned by the RPIs, as set forth hereinabove.

33. Petitioners contend that Respondent City has a mandatory duty to enforce the Conditions of Approval set forth in its "Standard Conditions" for all TSM's, including Provision No. 7, which Petitioners contend include all of the City General Plan provisions and to comply with the State Subdivision Map Act [Gov't Code section 66473 et seq.] by enforcing the Conditions of Approval adopted by the City Council expressly set forth in the City's approval of each TSM and FSM, to comply with the California Environmental Quality Act (CEQA) [Public Resources Code section 21000 et seq.] mitigation measures adopted with the approval of each subdivision project, and to enforce the Conditions of Approval contained in the Development Agreements with property owners and developers for each subdivision project.

34. Petitioners petition the Court to grant this Petition for Writ of Mandamus, pursuant to CCP section 1085, and to grant a stay of further issuance by Respondent City of Merced of any new building permits, water connections, sewer connections, certificates of occupancy, and any and all other development entitlements in those areas which are not in compliance with the City's General Plan fire protection standards, subdivision map Conditions of Approval, Development Agreement Conditions of Approval, and the other fire protection standards, as set forth hereinabove, including City Resolution 2007-11 and Planning Commission Resolution No. 1175, unless and until the City has caused the necessary new fire stations to be constructed and fully operational, as required by the foregoing legal mandates and authority, or to require the installation of temporary or interim fire stations which are fully equipped and staffed with the necessary personnel.

35. In addition, Petitioners respectfully seek equitable relief by requesting this Court's order commanding, directing, and ordering the City to prepare an inventory list of all properties which are not located within areas complying with the City's fire protection standards, as approved and adopted in Resolution 2007-11 and Planning Commission Resolution No. 1175; to

provide written notice to all City property owners of record and/or residents who reside in areas which are not in compliance with the City's fire protection standards, as set forth hereinabove; to provide notice to all title and escrow companies engaged in business in the City and County of Merced of the inventory of non-compliant properties in the City of Merced, and to post notices of such non-compliance on each building within the City limits that is not in compliance with the City's adoped fire protection standards.

36. The legal bases for this relief are set forth in the Subdivision Map Act (SMA) [Gov't Code sections 66474, subd. (a), (b), and (g), 66499.33, 66499.34, and 66499.36 (which regulate the duty of the agency granting entitlements under the SMA)]; PRC section 21181.6 (regarding compliance with the Mitigation Monitoring Program for each annexation and subdivision and Development Agreement Conditions of Approval); and the State Planning and Zoning Act [Gov't Code section 65300.5 (requiring internal integration and consistency among general plan land uses and zoning and the Safety Element)].

37. Petitioners are informed believe, and based upon such information and belief, hereon allege that, due to the fact that Merced Community College (MCC) and University of California, Merced, is actively engaged in recruiting and soliciting students to come to their respective institutions and to reside in the City of Merced; and due to the fact that these institutions are on notice of the fire safety deficiencies in the underserved areas identified in this action; and due to the fact that these institutions serve in the role of ***in loco parentis*** to, and have an affirmative duty to safeguard the health and safety of their students by warning them of the potential health and safety risks to, their students who rent houses, apartments, and/or rooms in the areas which are underserved by the fire protection services of the City of Merced, as defined by the City's own standards:

38. Petitioners represent the public interest and initiate this legal action on behalf of the taxpayers of the City of Merced and the general public for the purpose of protecting and defending the public health, safety, and welfare, mandated by the provisions of the SMA and CEQA, as alleged herein, and to preserve the financial integrity of the City of Merced and to avoid potential civil lawsuits and judgments against the City of Merced.

39. Petitioners have a substantial beneficial interest in ensuring that the Respondents' decisions be rendered, and actions be taken, only in conformance with the policies and procedures required by law, in having laws properly executed, and in having public duties enforced, including the enforcement of the SMA, the City's own standard TSM Conditions of Approval, Mitigation Monitoring Programs, Development Agreement Conditions of Approval, City Fire Protection Master Plan, and other City policies, goals, objectives, implementing actions, including the implementation of Resolution 2007-11, regarding the protection of life, property, and public financial resources in the City of Merced.

40. Petitioners are entitled to, and hereby seek, an award of reasonable attorney's fees and costs, based upon their service to the public as private attorneys general, pursuant to Code of Civil Procedure Section 1021.5 and Government Code Section 800.

41. Wherefore, Petitioners seek this Court's order granting this petition for a writ of mandamus and other relief as prayed for hereinbelow.

PRAYER

WHEREFORE, Plaintiffs and Petitioners pray for judgment against Respondents and Defendants, as follows.

As to the First Cause of Action for Mandamus:

1. For a peremptory writ of mandamus or other appropriate writ, pursuant to Code of Civil Procedure Sections 1085, commanding, directing, and ordering Respondents City of Merced and the Merced City Council to enforce its own standard Tentative Subdivision Map Conditions of Approval as set forth in Provision 7 of Planning Commission Resolution No. 1175

and City Council Resolution No. 2007-11, to comply with the State Subdivision Map Act [Gov't Code section 66473 et seq.] by enforcing the Conditions of Approval adopted by the City Council in its approval of each TSM and FSM, to comply with the California Environmental Quality Act (CEQA) [Public Resources Code section 21000 et seq.], and to enforce the Conditions of Approval contained in its Development Agreements with property owners who are named herein as Real Parties in Interest.

2. For a peremptory writ of mandamus or other appropriate writ, pursuant to Code of Civil Procedure Sections 1085, commanding, directing, and ordering Respondents City of Merced and the Merced City Council to enforce its General Plan provisions, to cease issuance of any building permits, water and sewer connections, certificates of occupancy, and any and all other development entitlements in those areas which are not in compliance with the City's General Plan fire protection standards, subdivision map Conditions of Approval, Development Agreement Conditions of Approval, and the other adopted fire safety standards, as set forth hereinabove, including Resolution 2007-11, unless and until the City has caused the necessary new fire stations to be constructed and fully operational, as required by the foregoing legal mandates and authority.

3. For a peremptory writ of mandamus or other appropriate writ, pursuant to Code of Civil Procedure Sections 1085, commanding, directing, and ordering Respondents City of Merced and the Merced City Council to prepare an inventory list of all properties with development entitlements which are not located within areas complying with the City's fire protection standards, including City Council Resolution 2007-11 and Planning Commission Resolution No. 1175; to provide written notice to all City property owners of record and residents of such areas which are not in compliance with the City's fire safety standards, as set forth hereinabove; to provide notice to all title and escrow companies engaged in business in the City and County of Merced of the inventory of non-compliant properties in the City of Merced, to publish a notice in the Merced Sun-Star and the Merced County Times including the notice of

the locations of existing non-compliance; and to post notices of such non-compliance on each building within the City limits that is not in compliance with the City's fire protection standards.

4. For costs of suit incurred herein;

5. For reasonable attorneys' fees and costs, pursuant to Code of Civil Procedure Section 1021.5 and Government Code Section 800;

6. For such other and further relief as the court deems just and proper.

LANAHAN & REILLEY LLP

Dated: May 5, 2008

By: _____
RICHARD L. HARRIMAN
Attorneys for Petitioners

Merced Citizens for Responsible Planning and Valley Advocates v. City of Merced

[Merced County Superior Court Case No. 150872]

VERIFICATION

I, Richard L. Harriman, declare:

I am a member and General Counsel of Petitioner and Plaintiff, Merced Citizens for Responsible Planning (MCFRP), in the above-entitled action and reside in the City of Merced, County of Merced. I have read the foregoing SECOND AMENDED PETITION FOR WRIT OF MANDAMUS AND COMPLAINT FOR DECLARATORY RELIEF and I know the contents thereof are true based on my personal knowledge, except as to those matters that are therein stated on my on my information and belief, and as to those matters I am informed and believe they are true, and on that ground verify that those matters are true.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and is executed at Merced, California on this 3rd day of May, 2008.

RICHARD L. HARRIMAN

Merced Citizens for Responsible Planning and Valley Advocates v. City of Merced

[Merced County Superior Court Case No. 150872]

VERIFICATION

I, Susan K. Ion, declare:

I am the Vice-President of Petitioner and Plaintiff, Valley Advocates, in the above-entitled action and reside in Stanislaus County. I have read the foregoing SECOND AMENDED PETITION FOR WRIT OF MANDAMUS AND COMPLAINT FOR DECLARATORY RELIEF and I know the contents thereof are true based on my personal knowledge, except as to those matters that are therein stated on my on my information and belief, and as to those matters I am informed and believe they are true, and on that ground verify that those matters are true.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and is executed at Modesto, California on this 7th day of May, 2008.

Susan K. Ion

SUSAN K. ION

EXHIBIT A

921

CONTROLLING THE COST OF EMERGENCY PROTECTION • CONTROLLING THE COST OF EMERGENCY PROTECTION •

The Basic Elements of

Fire and Disaster Planning

for the

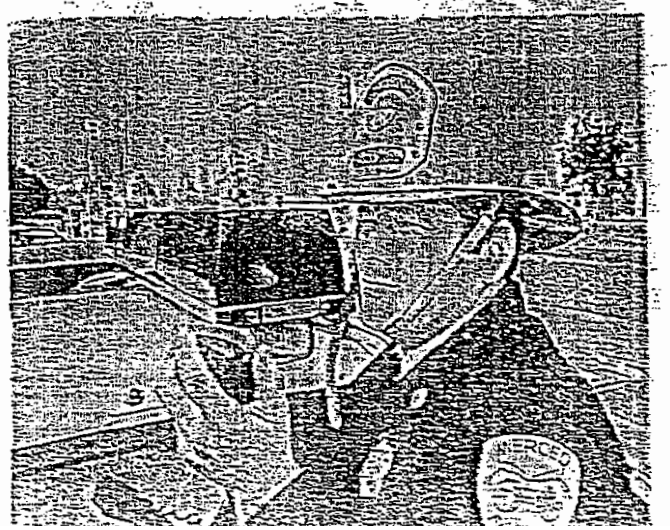
CITY OF MERCED

Prepared by

K.W. MITTEN, Fire Chief

1982

• CONTROLLING THE COST OF EMERGENCY PROTECTION •



CITY OF MERCED

CITY HALL, 1730 "M" STREET, MERCED, CA. 95344-0068 - P.O. BOX 2068 (209) 722-4181

December 3, 1982

City Manager and
Honorable Mayor and
City Council Members
City of Merced

As the Fire Protection Manager (Fire Chief) for the City of Merced, I am made painfully aware on a daily basis of the tremendous losses our nation's communities suffer from fires and other disasters. This report is about fire protection "Master Planning"--a systematic and cost effective approach to fire service delivery for community fire and disaster mitigation.

Community involvement is an important element in the master planning process. Early citizen participation and support can do much to air concerns and avoid misunderstanding. The community as a whole needs to understand what fire protection master planning is, and what it is not. The people must not feel threatened, but rather they must be made to feel that they are a part of the process and have a say in what happens. Also, the political, business and civic leaders must be convinced as to the need of master planning. Fire protection planning takes a lot of work and some of the decisions will be difficult; however, the results are likely to be well worth the effort.

Last but not least, the Master Plan is a policy guide for managing the fire and emergency environment of the community through a fire protection system. Because it is future looking, the plan provides policy in advance of change; permitting control of, rather than reaction to, the fire environment.

Kenneth W. Mitten

Kenneth W. Mitten
Fire Chief
Merced Fire Department

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units are dispatched/respond/arrive faster (due to early notification) to provide final fire extinguishment and salvage/overhaul. The systematic process then moves into an investigation and documentation phase and supports the system by providing data for research and development, which calls for improvements by code development and enforcement to support the fire prevention effort.

The fire protection system that is being suggested at this time was developed by the USFA and impacts upon the local community in the form of fire protection "MASTER PLANNING". (See Appendix C)

"The idea of providing a system of comprehensive emergency management for response to maj life-threatening emergencies has evolved."

MASTER PLANNING FOR FIRE PROTECTION:

What is fire protection Master Planning and how does it impact upon the fire problems in America? Traditionally, our community's thinking is to delegate to the local fire department the sole responsibility for providing fire and disaster protection. True, the primary responsibility for fire protection and disaster planning obviously does rests with the fire department; however, with today's economics and the resulting changes in management philosophies, the need for fire protection planning as a community function has been identified. In a typical community each of the following organizations is a part of the fire protection and emergency system:

1. Fire Department: Performs rescue, fire extinguishment, arson investigation, emergency medical services, fire

prevention activities, such as inspections and code enforcement, fire and disaster planning.

2. Building Department: Administers and enforces building codes in new construction and old construction undergoing remodeling.

3. Road or Street Department: Constructs, marks and maintains traffic corridors for motor-vehicle use, including fire apparatus.

4. Police Department: Crowd control and law enforcement, arson investigation for arrest and prosecution, traffic control and other police actions including evacuation.

5. Water Department: Supplies and distributes water for fire extinguishment.

6. Public and Private Schools: Sponsors public awareness programs in fire prevention and education.

7. Telephone Company: Telephone and other alarm circuits.

8. Planning Commission: Determines zoning which influences the spread of fires.

9. Ambulance Services: Emergency medical services and victim transport.

10. Citizens: A personal concern and responsibility for themselves and their neighbors.

As can be seen, the fire department is but one of the several local organizations in every community which influence fire and emergency protection. More often than not, the fire department deals with fires and other types of emergencies, resulting from factors which are the direct responsibility of some of these other local governmental organizations or individuals. It is therefore suggested that disaster planning is a community process, coordinated by the fire department.

Basically, the fire protection Master Planning process is designed to provide an organized approach to defining, obtaining, and maintaining the level of emergency protection a community desires, and the subsequent fire prevention and control system necessary. The local fire protection Master Plan should:

- Define the current and future fire/emergency environment by establishing and maintaining a comprehensive data base
- Define accepted life and property risk levels by setting goals and objectives
- Define the fire protection system which provides the level of service commensurate with the level of accepted risk
- Identify and justify the resources necessary to develop and operate the public fire protection agency

"All phases of emergency management are addressed in the comprehensive approach."

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- Provide a detailed program of action to implement and maintain the fire protection system necessary

Ideally, the fire protection plan will provide a standard format to be applied to the community by establishing a policy guide for managing the local fire environment through the fire protection system.

Master Planning in itself is not a new process; however, Master Planning as applied to the fire service does differ from other standards and planning processes in that:

1. Fire protection master planning requires a commitment from the local governing body. A successful master planning process is based upon the authority being given to the local fire protection agency to develop a plan. Just as codes and ordinances provide a community with the authority to be a city or town and to regulate its own destiny, the authority for fire protection master planning enables the fire department to manage the resources for fire protection and disaster planning.

2. Fire protection master planning requires local multi-agency involvement for success. If other city or county departments are involved in the process, they are more likely to support the needs in fire protection master planning in the world of political and economic realities.

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3. In the fire protection master planning process, all potential strategies are considered. By shaping fire protection goals and objectives in a proper way, certain needed alternatives for reaching the established objectives are available for consideration. These alternatives give the fire department an opportunity to direct the community toward a reasonable level of fire protection within the allocated local resources. Taking this non-traditional approach to the fire protection needs of the community provides an interesting and dynamic process that is keyed to specified levels of service.

4. Fire protection master planning is a community-based process and the local community must be involved.

FIRE PROTECTION PLANNING FOR THE CITY OF MERCED:

The City of Merced's fire department to date has not addressed the fire service delivery method as a systematic process, an item the current administration deems a priority. This is not to infer that our community's fire protection needs have not previously been addressed. To the contrary, the high service levels and our recent Insurance Services Office (ISO) survey and subsequent high Class III rating validate our city administration in its efforts to provide an adequate level of fire suppression to the citizens.

"Not only with an eye to the final plan but also to how you are going to implement it!"

The Merced City Fire Department being under the direction of a newly appointed fire service manager (fire chief) is currently reviewing our methods of fire and emergency service delivery and has identified the need to implement a planned process for fire service protection to the citizens of Merced. It is projected that this process will take the better part of two years to formulate and implement. However, due to its development it is felt that the true fire protection needs of the community will be identified and future planning enhanced by:

- Identifying an Adequate Level of Fire Protection

The fire service has tended to rely on bigger and better fire-fighting forces, resulting in a labor intensive situation with rapidly escalating costs. As property values and population densities have increased, losses have also continued relatively unabated despite increased firefighting forces. Valid alternatives usually have not been addressed. Planning is the key to adequate fire protection, but the planning must be done at the local level. Without local considerations, the planned fire protection system is likely to be poorly suited to local needs and to be slow to react to changing local requirements.

- Identifying the Cost of Fire Protection

Determining the cost and worth of fire protection has been traditionally difficult. Few communities actually try to

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measure such things; consequently, few know the true costs of operating a fire protection system. The expenses of running an organized fire department are regularly calculated, but they are by no means all the costs of fire protection. Here are a few of these "other" costs:

- Water distribution and maintenance costs for pipes, hydrants, and plant capacity and operations used for fire protection

- Fire insurance costs

- Costs for in-place fire protection such as sprinkler systems and smoke and heat detectors

- Private fire brigades

Our nation's communities are being challenged to control or reduce costs but yet maintain or improve fire protection services--herein lies the challenge facing master planning.

- Determining an Acceptable Risk

A certain level of losses from fire must be accepted as tolerable simply because of the limited resources of the community. For example, many communities calculate their fire losses, but few consider such opposite factors as:

"Communities today are realizing the need for resources made readily available for response to a wide variety of emergencies."

What savings result from the existence of their fire protection system? How many buildings did not burn and how many lives were not lost? What industries exist in the area because of a favorable fire protection system and acceptable insurance rates?

An adequate fire protection system is sure to be worth more than an inadequate system, but there are no universal criteria for evaluating adequacy. Therefore, each community must determine the "worth" of its own system. For example, to one community, adequate fire protection may mean achievement of a specified response time and water flow for 90% of the fires. However, to another community, that may not be enough. Conditions that endanger the safety of citizens and firefighters beyond the acceptable risk must be identified as targets for reduction.

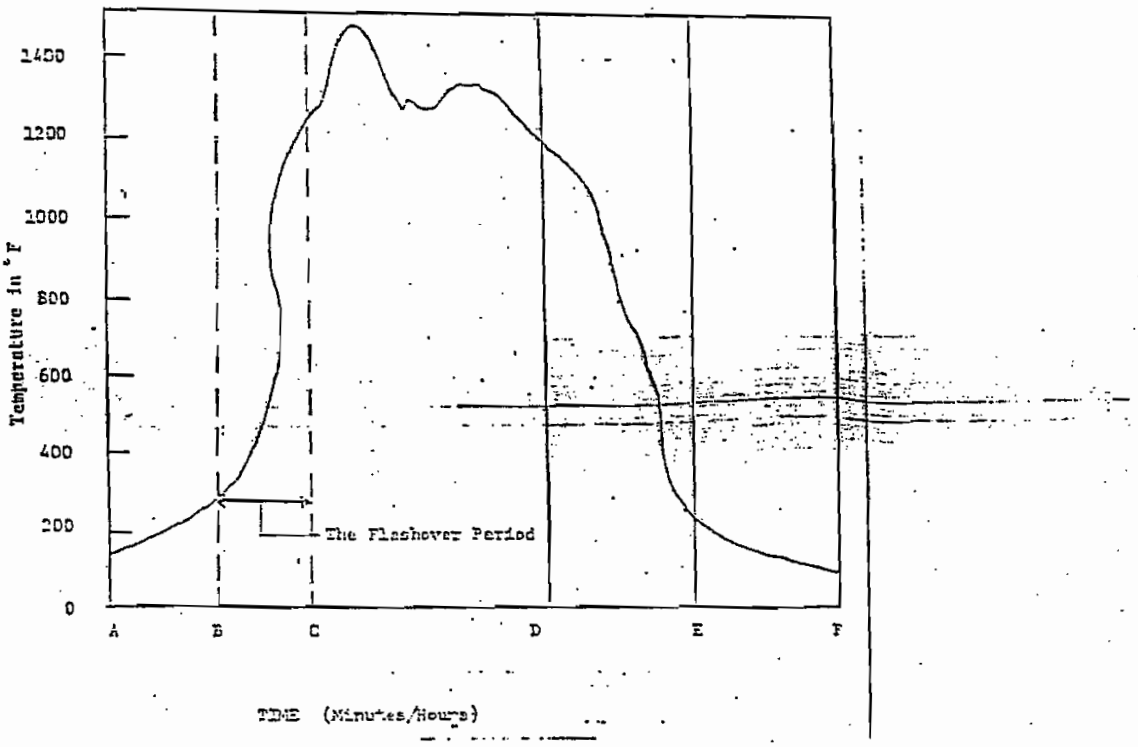
WHY MUST WE PLAN?

Having read this report thus far, you may ask why, after all these years, is it necessary to go to all this effort. Don't we already know what our fire protections needs are? There are some pretty good answers to these questions. Fire protection in many cities, towns and rural areas is known to be inadequate, in most places, by urban standards. And if concepts don't change, it is likely to remain so, especially in the face of rising costs and intense competition for what funds are available. But now there are some alternatives that need to be addressed in Merced--for example, low cost and

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APPENDIX B

HISTORY OF A FIRE



The amount of fire damage incurred relates to the evolution of fire and is keyed to various benchmarks as identified under the reflex time listings as it relates to the chart of the history of a fire.

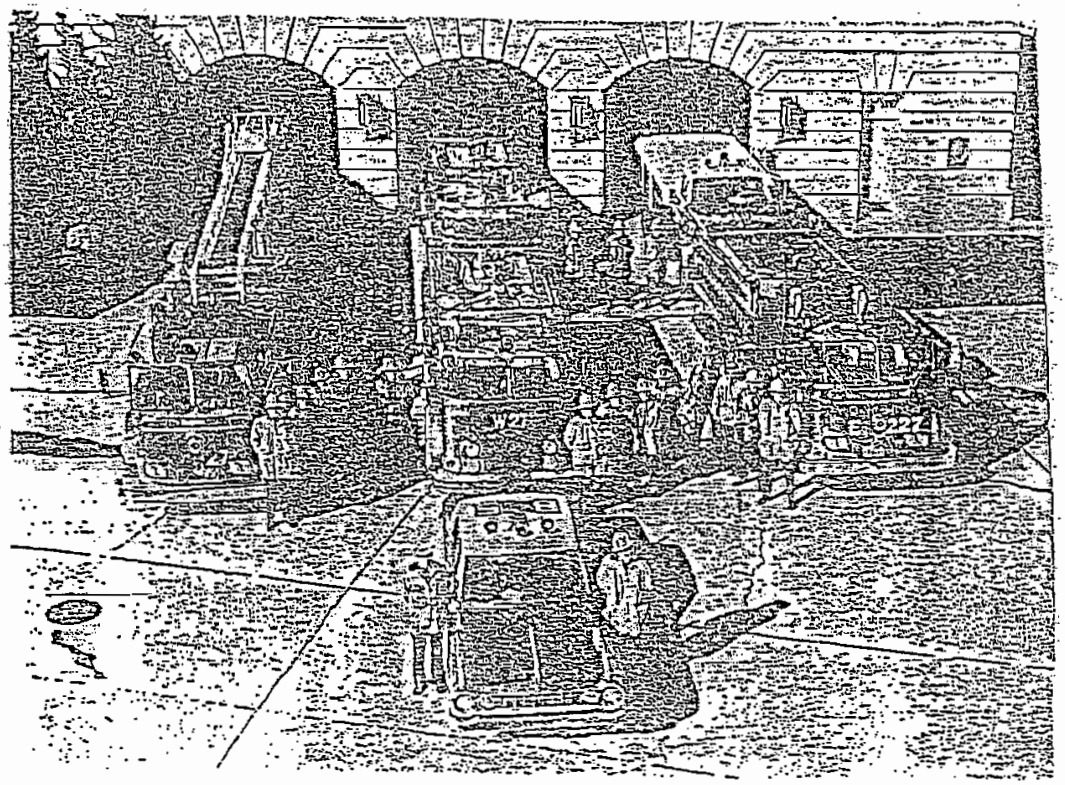
REFLEX TIME

- Preheating of the fuel
- Actual ignition of the fuel
- Detection of the fire
- Notification time
- Receipt of alarm/dispatch time
- Unit notification/response time
- Operational set-up time

merced fire department

master plan

SERVICE LEVEL



BY K.W. MITTEN

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protection if it is supported by active fire prevention and public education programs and built-in fire protection systems and equipment in selected structures.

CONTROL OF FIRES

Through testing and experience, it has been documented that the first five to ten minutes of a fire, both from life safety and property protection standpoints, are of the greatest concern. Because of the physical characteristics of a fire, the temperature within a building rises extremely rapidly from the fire's incipiency to a point when all of the combustible contents within a confined area will ignite in a "flashover" phenomenon. The actual amount of time required for this condition to develop will vary, depending on several factors, including the building construction and related characteristics of its contents.

If an extinguishing effort can be initiated prior to the time the fire reaches this "flashover" point, the rescue of occupants is anticipated and the difficulty of control is greatly reduced. Associated with this greater ease of extinguishment is not only the saving of a life(s) but the elimination of a financial loss to the community and the occupancy involved. Therefore, our fire protection "reflex time" is an important aspect in policy issues when considering an adequate service level.

There are five critical periods of time that must be considered in establishing the ability to attack structure fires prior to "flashover":

1. The time that elapses between the inception and the detection of the fire.

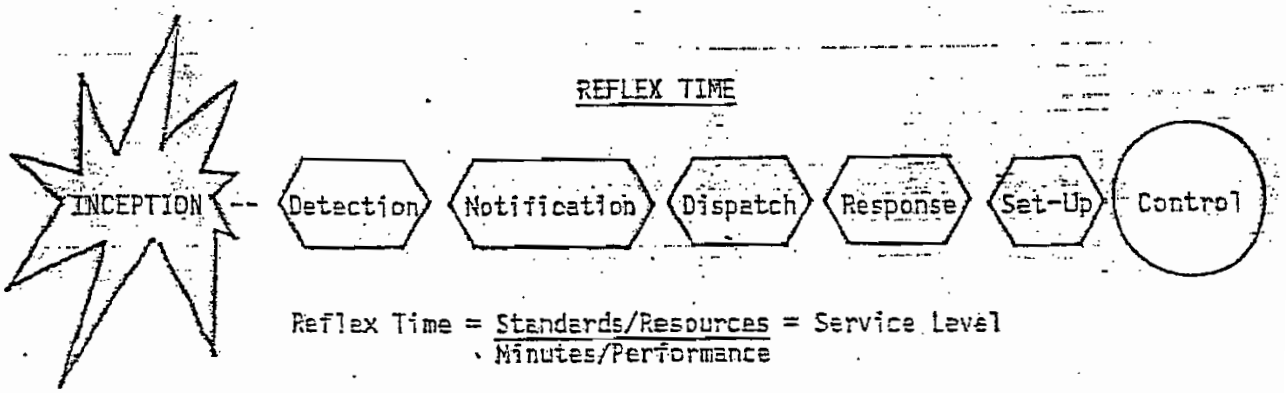
2. The amount of time required to report the fire.

3. The amount of time required to receive the alarm, determine the type of alarm, the appropriate assignment and dispatch of companies.

4. The actual response time from alarm dispatch until arrival on the scene.

5. The time required to set up at the fire scene and commence the application of sufficient extinguishing agents.

These five time periods all relate to the effectiveness of the fire protection system and are illustrated in the following figure as they relate to "reflex time" and the "flashover" phenomenon.



$$\text{Reflex Time} = \frac{\text{Standards/Resources}}{\text{Minutes/Performance}} = \text{Service Level}$$

Lapse Time Between Inception and Detection

Through active fire prevention efforts, the frequency of the occurrence of fires in the community can be greatly reduced; however, when a fire or other emergency does occur, the period of time from the start of ignition, in the case of a fire, to the detection of same, is a most critical stage. Very often, major fires have been the result of a fire burning for a long period of time prior to detection. In fact, the greatest loss of life and property is experienced when there has been a delay in detecting the fire. This time period, unfortunately, is the most difficult period of time for the public fire protection agency to control. To address this problem through the installation of devices such as smoke detectors and built-in fire protection systems, an early warning is possible and control is usually established with a minimum amount of damage.

Time factors: With detection systems: seconds to minutes.

Without detection systems: minutes to hours.

Report of Emergency

In our sequence of an emergency, the educating of the members of the community in the proper procedures to follow in the reporting of same is important. Many a fire has burned for several minutes without being reported strictly due to the "I thought you had already reported it" process.

Time factors: Within one minute after detection.

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Receipt of Alarm and Dispatch of Apparatus

Upon the notification of an emergency, the dispatch of apparatus and manpower should be completed within a 45-second to one-minute time interval. This includes the time needed to confirm the type of fire or emergency, the location and the toning of the fire department's paging system.

Time factors: 45 seconds to one minute maximum.

Response Time to the Scene of the Alarm

The response time to the scene of the alarm is influenced by a variety of factors, including the street patterns, road conditions, time of day, location of and activities of the fire company at the time of the alarm. Upon the activation of the "dispatch" tone, and with the broadcasting of the type and location of the emergency, fire company response time will include the "turnout" time (putting on of protective clothing) and the actual response or running time to the reported scene.

At an average of 35 miles per hour, it will take an engine company approximately 3 minutes to cover the I.S.O. criteria of 1.5 miles. Couple this time with the "turnout" time of 30 to 45 seconds and we should be able to put a unit on scene within 4 minutes of dispatch. For each additional one-half mile of response distance, it would be necessary to add one minute to our response time.

Set-Up Time at the Scene of the Emergency

With the arrival of the fire department units at the scene of the emergency, operational efficiency in controlling the incident is based upon the deployment of the resources as rapidly as possible in a coordinated fire/rescue attack. The plan of operation must be determined, many times without complete information, and coordinated by the incident commander to accomplish the following objectives: save lives, protect exposures, confine and control the fire.

The Merced Fire Department basic operational procedures are designed to address the typical fire scene, in the priority of sequence listed above, by providing the fire ground commander (IC) with teams of personnel assigned as companies, with standard operational expertise and specific objective:

Rescue team: Search and rescue.

Attack team: Protective lines to support search and rescue and confine the fire.

Entry team: Open the building and ventilate to support search and rescue and fire control.

Water team: Develop a continuous supply of water.

The time required for fire companies to accomplish the set-up on the emergency scene and obtain their primary objectives are directly related to the manning levels, access to the structure involved, water supply, built-in fire protection

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systems, the magnitude of involvement upon arrival, number of companies required (size of building) and the training of personnel.

These considerations all impact upon our operational success. Without standard operational procedures and a constant manning policy, operational efficiency is greatly reduced, resulting in possible loss of life and higher property losses. It is recommended that all fire companies be manned at a three-member per company level and that basic set-up times of no more than three minutes be established, as our standard.

Control: Incipient Fires (Offensive Mode)

The ability to save lives (make rescues) and control fires in their incipiency is directly related to the early detection and rapid response with a quick set-up and application of an adequate amount of extinguishing agent on a fire within a 7- to 10-minute period of time.

Control: Large Fires (Defensive Mode)

In considering fire protection service levels, the control of fires that are not stopped in their early stage and have progressed to a point where they threaten not only the building of origin but the neighboring structures as well, involves the attacking of such fires with sufficient manpower to apply the required volume of water to effect extinguishment. In addressing this problem, the amount of water that would be required to handle a large fire in a particular building and protect the exposures can be calculated through the use of the "Guide for Determination of Required Fire Flow" published by the Insurance Services Office. This volume of water, referred to as the fire flow

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requirement, relates to how many gallons of water per minute (GPM) that must be applied to effect fire control.

If, upon arrival at the scene of an emergency, the building is reported to be well involved and if rescue is impossible, all efforts are directed at the confinement of the fire to the building of origin. It is due to this type of operation (defensive attack) that sufficient manpower must be responded on initial alarm to provide sufficient resources to meet the fire flow requirements of our typical building.

Time factors: three minutes

Reflex Time: "The Standard"

Response to an alarm that was detected immediately, reported and dispatched within 2 minutes, and no more than 1.5 miles from the fire company's location, should be within a 7-minute time period. Add to this a 3-minute set-up time, and our system will reflect a "reflex time" of 10 minutes -- a realistic and acceptable "service level."

department's facilities as it relates to the distance to be traveled to any point in the city and, second, the set-up time and efficiency of our fire companies to deploy resources on the emergency scene, as it relates to our fire company manning levels and standard operating procedures.

Fire Station Location

In a review of our existing facilities, response distances are in general within the I.S.O.'s recommendations. However, various areas within the city limits are beyond that 1-1/2 mile criteria. It is not advocated that a massive relocation effort be initiated, yet the maximum time to any area of the city should be established and a plan developed to bring our response needs within the "time" limits as established.

Fire Company Manning

For several years, the city has expressed an interest in the setting of fire company manning at three members per company. To establish a policy of manning our existing apparatus at a three-member per company level would require the addition of a minimum of nine new positions to the department -- a very expensive effort, at best. It is deemed, however, that our manning policies need to be addressed.

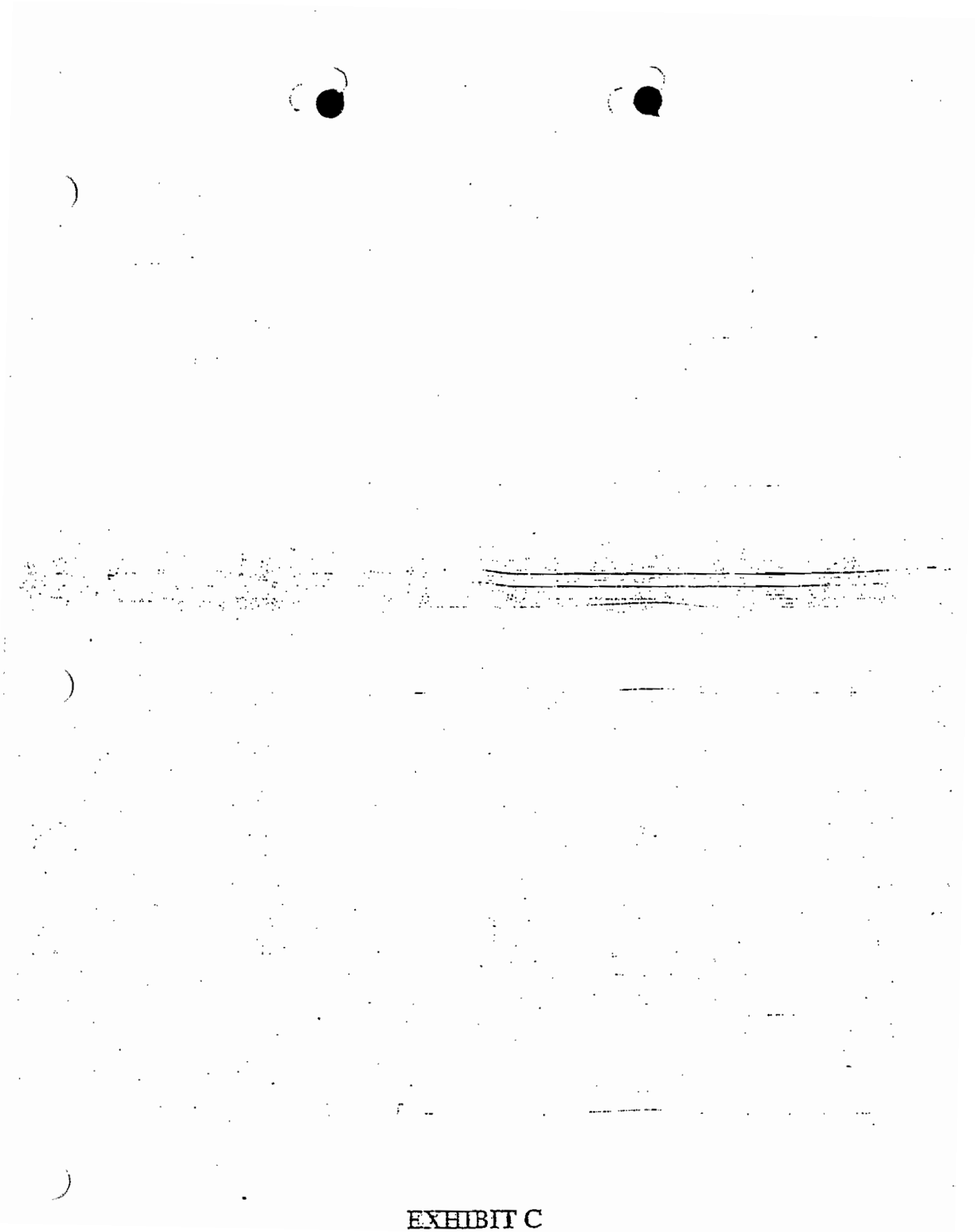
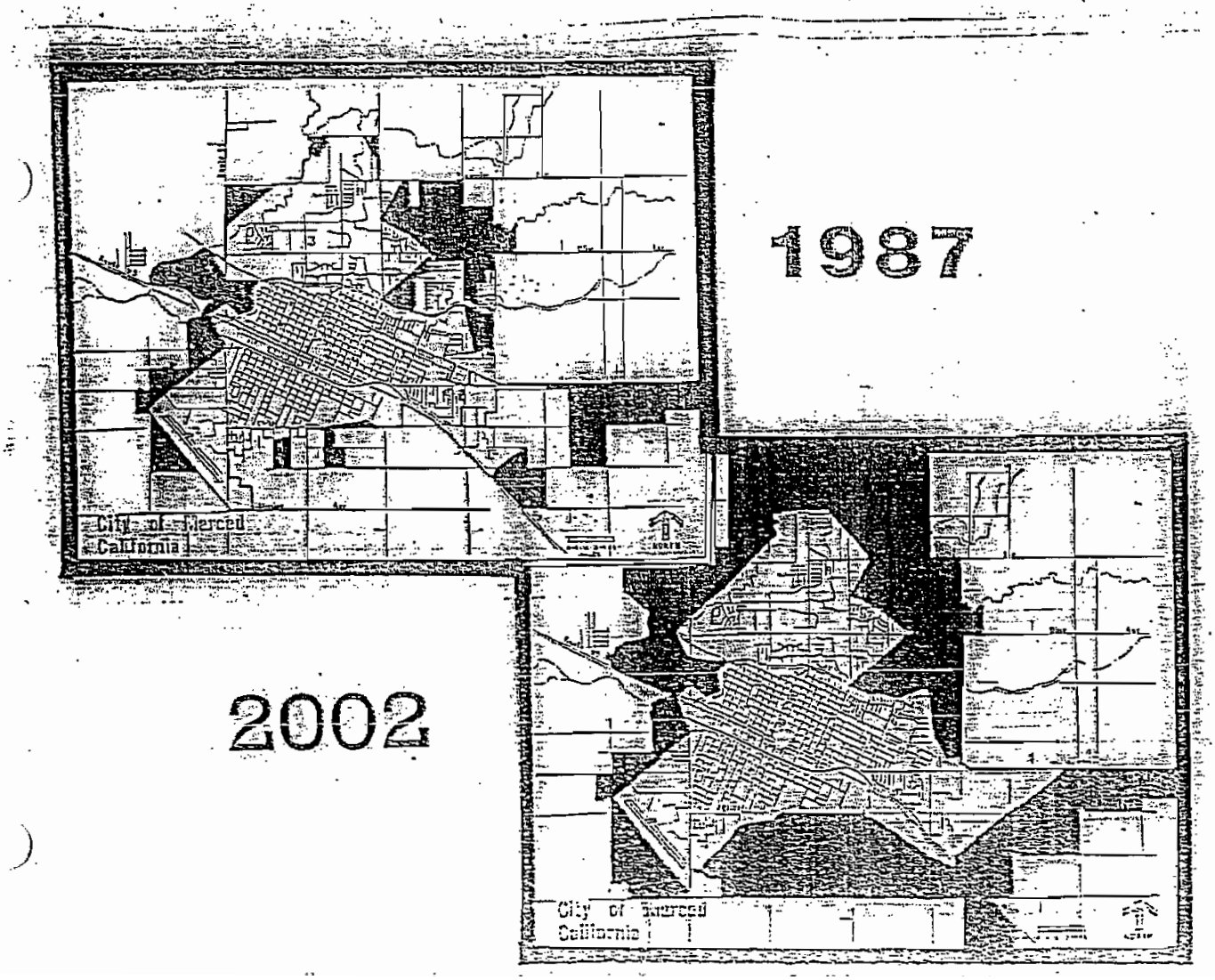


EXHIBIT C

MERCED FIRE DEPARTMENT FACILITIES STUDY



Reflex Time Schedule

1. Reporting and dispatch time - 1 minute: Reporting party dials 911 emergency number, provides information to dispatcher, dispatcher tones out alarm and dispatches appropriate units.

2. Response time - 3-5 minutes: Receipt of alarm information by responding units, turn-out time (donning of safety gear, etc.) actual travel time to scene.

3. Set-up time - 4 minutes: Arrival/on-scene size-up and report, initial equipment layout and initial quick attack.

The above reflex schedule is designed to establish a minimum acceptable reflex capability with the objective of an average response distance of approximately one and one-half miles within 3-5 minutes maximum. Medical emergencies within this distance are responded to within the six-minute time frame and an initial fire attack (resources to attack a dwelling fire with our basic manpower commitment and a fire flow of 100 gpm) is achieved within a ten-minute time frame.

DATA DEVELOPMENT AND PROCEDURES

In order to implement the fire location study, there were several fundamental data bases of information which needed to be established:

1. Time, rather than distance, is a more valid unit of measure for emergency response criteria. The achievable speed over a given distance varies depending on street conditions, street width, volume of traffic, and

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various other factors affecting traffic flow. Because of these variables, it is possible for fire apparatus stationed two miles from an incident to arrive prior to another fire company stationed only one mile from the same incident. A standard response (travel) time of three to five minutes was developed, using the criteria of an average apparatus response speed of 30 m.p.h., or an approximate distance of one-half (1/2) mile per minute.

2. A land-use study was conducted and undertaken to establish "what" there is to burn within the City (the fire problem) . Surveys by fire company officers within their assigned first-in districts, coupled with data collected by the Planning Department, identified current and projected land uses, so that required equipment and resources could be located to respond within time requirements (based upon such factors as occupancy, construction and contents).

3. With the availability of the land-use study, it was possible to identify target hazards and define fire management zone (F.M.Z.) boundaries. The general criteria used to establish the F.M.Z. boundaries was based on four basic considerations:

   a. What there was to burn (the fire problem);

   b. life hazard involved;

   c. permanent and built-in fire protection features; and

   d. value to the community.

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These considerations resulted in five priorities being established with the time required to respond from the nearest fire station (origin) to the boundary line (destination) as follows:

	Time in Minutes*
Maximum priority -	
High density, 3 or more story, etc.	3
High priority -	
Medium density, multi story, etc.	4
Standard priority -	
Residential	5
Low priority -	
Rural Residential	6
Minimum priority -	
Agricultural	7+

* Includes one-minute turn-out time.

4. Sites which could be used as potential station locations were to be identified next. A list of sites, including all existing station locations within the Merced urban area were identified (City and County).

In projecting the relocation of this facility to the south and east, an item deemed mandatory is the development of Engine Company Five in the northeast area of the city as discussed earlier. The development of this facility is necessary to maintain current levels of coverage of the area east of "G", south of Bear Creek, and north of the Santa Fe railroad tracks.

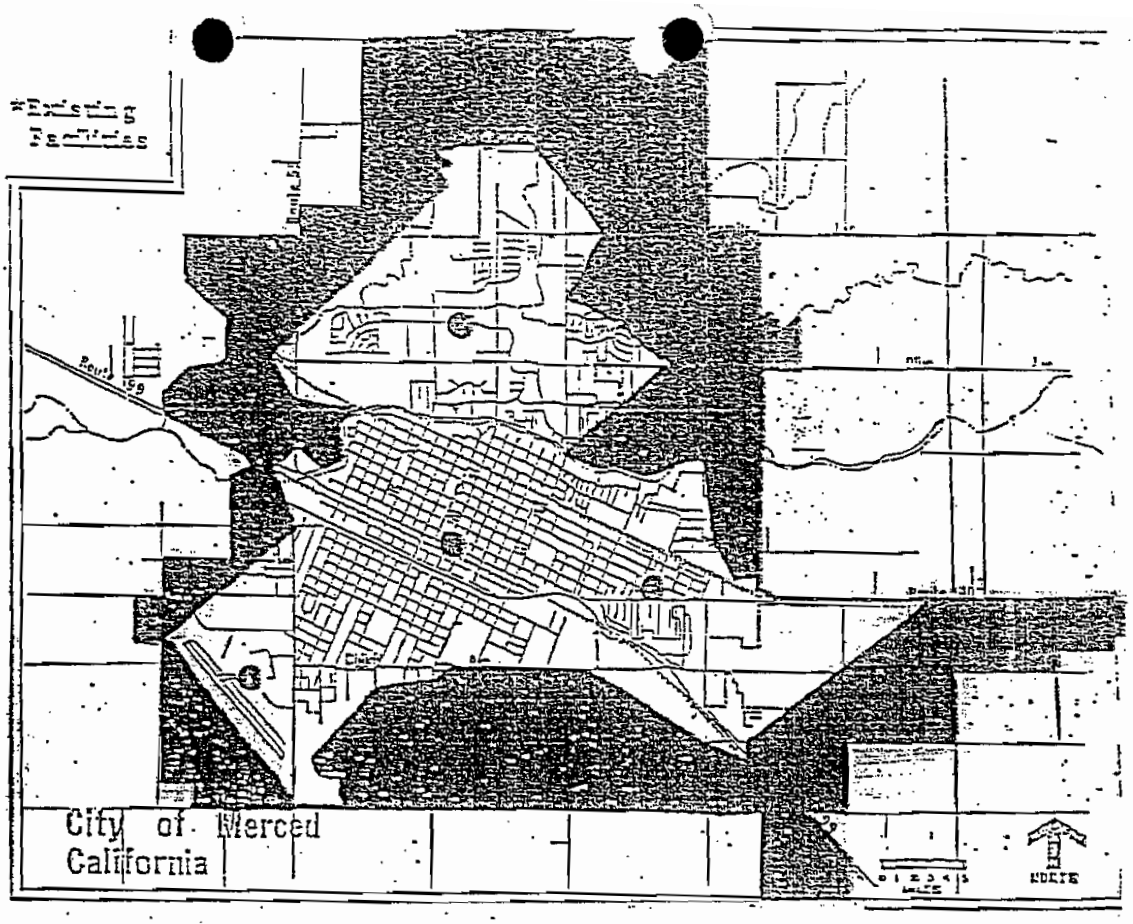
Phase III

Phase III is keyed to acquisition of property and the development of Engine Company No. Six and Seven in the North Central Merced area.

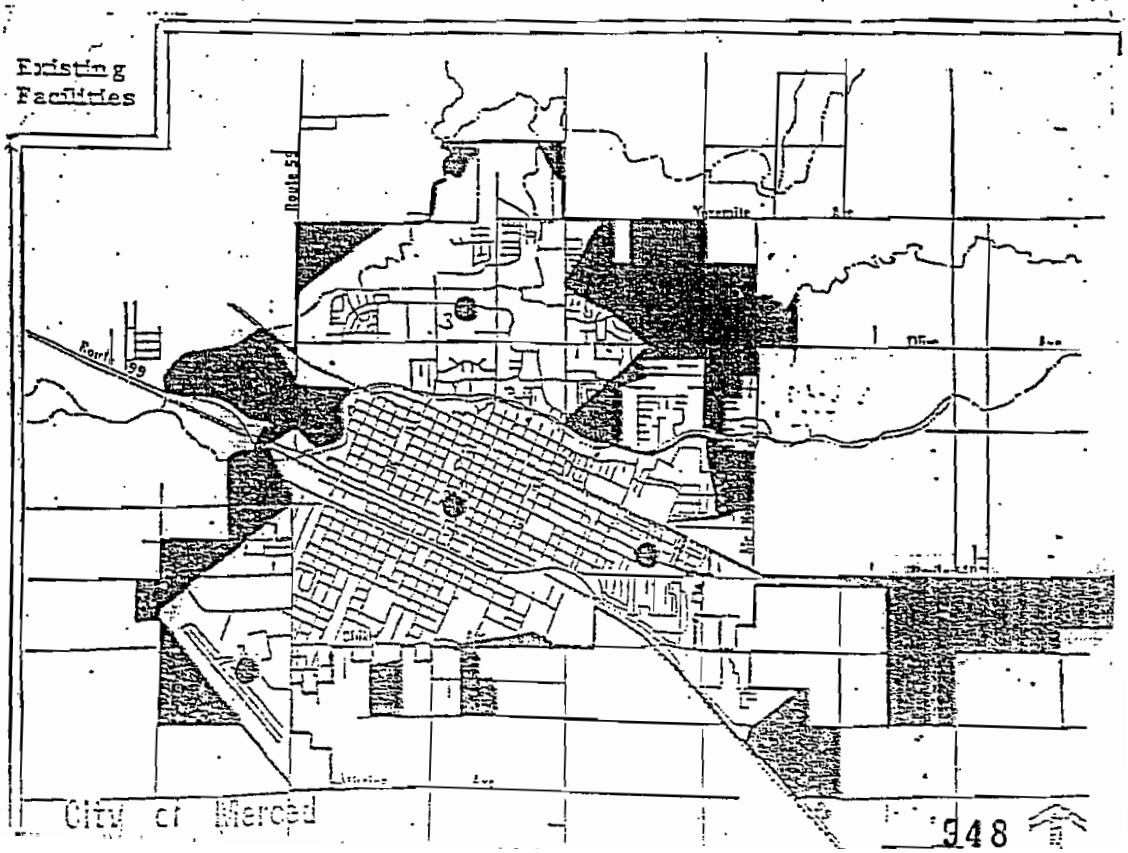
Current growth trends indicate a possible need to acquire property within the North "M" Street/Cardella Road area within 10 to 12 years for the development of Fire Station No. Six. Experienced growth may require the actual purchase of property and facilities development prior to our projections. Annual updates of this study must be developed to project actual movement on this facility and Station No. Seven, projected further north in the Bellevue Road area.

SUMMARY

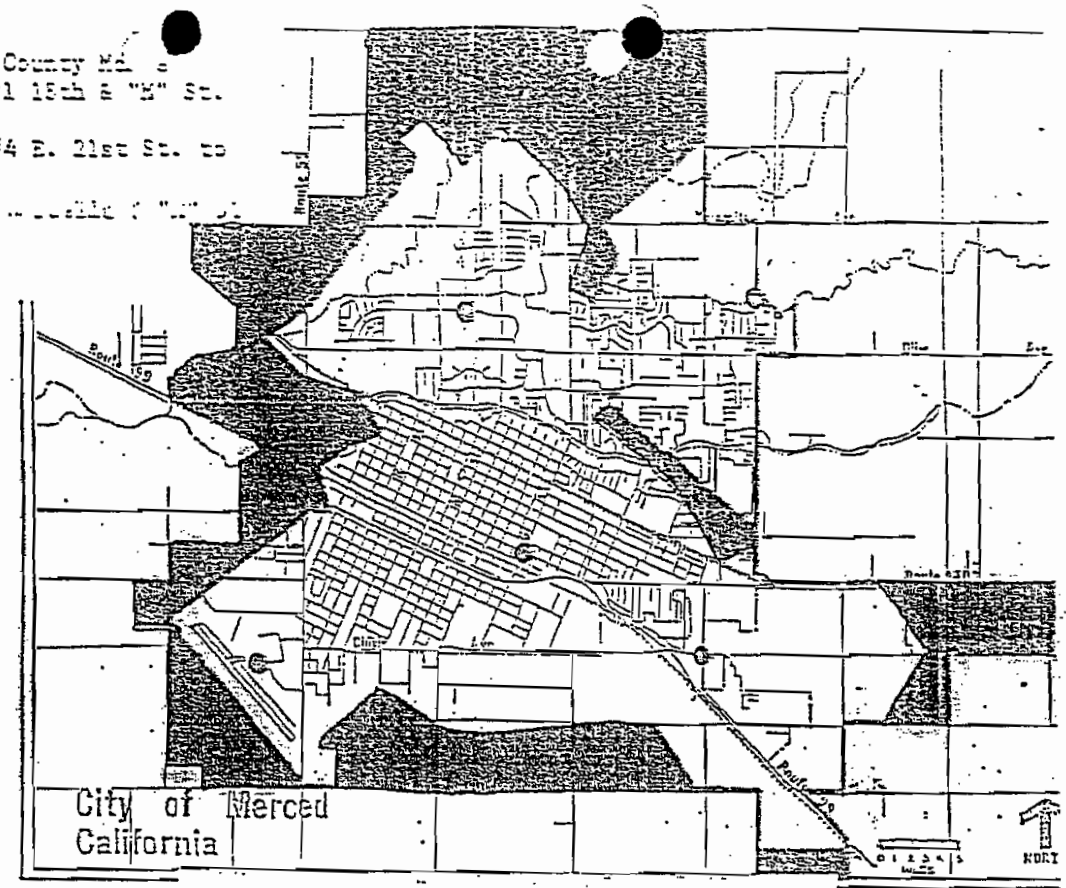
The results of this study indicate that there is a need to initiate a fire station capital improvement and relocation program, using the data as submitted within the Recommendations as a guideline. It is due to the complexities associated with projected growth and development and the major expenditures associated within such a program that the time frames be considered as general in nature, and that annual reviews be undertaken to insure timely facilities



GENERAL PLAN CITY LIMITS

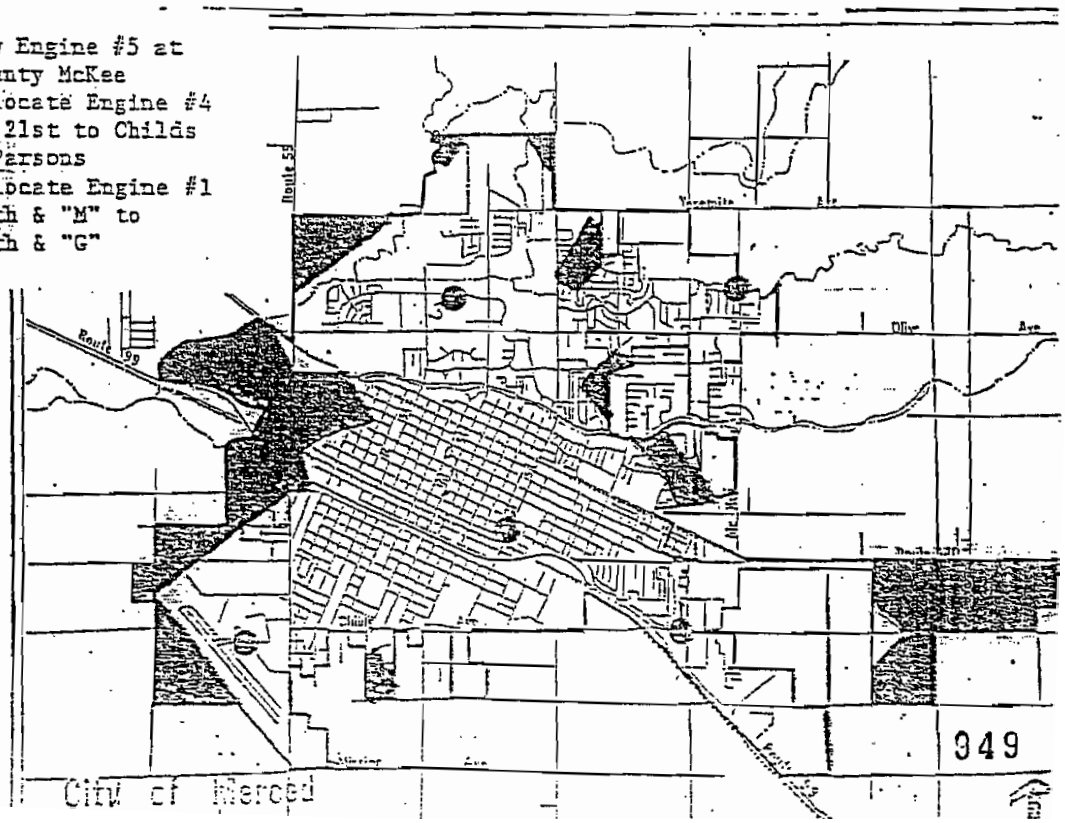


*New Engine #5 at County Mc[illegible]
*Relocate Engine #1 18th & "M" St. to 16th & "G" St.
[illegible]locate Engine #4 E. 21st St. to Childs & Parsons
[illegible]



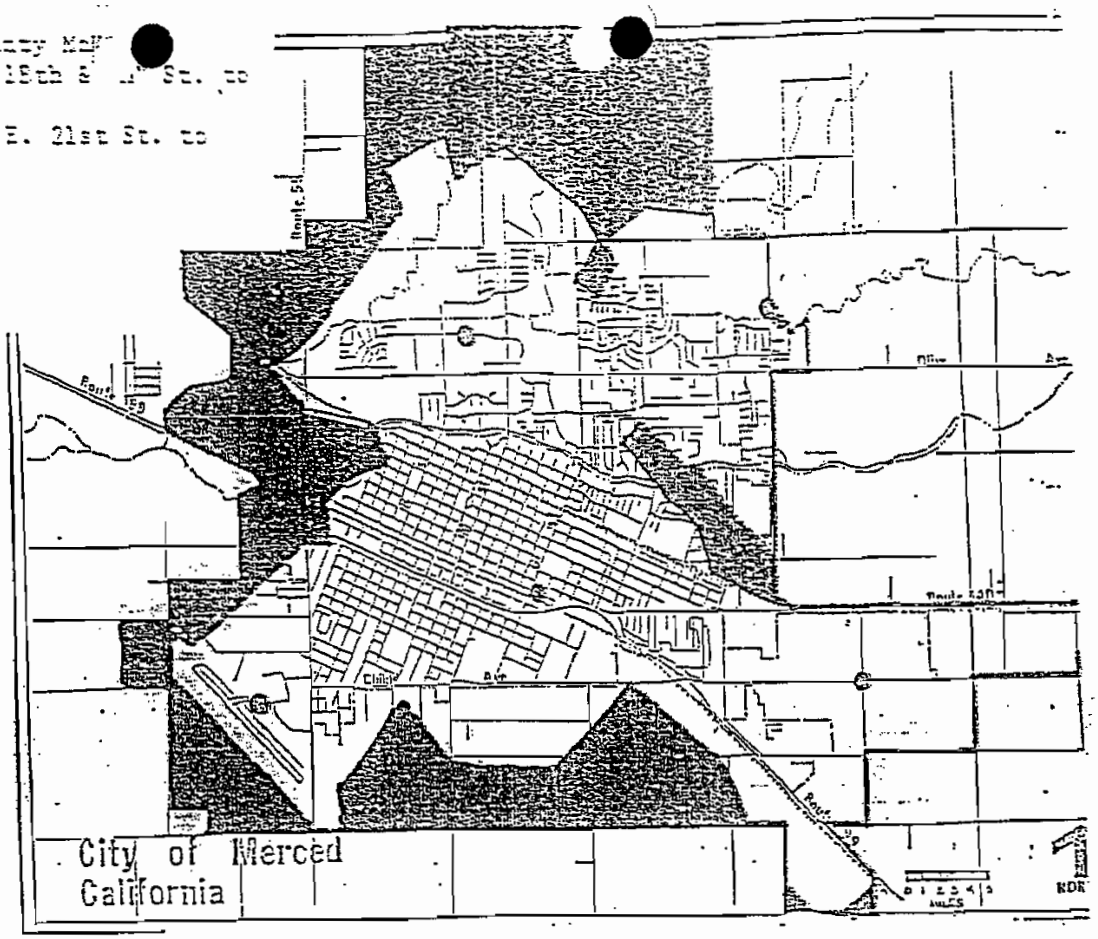
GENERAL PLAN CITY LIMITS

*New Engine #5 at County McKee
*Relocate Engine #4 E. 21st to Childs & Parsons
*Relocate Engine #1 18th & "M" to 16th & "G"



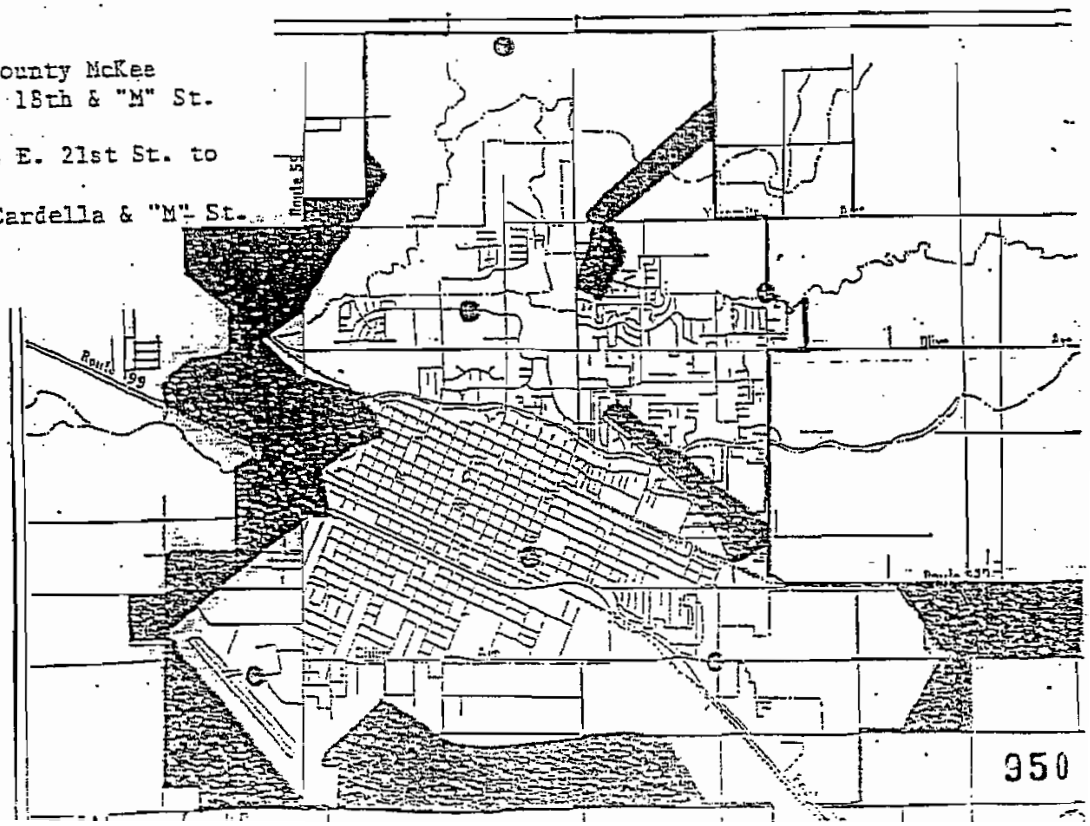
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*New Engine #5 at County McK
*Relocate Engine #1, 18th & "M" St. to
16th & "G" St.
*Relocate Engine #4, E. 21st St. to
Childs & Coffee

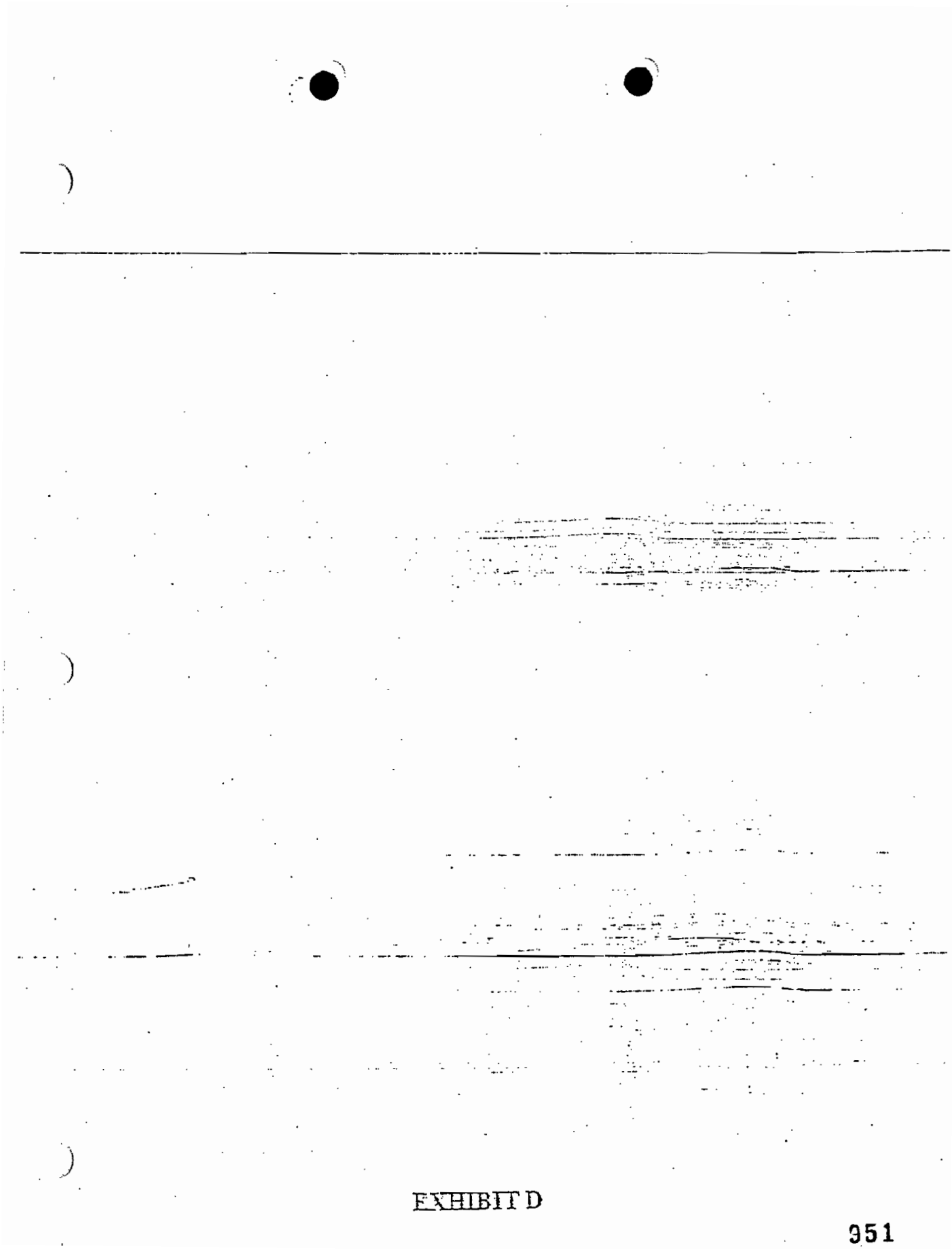


GENERAL PLAN CITY LIMITS

*New Engine #5 at County McKee
*Relocate Engine #1 18th & "M" St.
to 16th & "G" St.
*Relocate Engine #4 E. 21st St. to
Childs & Parsons
*New Engine #6 at Cardella & "M" St.



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EXHIBIT D
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CITY OF MERCED



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FIRE DEPARTMENT

SERVICE LEVEL REPORT

KENNETH W. MITTEN, FIRE CHIEF

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A typical example of an emergency medical "reflex time" to a heart attack victim would be four to six minutes. This medical "reflex time" standard, as established by the American Red Cross and Heart Associations, is based upon the fact that if basic life support, cardiopulmonary resuscitation (CPR), can be provided to a heart attack victim within four to six minutes after the heart ceases to beat, the victims chances of survival are better than 60 to 70 percent. However, if CPR cannot be provided within this four to six minute time frame, the victims chances of surviving are greatly reduced. Therefore, an accepted medical "reflex time" for a heart attack victim has been established at four to six minutes maximum.

Again, in fire combat situations the acceptable response "reflex time" for providing initial fire attack at the typical building fire, as established by the National Fire Protection Association and United States Fire Administration, is five to ten minutes. Fire response "reflex time" is based upon the fact that if fire control operations are not underway within the first five to ten minutes of a building fire, the fire will most likely spread from the area or room of origin and threaten the entire building. Therefore fire attack response "reflex time" is based upon a one and one-half mile response distance with a turn-out and travel time of four to five minutes and a initial set-up time of four to five minutes.

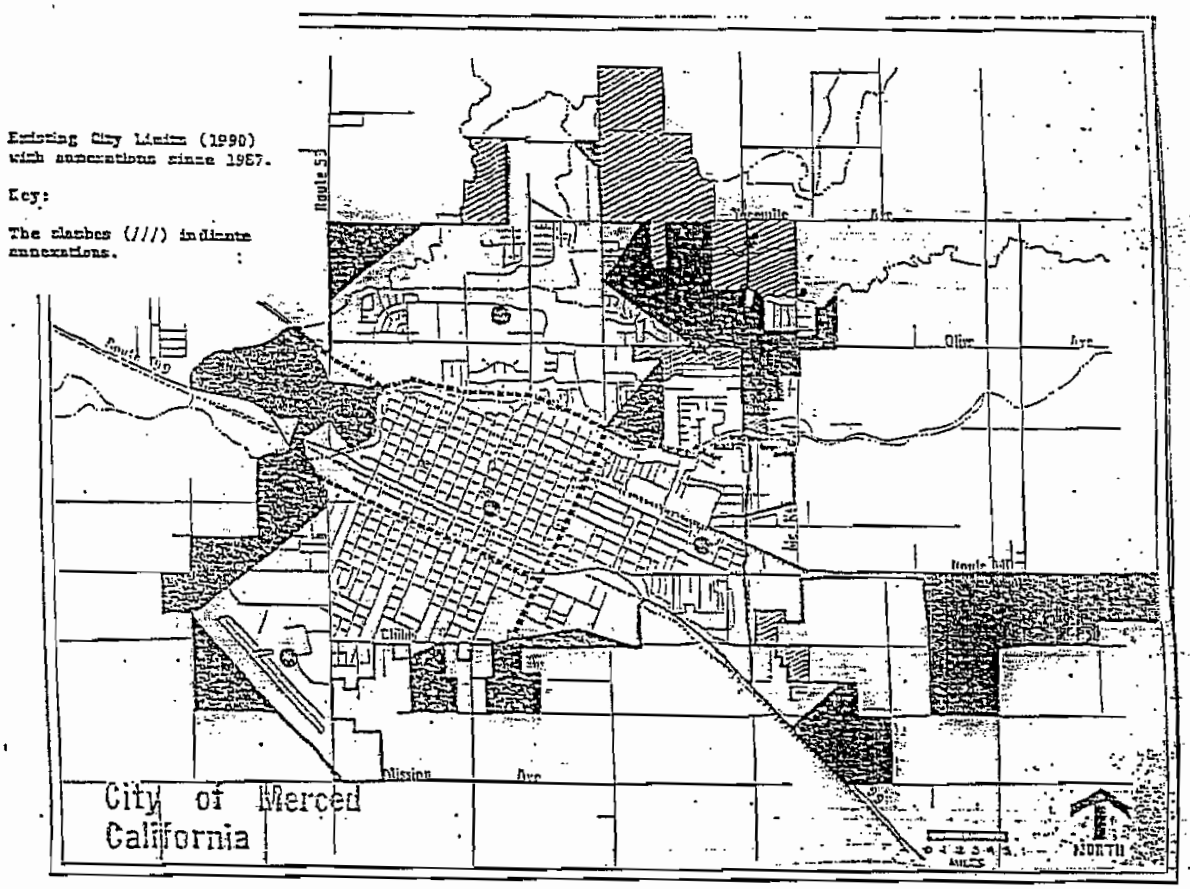
Within the 1983 report it was recommended that an acceptable maximum fire department "reflex time" response standard for the City of Merced fire protection system should be the ability to put at least one fire department unit on the scene of an emergency incident, anywhere in the city limits, within four to five minutes. This would allow the MFD to maintain an acceptable fire/emergency and medical service-level to our community, as per the standards cited.

After this report was presented to and approved by the city council in 1983, efforts within the MFD were then directed towards meeting the identified goal of developing a Fire Department emergency response system for the City of Merced that would meet and maintain the four to five minute response standard.

With our basic response standards established, a second fire service report was developed and presented to the council, to provided an analysis of the existing fire department facilities and to project our ability to maintain the desired service level from these facilities, for the next 12 to 15 years.

Again, the map below (Figure 2) compares not only the areas outside of the acceptable "reflex time" response standard, as identified in 1987, but also shows annexations since that time (lined areas) which are now within the city limits. Most of which are outside of our existing response "reflex time" capabilities.

Figure 2:



After revieving these two illustrations it is obvious that we are not meeting the adopted emergency response standard in a portion of the city. A fact that has been commented on frequently during the last several years, as each annexation was being considered. If the City is going to attempt to maintain the desired response standard, and retain our Class II fire insurance rating, several activities (recommendations) need to be considered in our fire protection systems facilities, apparatus and equipment.

4

954

Fire station number five would not only address the existing response deficiency in the Northeastern section of the city, but also would increase the daily fire department manning, an area in which the City received only 5.75 points, out of a possible 15, during the last ISO evaluations (see attachment "A").

The cost associated with the development and first year manning of this facility is projected at approximately $1,108,885 as follows: (1) 1990-91 budget $400,000 for land acquisition and station design, (2) 1991-92 budget $350,000 for construction, and (3) 1992-93 budget $358,885 for the first year manning and station operating cost.

It is anticipated that with the addition of fire station five the City will be able to adequately cover the North-Eastern section of the City for the next three to five years. The exact time factor is based upon the projected build-out of the Vathern and Bellevue Ranch projects. It is projected, however, that prior to both of these developments being completed, the City will then need to locate another fire station, somewhere in the "G to "M" and Cardella to Bellevue Road area.

Another response issue that was discussed in the 1987 facilities report was the coverage of the South-Eastern section of the City. To adequately cover this area it is recommended that both the central and East 21st street fire stations be relocated. The central station would move from 18th and "M" streets, to 16th and "G", while the 21st street station would need to be relocated somewhere in the Parsons/Childs Avenue area. These two relocations projects are recommended not only due to the growth of this area, but as the Parson Avenue project moves along and in-fill occurs, operationally the fire department will need these two facilities relocated to adequately maintain City coverage.

APPARATUS AND EQUIPMENT:

The second recommendation has to do with the rapid growth of our city and the increase in service demands being placed on the fire department. As can be seen in attachment "B", the fire department responded to 990 service calls in 1983. In 1989 the fire department responded to 1891 incidents. A 91% increase in call volume in only six years. This increase in service demand plus the fact that the city is divided into three separate response areas by the rail roads, has on many occasions put the fire department in the position of not being able to cover the city within the 1983 adopted response time standards.

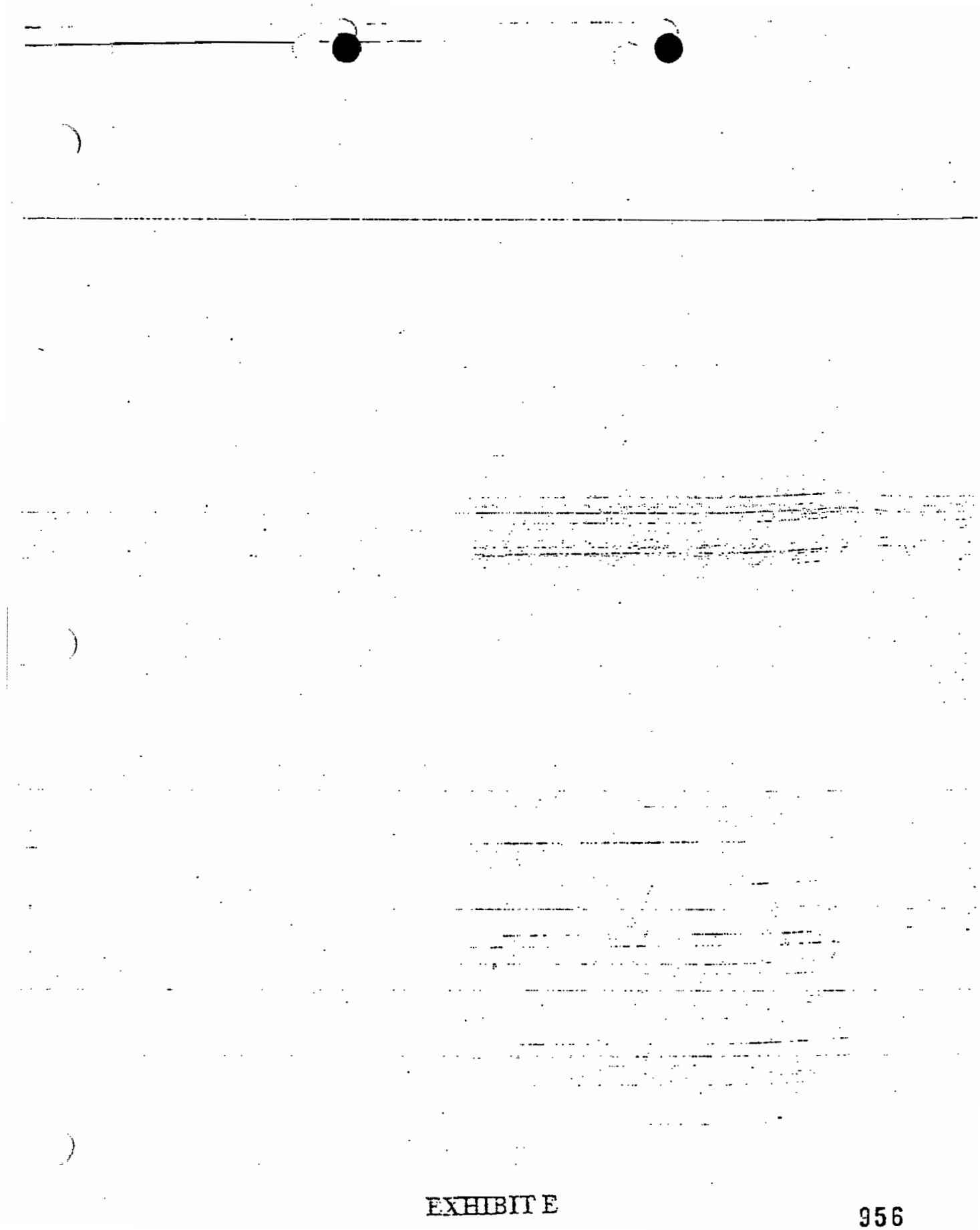
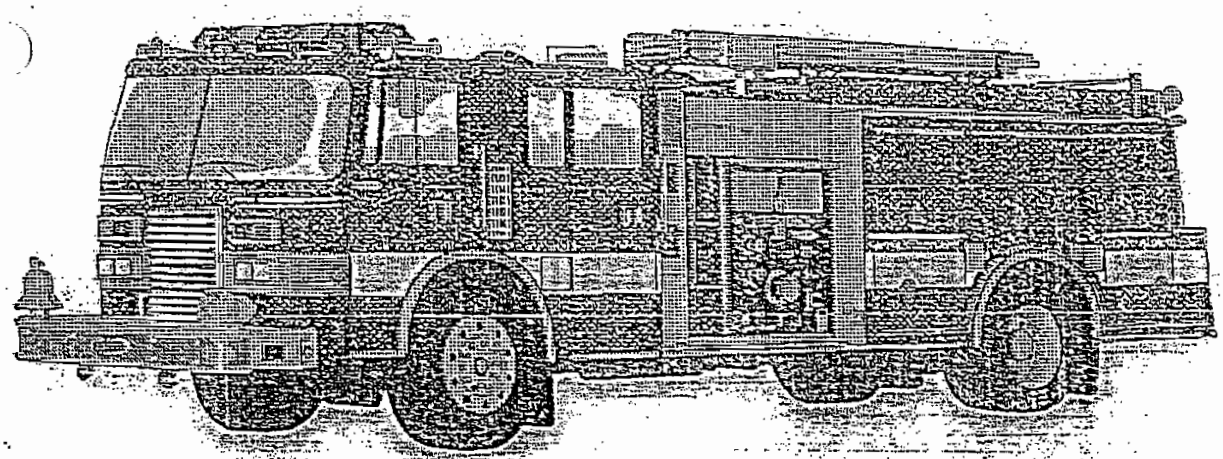


EXHIBIT E

956

STRATEGIC PLAN



MERCED CITY FIRE DEPARTMENT

1002

957

ASSUMPTION FOR PLANNING

* Merced currently consists of over 16.7 square miles, with a population of 60,000 people.

* Merced's General Plan and "How Should We Grow" study projects a 40-year population growth to 250,000 plus by the year 2030.

* Merced Fire Department's "Master Plan" and "Fire Station Facilities Study" need to be reviewed annually.

* Existing services delivered by the fire department meet expectations, when viewed by the majority of Merced's residents.

* Steady improvements in the fire-related provisions of the Uniform Building and Fire codes will have a positive impact on new construction.

* The department's positive relationship with other city/county department/agencies will be maintained and enhanced in an effort to provide highly effective emergency services to Merced residents.

* The development of the California State University at Merced will present unique challenges for the community and the Merced Fire Department.

* Demand for delivery of emergency medical care will continue to increase in relation to population growth and progressive and national health care standards.

* Fire and emergency response will increase proportionally to growth, degradation, hazardous materials production and transportation, and environmental regulations.

* Improvements in technology and tightened budgets mandate that we must plan ahead if we are going to maintain an adequate yet affordable fire protection system for the community.

ADMINISTRATIVE DIVISION ACTION OBJECTIVES

1992-93

* Continue to fine tune the department-wide customer service strategy in support of the City Customer Service Program.

* Update and revise the Merced Fire Department Facilities Study document based upon current demographics and projections.

* Pursue the development and staffing of Merced Fire Department Station Five to service the north/east sector of the city limits.

* Develop a plan and provide upgrades to fire department facilities which will comply with all current and projected requirements of the American Disabilities Act (ADA). Incorporate same into new facilities planning.

* Provide for the complete computer automation of all administrative functions department-wide in order to maximize work production and efficiency.

* Provide appropriate revisions within the Master Plan to facilitate updates to the city general plan.

* Study the potential of developing a joint training center in conjunction with Merced Community College.

* Develop a plan with Merced County Fire authorities to efficiently meet increasing service demands without duplicating efforts.

* Review and update our mutual aid agreements with Castle, Atwater and County Fire Departments.

* Review and update the MFD Strategic Plan for the 1993-94 budget year.

1994-97

* Study and prepare an updated planning document that identifies the most efficient manning levels, including support staff, needed to provide comprehensively for the efficient delivery of protection and prevention services to a rapidly changing and growing community.

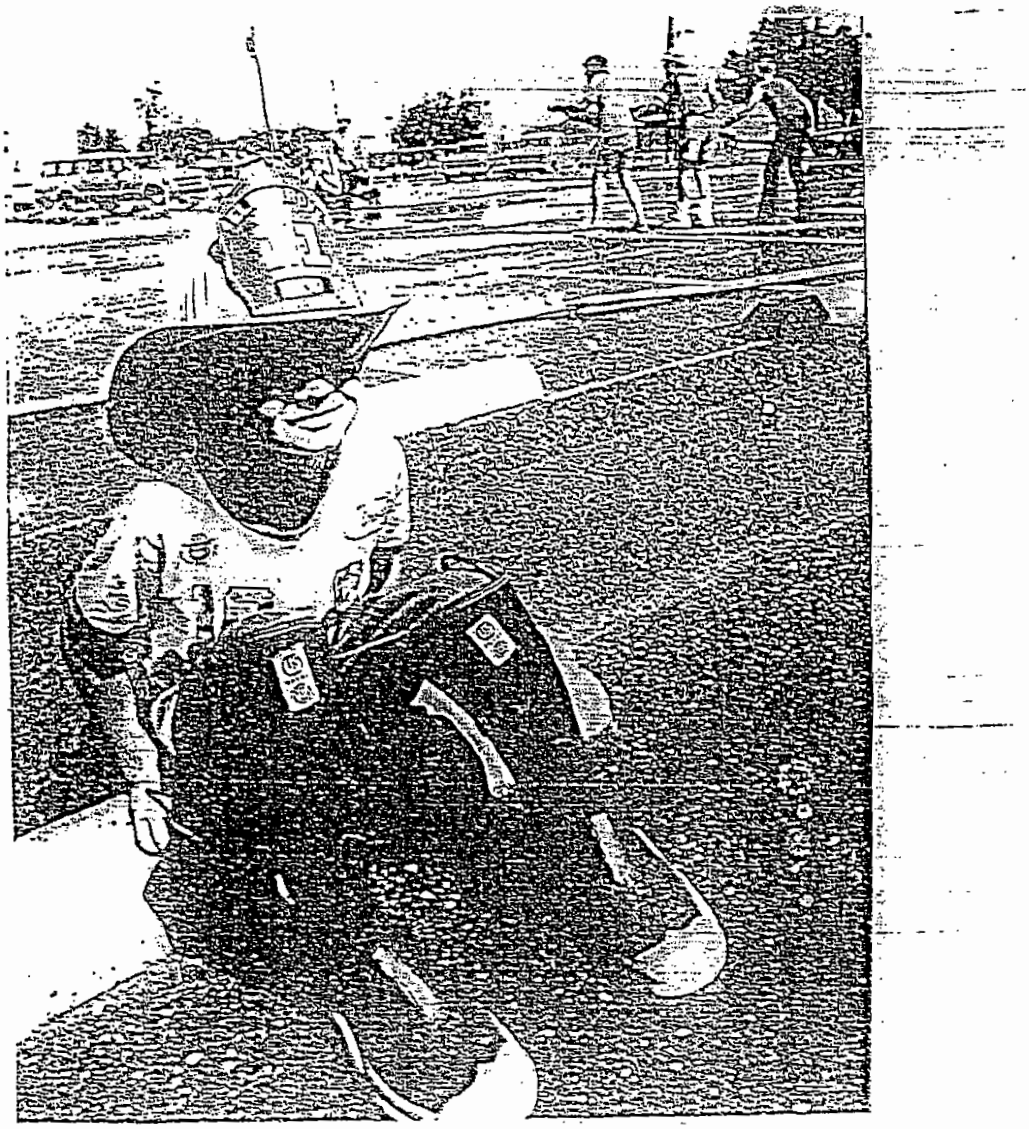
* Pursue the relocation and the development of a new combination administrative offices and fire station facility.

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* Provide a continual updating of the department's Official Action Guide to address updates in technology and mandates.

* Develop a very specific "pro-active" plan for remodeling facilities which have been ear-marked for long term use. Development of the plan will emphasize maximum long-term use and overall cost-efficiency.

* Develop an updated emergency response "reflex time" model for the city.



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OPERATIONS DIVISION

HISTORY/DISCUSSION:

The current Merced Fire Department emergency response system is composed of six first-line units and four reserve pieces of apparatus housed in four fire stations located in the northern, southern, eastern and central sections of the city. The first line units are staffed by 13 officers and members of the department on a 24-hour basis and are coordinated by an assigned fire division chief (duty officer).

Upon notification of an alarm (emergency), a pre-determined assignment of apparatus and manpower is dispatched/responds to and operates at the emergency scene under a fire/emergency incident command system (ICS). Additional assistance can be obtained by the sounding of "extra" alarm assignments which will bring additional manpower and equipment to the scene by recalling off-duty personnel and/or mutual aid from Castle, Atwater or the County Fire Department.

EMERGENCY OPERATIONS

Historically, the general public has been impressed, and particularly in recent years through such media as television, that the organization to call in the case of an emergency is the fire department. As the primary "emergency first responder" for the city, the fire service has generally utilized the Insurance Services Office (I.S.O.) and response time criteria for the locating of facilities, the purchasing of apparatus and equipment, and the setting of manpower levels.

Because of the physical characteristics of a fire, the temperature within a building rises extremely rapidly from the fire's incipiency to a point when all of the combustible contents within a confined area will ignite in a "flashover" phenomenon. Through testing and experience, flashover usually occurs within the first five to ten minutes of a fire. If an extinguishing effort can be initiated prior to the time the fire reaches this "flashover" point, the rescue of occupants is anticipated and the difficulty of control is greatly reduced. In addition to fire response capability, the accepted emergency response time for life threatening medical emergencies, i.e., bleeding and cardiac arrest, has been identified as four to six minutes. Therefore, the fire protection system response time of four to six minutes is an important aspect in policy issues when considering an adequate service level.

Currently the MFD average emergency response is less than four to six minutes. Once the fire crews are on scene it takes an additional two to three minutes of set-up time before they are operational. Emergency "reflex time" is identified as the total time from dispatch of fire companies until they arrive on scene and are operational. Fire station

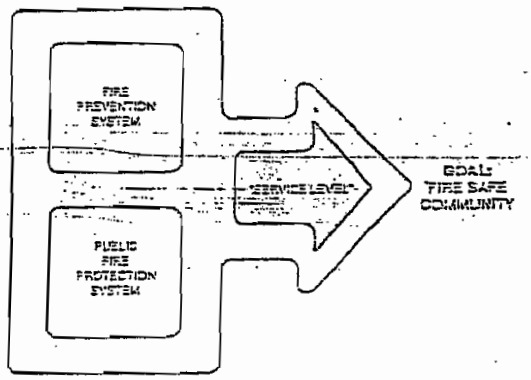
CITY OF MERCED

INTER-OFFICE MEMORANDUM

TO: Jim Marshal, City Manager DATE: June 4, 1992

FROM: Kenneth W. Mitten, Fire Chief FILE:

SUBJECT: Fire Protection Service Level - Response Times



As presented in the last report, when the fire prevention (pro-active) side of our system fails, the fire protection (re-active) part of the system is activated. Due to the emergency nature of fires, medical and other life/property threatening incidents, the amount of time it takes to respond to the incident becomes one of many very critical elements.

As an example, in heart related medical emergencies, a 4 to 6 minute time frame is identified as the critical period in which basic medical aid can save a life. The use of CPR on the victim during the clinical death period (no pulse or respiration), has proven to be effective; a fact that has been well published by the American Red Cross and Heart Associations. However, after 4 to 6 minutes bio-logical death occurs with the chances for survival rapidly deteriorating. Therefore, in these emergency medical incidents our ability to respond consistently and initiate basic life support activities prior to six minutes is mandatory, if the system is to be viewed as effective.

Unlike heart related medical emergencies, most american households are unaware of the critical time frames associated with effective fire fighting operations. Through testing and experience it has been documented that the first five to ten minutes of a fire are the most critical. This is due to a condition called flashover. In a residential fire, for example, if you expect to save the occupants and limit the amount of damage within the building, trained personnel must be dispatched and deployed prior to flashover occurring.

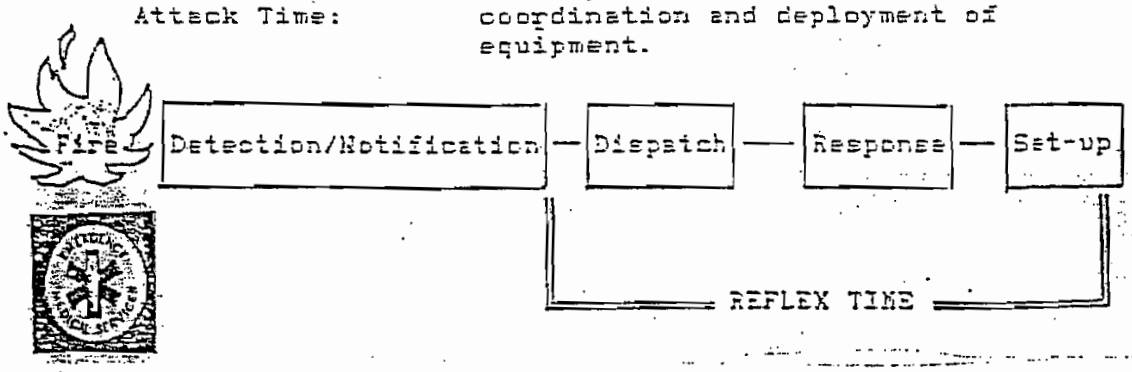
Flashover occurs when the contents and smoke within a room or building have been preheated to a point that the entire area explodes into flame. Once flashover occurs, survival of the occupants and containment of the fire to the room or area of origin is doubtful.

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An effective response capability is based upon rapid detention and notification reporting of the emergency to the dispatch center, dispatch time (1 minute), response time (4-6 minutes) and set up time (2-3 minutes), once the emergency response personnel are on scene.

Key facts include:

(1)	Detection Time:	Critical, i.e. witnessed arrest or smoke detector activities
(2)	Report Time:	Public education and 911 calling
(3)	Dispatch Time:	Less than 1 minute to get necessary information and determine/notify responders
(4)	Response Time:	Receipt of alarm, putting on protective clothing, and driving time
(5)	Arrival and Attack Time:	Size-up and plan of attack includes coordination and deployment of equipment.



Reflex Time = $\frac{\text{Standards/Resources = Service Level}}{\text{Minutes/Performance}}$

Currently the MFD average emergency response time is less than four to six minutes. Once the fire crews are on scene it takes an additional two to three minutes of set-up time before they are operational. Emergency "reflex time" is identified as the total time from dispatch of fire companies until they arrive on scene and are operational. Fire station location and apparatus need to be strategically located within the geographical areas that will best insure response times within established parameters. The standard criteria is a maximum response distance of one and half to two miles (4-5 minutes). As the City of Merced grows, it is imperative that the emergency services response times remain within the identified parameters if our service levels are to be maintained.

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EXHIBIT F

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MERCED FIRE DEPARTMENT

STRATEGIC PLAN

1997

Administration Division

The goal of the Administration Division is to coordinate the efforts of the Fire Department to meet the expectations of the "Merced Master Plan" and to effectively manage goals and objectives so that they meet the current and projected needs of the residents.

1992-1996

Goals reached by the Administration Division include:

* Upgraded the computerized incident reporting system and delivered training to all members.

* Provided Standard Emergency Management System (SEMS) training to the city management team.

* Developed and awarded construction for a new combination administrative offices and fire station and Emergency Operations Center (EOC).

* Adopted the Fire/Emergency Radio Master Plan.

* Updated the Facilities Master Plan.

* Revised the Merced City Emergency Plan into a Multi-Functional Hazard Plan in accordance with state and federal guidelines.

1997 Objectives

* To increase the awareness of the citizenry for self preparation during disaster situations through mailings and classes.

* To maintain and progress in computer technology to remain efficient and in line with city direction.

* To maintain the standards necessary for classification at the current ISO rating and maintain career development by appointing a full time training officer.

* Maintain and upgrade the city's ability to effectively manage large scale incidents by establishing an Emergency Operations Center at the new fire/administration complex.

* To maintain 4-5 minute response times and adhere to the Facilities Master Plan by developing and acquiring Station 55.

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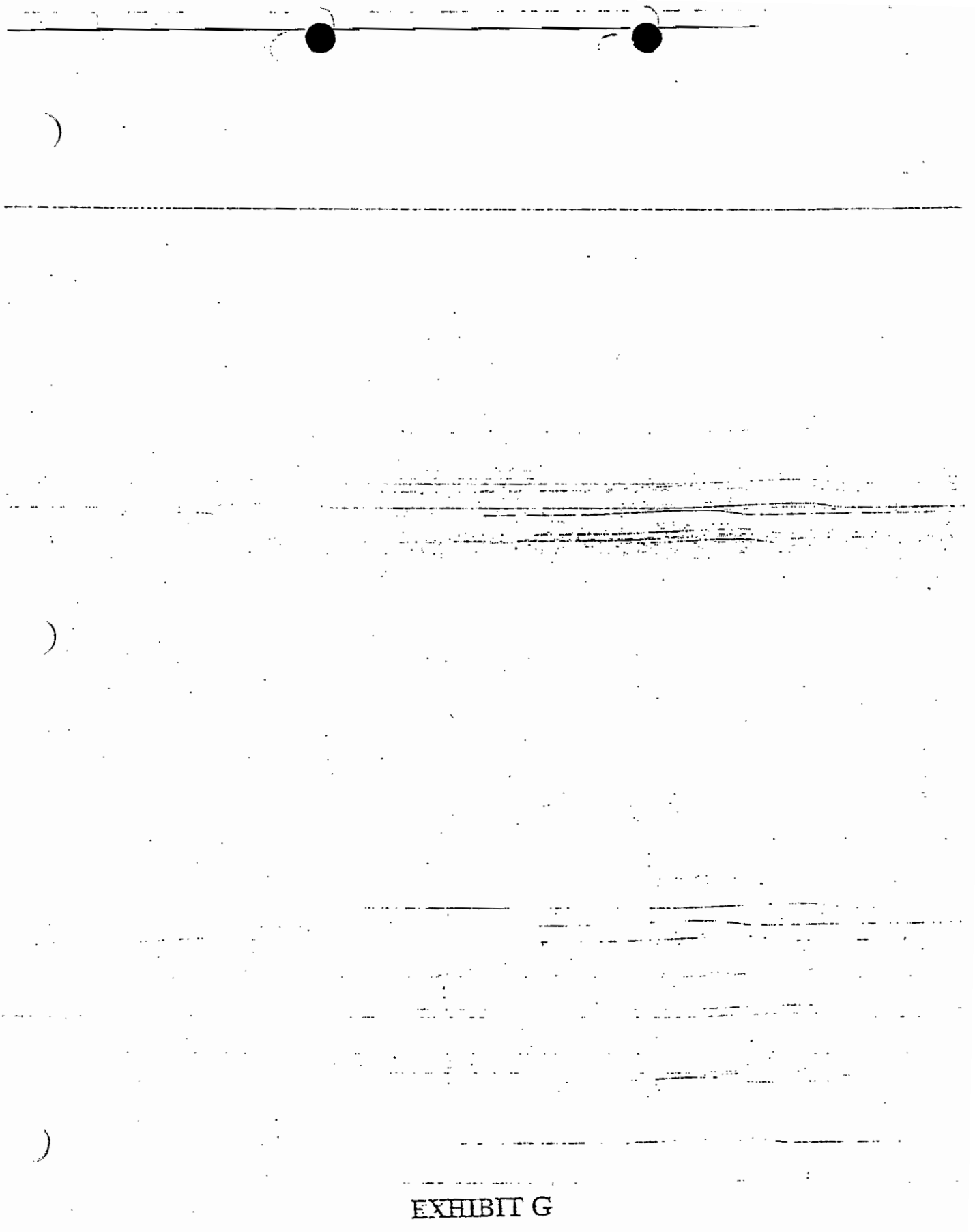
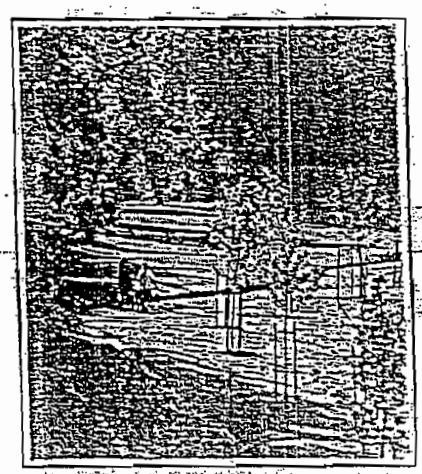
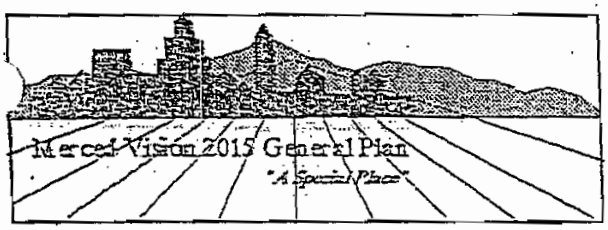


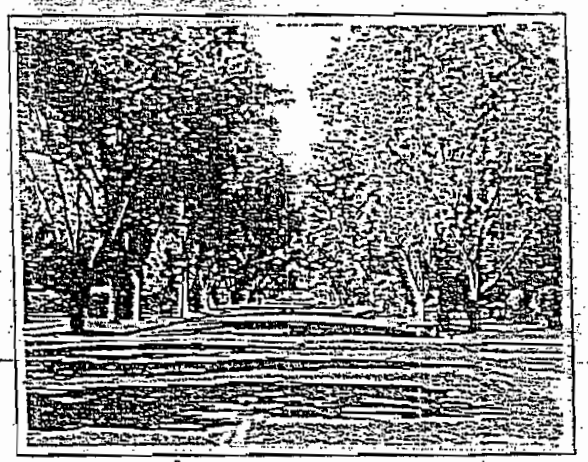
EXHIBIT G

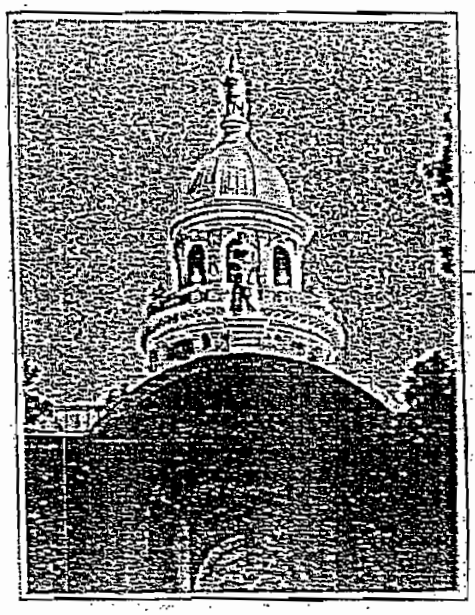
Merced Vision 2015

General Plan









April 1997

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Policy UE-1.3
Control the Annexation, Timing, Density, and Location of New Land Uses Within the City's Urban Expansion Boundaries.

Implementing Actions:

1.3.a The City should require that all new urban development and annexations be contiguous to existing urban areas and have reasonable access to public services and facilities.

"Leap-frog development" tends to be cost-prohibitive in these times due to the high up-front costs of extending utility lines, streets, etc., across undeveloped properties to outlying areas. Such development should be discouraged in most cases because of the service inefficiencies it creates. Exceptions can be made for industrial areas which for business recruitment reasons often need to provide infrastructure and services prior to development. Other exceptions may be made, with strong justification on a case-by-case basis, for other areas which may serve the public interest through early development.

1.3.b The City should adequately plan for public improvements/services to support designated land uses for all areas as they become suitable for development and/or proposed for annexation.

The City should prepare master plans for providing sewer, water, fire protection, police protection, drainage, and other services for all new growth areas after the adoption of the General Plan. Refer to Chapter 5—Public Services and Facilities for specific policies regarding each of these areas.

1.3.c The City should develop systems to evaluate the cost of providing various services to new development and/or areas proposed for annexation and establish clear policy for meeting those costs.

The City needs to develop appropriate tools and techniques for evaluating the fiscal impacts of new development, including the costs of providing services and needed infrastructure. Policies (such as those contained in the Public Services and Facilities Chapter of this plan) need to be established to insure that new development pays for the impacts it causes, so that the burden does not fall on current City residents.

1.3.d The planning for land uses in newly developing areas should reflect a mix of land uses which will support a neighborhood, including a variety of residential densities and price ranges, neighborhood and convenience shopping facilities, and public facilities such as schools and parks.

The City will promote the use of the mixed-use, pedestrian- and transit-friendly neighborhoods ("Urban Villages") in all new growth areas of the City as much as feasible.

1.3.e Work with the County to implement the land use provisions of the "Property Tax Sharing Agreement between the City of Merced and the County of Merced" (Section 2.3.4).

The City will work closely with the County to implement the land use provisions of the agreement, which include a) maintenance of existing agricultural zoning within the SUDP; b) requirements and procedures for areas currently zoned for urban development; c) agreement by the County not to expand the existing Rural Residential Centers in the Sphere of Influence outside the University SUDP; and, d) cooperative planning and referral of projects within the University Community SUDP.

069

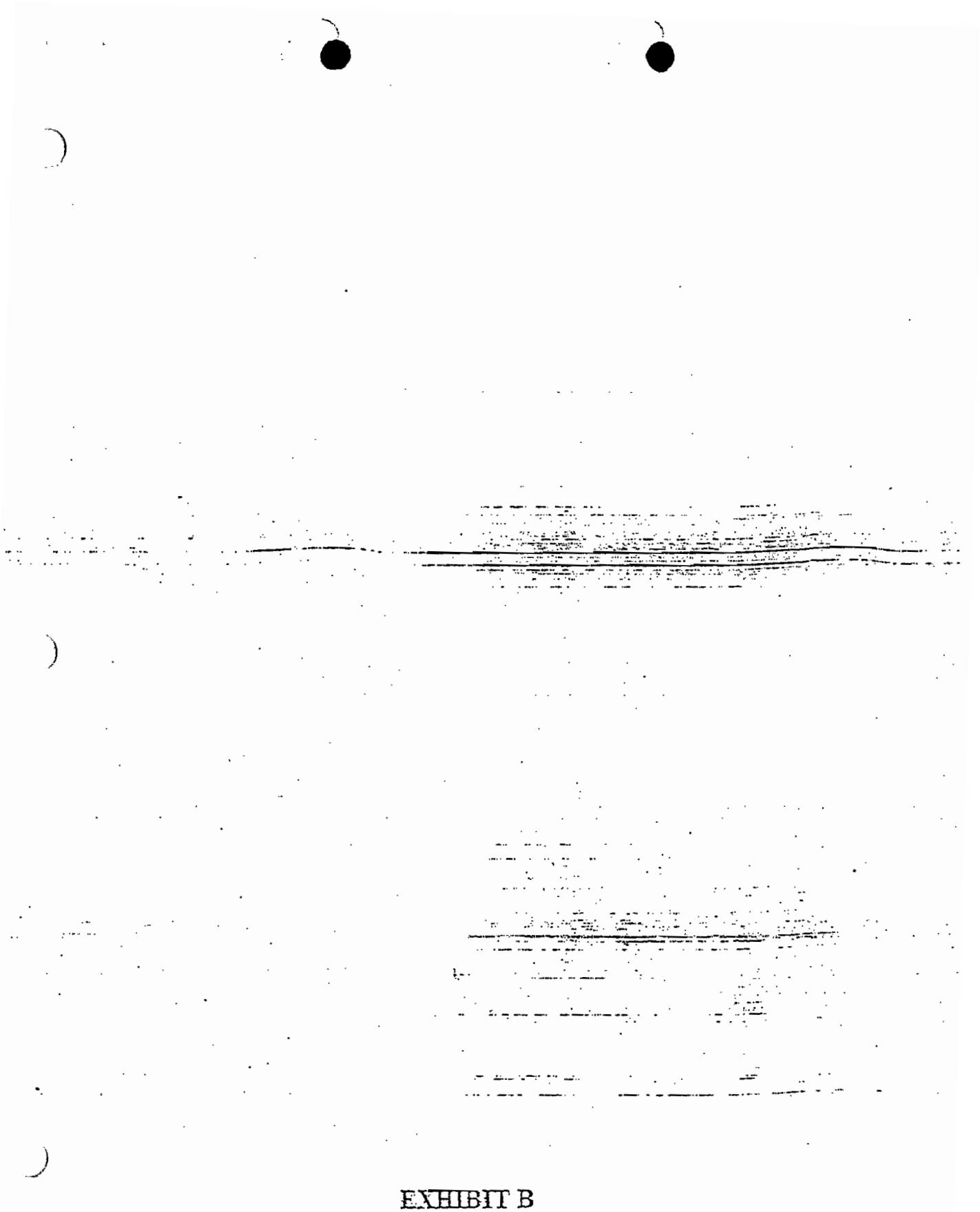
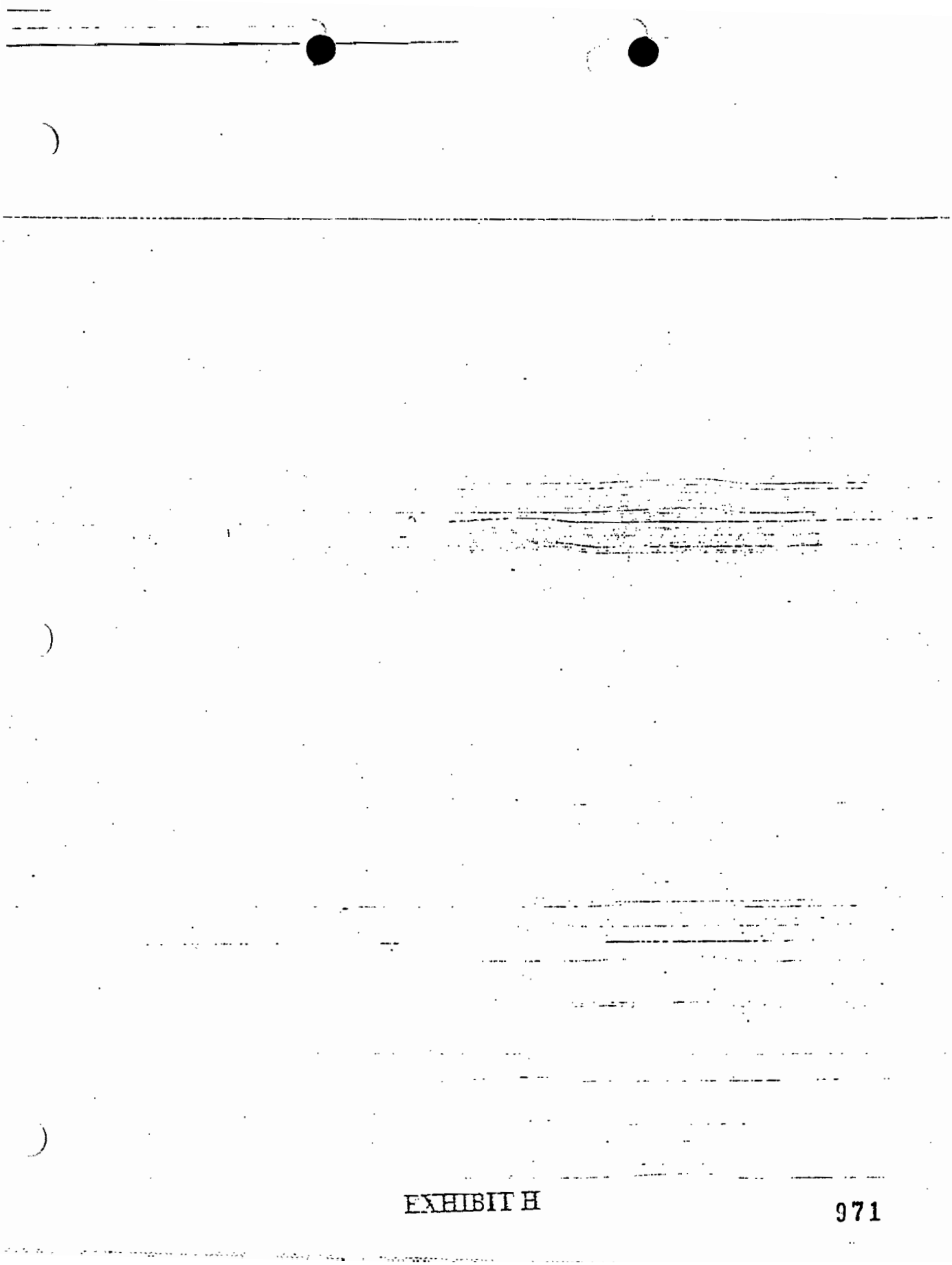


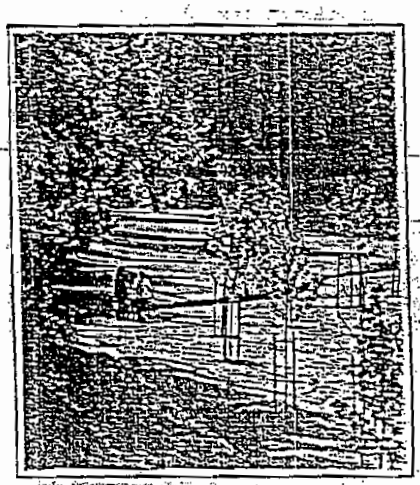
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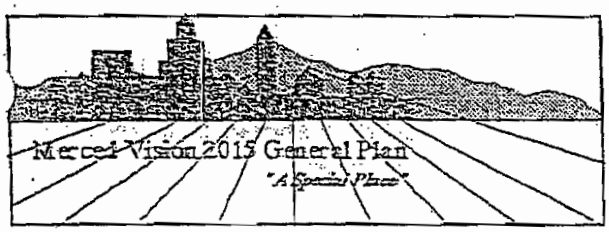
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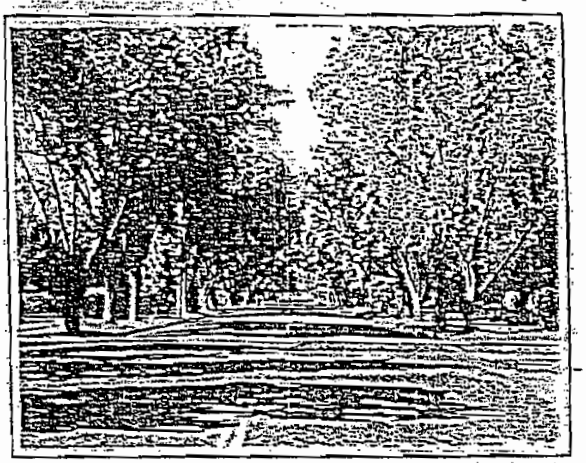

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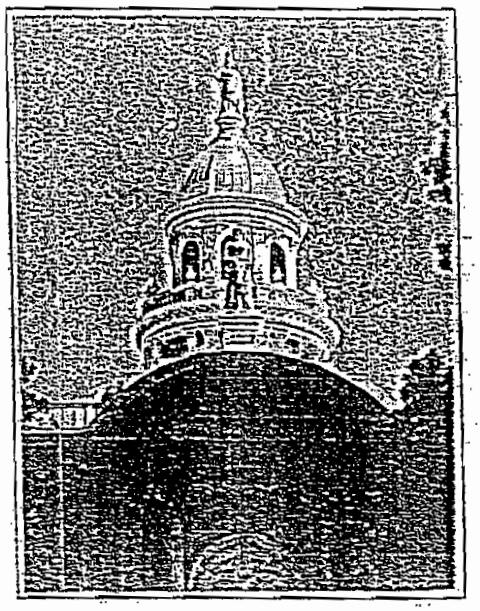
Merced Vision 2015

General Plan









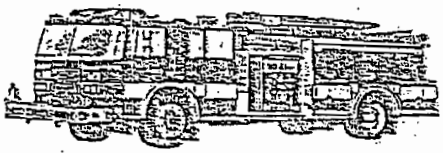
April 1997

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- Fire and Police Protection
- Water
- Wastewater
- Storm Drainage/Flood Control
- Solid Waste Disposal
- Schools
- Library and Cultural Services
- Health and Justice Services

Transportation and transit services are addressed in the Transportation and Circulation Element (Chapter 4), and recreational facilities are addressed in the Open Space, Conservation, and Recreation Element (Chapter 7).

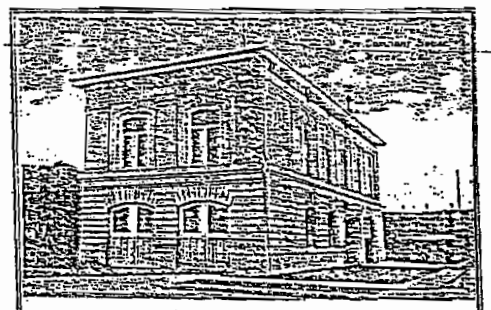
5.2 SETTING



5.2.1 Fire Protection

History of the Merced Fire Department

The concern for fire protection in the City of Merced can be traced back to 1873 when the first fire department, "Eureka Engine Company No. 1," was formed. A used fire engine was obtained in 1874 and christened "Old Betsy." The first engine house wasn't built until 1885 on 18th and Canal Streets. In 1889, the second floor of this engine house was converted into the city hall and council chambers for the newly-incorporated City of Merced. In 1891, the original engine company was replaced by "El Capitan Hose Company No. 1," a volunteer group which served until 1952 when it opted to disband.



City Hall and Fire House (1925)

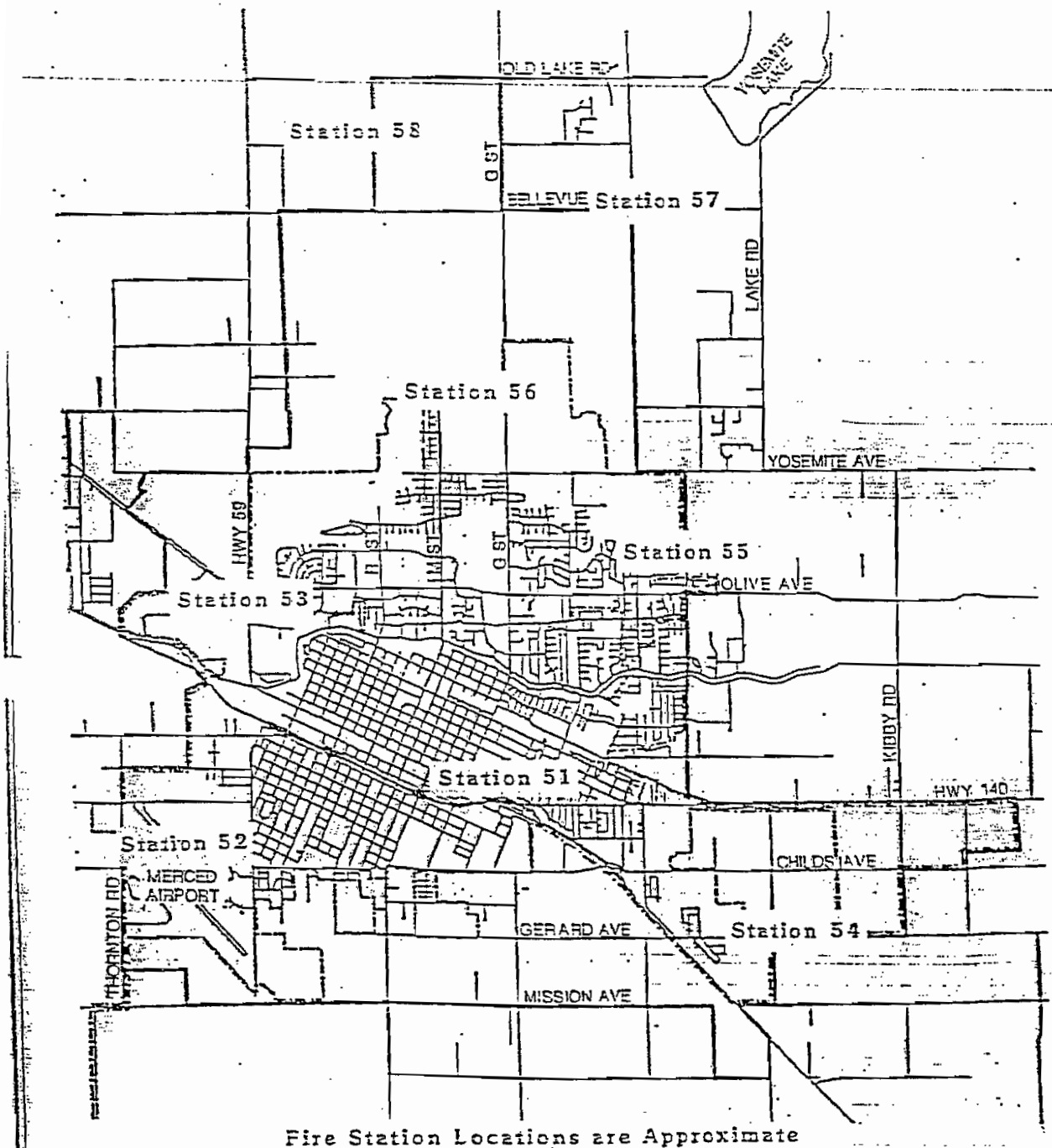
Merced Fire Department

The City of Merced Fire Department provides fire protection, rescue, and emergency medical services from four fire stations throughout the urban area. The City central fire station is located in the downtown area. (This facility is scheduled to be moved to 16th and G Streets by 1997.) A station on East 21st Street near Yosemite Park Way, a station north of the Merced Mall on Loughborough Drive, and another at the Municipal Airport are the other three stations.

Fire Department personnel are typically assigned on a three-platoon work schedule, which provides the City coverage 24 hours a day, seven days a week. The Department equipment includes first-line engine companies (carry and pump water), ladder companies, reserve engines and ladder trucks, and other miscellaneous vehicles.

Merced's fire protection system operates according to a central station concept. Under this concept, a central station can respond to calls from within its own service area or district, and can provide back-up response to other districts as well. From 1990 to 1995, response activity doubled.

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SOURCE: Merced City Fire Department

Figure 5.1

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The Department is rated under the auspices of the Insurance Services Office (ISO) which defines protection services on a scale of 1 to 10—1 representing the best level of protection and 10 indicating no protection at all. The Department's 1995 rating is Class 2, which is considered to be well above average, despite manning levels well below national averages. This rating helps keep the costs of fire insurance premiums low for City businesses.

The City's Fire Department Master Facilities Plan is used in the planning of stations that will provide protection within a primary service area. The Department has a goal of maintaining a response time of four to six minutes for the first crew to arrive at a fire or medical emergency within an assigned district. This goal was chosen on the basis of proven factors affecting property damage and, more importantly, life.

As the City continues to grow in population and area, the fire protection system will have to change if it is to maintain this response time standard. This would require three existing stations to be relocated and four new facilities with personnel and equipment to be added to the system. *Figure 5.1* shows tentative fire station locations.



5.2.2 Police Protection

Police protection for the entire City is provided by the City of Merced Police Department. The Police Department employs a mixture of sworn officers, non-sworn officer positions (clerical, etc.), and unpaid volunteers (VIP's). The 1995 service standard used for planning future police facilities is approximately 1.32 sworn officers per 1,000 population.

Merced is divided into three police districts (*Figure 5.2*), each with its own police facility and officers. District One serves the area north of Bear Creek from the North Station on Loughborough Drive. District Two serves the area between Highway 99 to the south and Bear Creek to the north from the Central Station at M and 22nd Streets. District Three serves the area south of Highway 99 from the South Station in McNamara Park.

The primary reason for the three districts is to place police officers closer to the neighborhoods and citizens they serve. The Police Department feels that this "community policing" concept will be successful in combating a growing incidence of crime as the City grows. Citizen councils have been established in each district to meet with area commanders and develop strategies for combating crime in their neighborhoods. Neighborhood Watch programs are located throughout the City and have been highly successful.

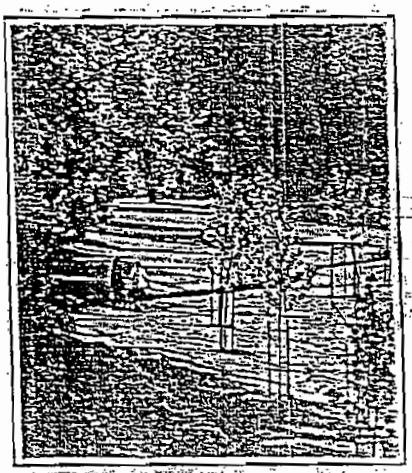
Criminal activity and calls for police service will increase due to population growth alone. By 2015, officer responses to incidents could increase from 45,000 in 1994 to over 100,000 annually if current population trends hold true. To cope with this anticipated workload, additional officers, equipment, and facilities will need to be added. Police districts may be revised or added.

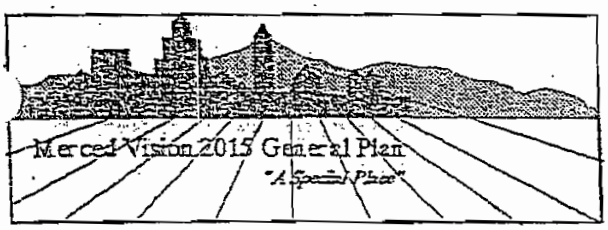
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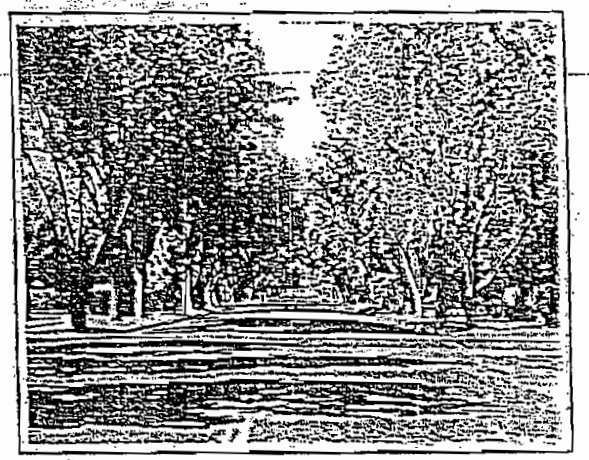
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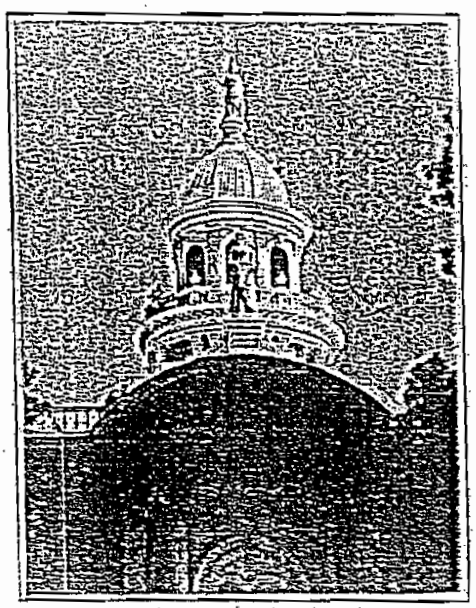
Merced Vision 2015

General Plan









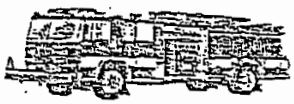
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5.3 ISSUES AND INTENT

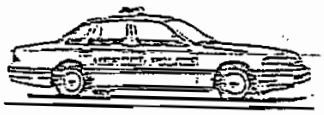
In order to ensure the provision of high-quality, cost-effective public facilities and services for the City of Merced as it grows, several issues needed to be addressed in the Goals, Policies, and Actions (Section 5.4) of this chapter. A brief summary of the issues covered under each of the goal areas follows.

General public facilities and service issues are addressed under Goal Area P-1. Master planning of major facilities and infrastructure, the cost-effective delivery of existing services, and the requirement for new development to provide its fair share of public improvements are some of the issues covered.



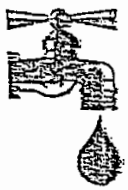
5.3.1 *Fire Protection*

The location of fire facilities is a critical factor in providing adequate fire protection to the citizens of Merced. The time and distance that must be traveled to the scene of an emergency can determine whether fire suppression efforts will be successful. The goals, policies, and actions (Goal Area P-2) in this chapter address locational criteria and distribution goals for new fire facilities. Additional goals, policies, and actions relating to fire prevention methods, disaster preparedness, and hazardous materials safety can be found in the Safety Element (Chapter 11).



5.3.2 *Police Protection*

Community-based policing aims to bring police officers into the neighborhoods they serve to try to deter criminal activity before it starts. This chapter includes goals, policies, and actions (Goal Area P-2) designed to implement these concepts. Additional goals, policies, and actions relating to community-based policing concepts and crime prevention can be found in the Safety Element (Chapter 11).



5.3.3 *Water*

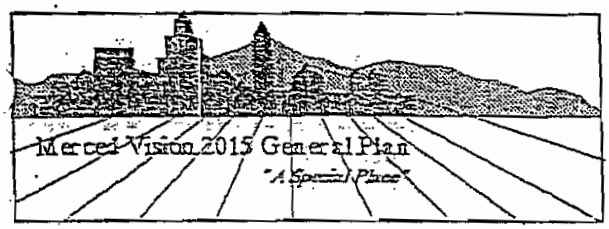
The Merced Water Supply Plan has evaluated the City's water needs through 2030 and suggested strategies for meeting those needs. In cooperation with the County and MID, the City will develop conservation and recharge efforts to stabilize the region's aquifer. The goals, policies, and actions (Goal Area P-3) in this chapter address those efforts. Additional policies regarding water quality and water conservation are contained in Chapter 7, Open Space, Conservation, and Recreation, and a discussion of water resources can be found in the Sustainable Development Chapter (8).

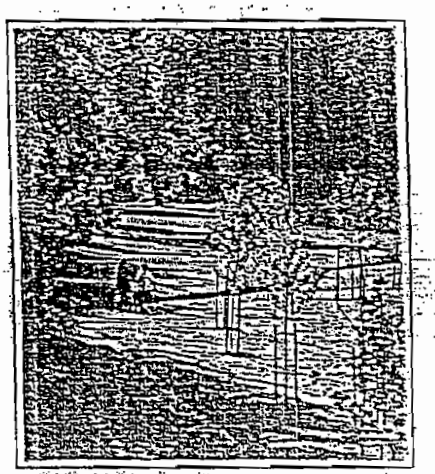
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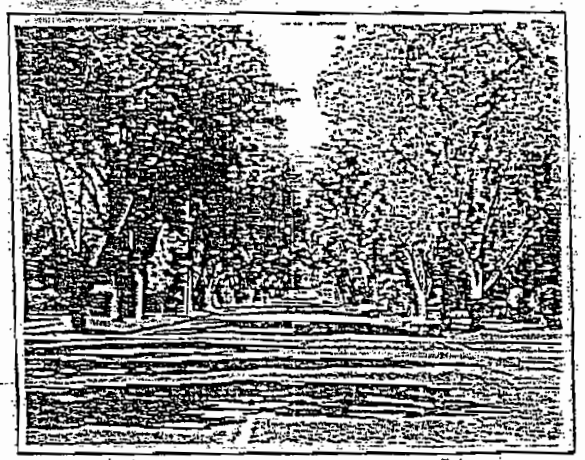
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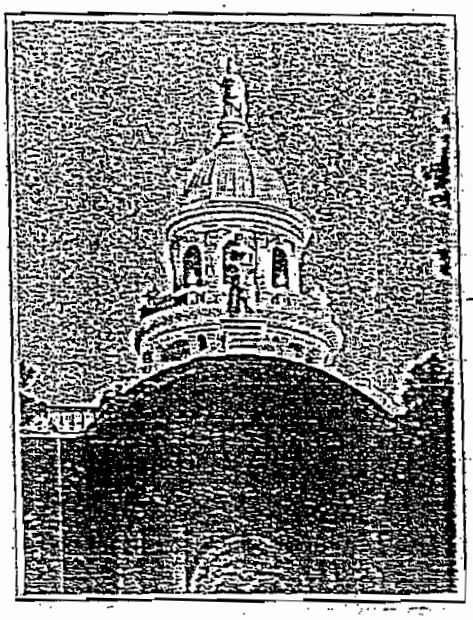
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5.4 PUBLIC SERVICES AND FACILITIES GOALS, POLICIES, AND ACTIONS

Goal Four P-5—Public Facilities and Services

GOALS

- Maintenance and Improvement of Merced's Existing Infrastructure
- New Development Which Includes a Full Complement of Infrastructure and Public Facilities
- Efficient and Cost-Effective Public Service Delivery

POLICIES

P-1.1 Provide adequate public infrastructure and services to meet the needs of future development.

P-1.2 Utilize existing infrastructure and public service capacities to the maximum extent possible and provide for the logical, timely and economically efficient extension of infrastructure and services where necessary.

P-1.3 Require new development to provide or pay for its fair share of public facility and infrastructure improvements.

Policy P-1.1 Provide Adequate Public Infrastructure and Services to Meet the Needs of Future Development

One of the key elements to promoting a healthy local economy in Merced is the quality of life enjoyed by the City's residents. The quality and availability of urban services and infrastructure is found to be an important measure of urban quality.

Implementing Actions:

1.1.a Through development review, ensure that utilities are adequately sized to accommodate the proposed development and, if applicable, allow for extensions for future developments, consistent with master plans.

Improvement standards applied through the development review process should be based upon existing and potential utility needs to a site. The review process will consider both municipal utility services—and utility services provided by quasi-public or private utility service providers as much as feasible.

1.1.b Master infrastructure plans for newly developing areas may be prepared and adopted as necessary.

The City may prepare master infrastructure plans for newly developing areas. Individual development proposals will need to develop plans and specifications for accessing planned City infrastructure.

1.1.c Include in Specific Plans and master plans, a phasing plan for providing access, sewer, water, drainage, flood control, schools, parks and other appropriate governmental facilities and services.

A phasing plan helps ensure that adequate service facilities can be accommodated in the planning area and that new facilities and services will be provided in a manner that keeps pace with population growth.

1.1.d Construct a stormwater drainage system, water system and sewer system in accordance with master plans.

Master plans which identify needed infrastructure improvements and extensions, phasing options, cost estimates and potential funding alternatives may be prepared.

1.1.e Apply for Federal, State and regional funding sources set aside to finance infrastructure costs to the maximum extent feasible.

Use of public funding sources to help off-set infrastructure costs could benefit the entire community by increasing housing and employment opportunities.

Policy P-1.2

Utilize Existing Infrastructure and Public Service Capacities to the Maximum Extent Possible and Provide For the Logical, Timely and Economically Efficient Extension of Infrastructure and Services

It is in the community's interest to maintain an efficient and cost effective public service delivery system. To this end, the City supports development that utilizes and improves existing infrastructure and service delivery systems as much as possible.

Implementing Actions:

1.2.a Develop plans which establish priorities to address existing inadequacies in the City's infrastructure system.

Present sewer, water, drainage and circulation plans need to be periodically reviewed and updated to reflect existing circumstances and to note system deficiencies and possible corrective measures.

1.2.b Expand existing facilities to the extent possible at present locations.

As long as it remains cost-effective, existing facilities (such as the Wastewater Treatment Plant) should be expanded at their present locations to save the cost of obtaining and constructing new facilities. Long term facility development plans should include adequate area for future expansion. Shared or regional facilities are also encouraged where appropriate to avoid duplication of services.

1.2.c Periodically evaluate the City's service delivery system and identify policies and programs which may improve operating efficiency and/or reduce service delivery costs.

The City will on a continuing basis evaluate its service delivery systems to search for ways of improving efficiency and service, reducing costs, etc.

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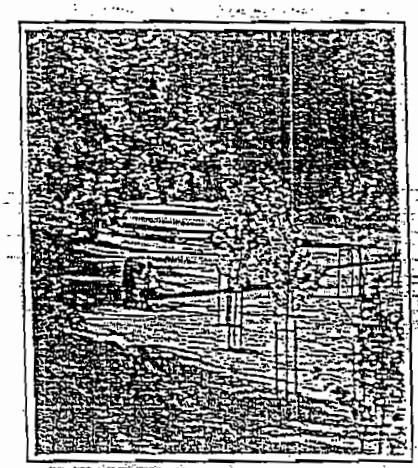
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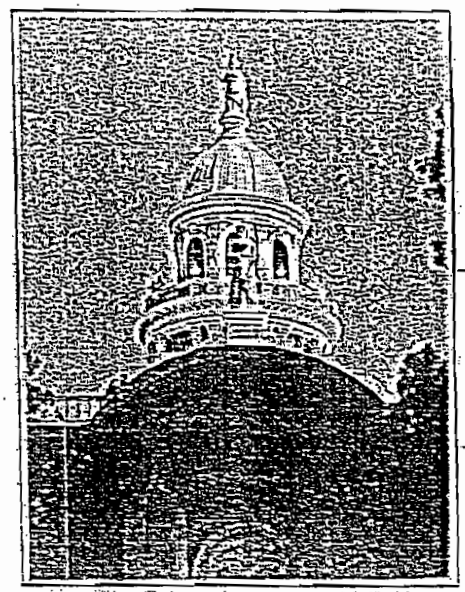
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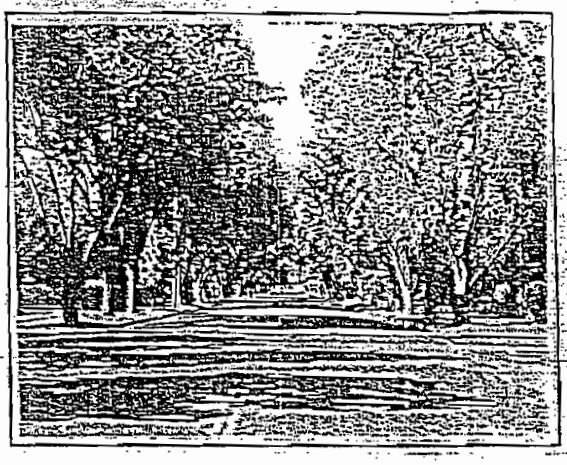
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Goal Area P-2: Police and Fire Protection Services

GOAL

- A Community Reasonably Safe From Crime and Fire

POLICY

P-2.1 Maintain sufficient public protection facilities, equipment, and personnel to serve the City's needs.

Policy P-2.1
Maintain Sufficient Public Protection Facilities, Equipment, and Personnel to Serve the City's Needs.

Public protection services and facilities are to be maintained in the City of Merced at a level that promotes the health and welfare of the city's residents. The City is committed to assuring that facilities, equipment and staffing levels of its fire and police service units meet the highest standard that can be accommodated within the resource constraints of the City.

Implementing Actions:

2.1.a Periodically review existing and potential station facilities, equipment and manpower in light of protection service needs.

Fire-fighting equipment and companies of personnel should be sufficient in number and adequately distributed throughout the planning area in order to allow optimum response time to calls within the primary service areas of a fire station and to ensure prompt availability of additional companies for serious or simultaneous fires. Police service districts should be sized to promote community-based policing concepts and to maintain sufficient personnel to promote crime prevention and to combat criminal activity.

2.1.b Determine that new development is adequately served by fire and police protection services.

Fire stations should be located so that no development in the City is outside the primary response areas (4 to 6 minutes) of at least one firehouse. Development plans should be reviewed with respect to existing and planned future fire station sites and police resources.

2.1.c Fire station sites should be selected based on the distribution of land uses and population projected when the area is fully developed.

Future sites should be located within planned urban service centers based on future use.

2.1.d Ease of access should be a primary consideration in selecting a fire station site.

The following guidelines should be considered when siting new firehouse facilities:

a) Fire stations should be located on streets close to and leading into major or secondary thoroughfares.

b) Fire stations should be so located as to minimize delays caused by incomplete street patterns.

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c) A fire station should be near the center of its primary service area, measured in terms of driving time to the periphery of this area.

d) Fire stations should be convenient to high value areas of commercial or industrial districts, but not located in them unless such a location is necessary to maintain the required service radius.

e) Fire stations should be located, as much as feasible, away from other uses which may be sensitive to the noise impacts of frequent alarms.

f) Fire stations and their sites should be designed to fit in with their surroundings, including consideration of open spaces, off-street parking, landscaping, and general appearances, especially when located in residential districts.

g) In residential service areas, fire stations should be located in or near those sections which have the highest density.

2.1.e Maintain an adequate and reliable water system to serve fire protection needs.

An adequate and reliable water system is a key element in maintaining adequate fire protection to the community. In fact, the adequacy of the water system is one of the criteria used for determining the City's fire protection rating from the Insurance Services Office (refer to Section 5.2.1).

2.1.f Provide fire facilities and related resources to support the "central station concept."

In order to maintain above-average fire insurance ratings, fire facilities should be provided and sited to support the "central station concept" described in Section 5.2.1 of this chapter.

2.1.g Utilize existing community resources, to the maximum extent feasible, in the provision of public protection services.

The City should continue participation in and support in community level crime prevention programs such as the Neighborhood Watch and VIP (Volunteer In Police) programs.

2.1.h Assure that new development utilizes modern public protection concepts in their design and development.

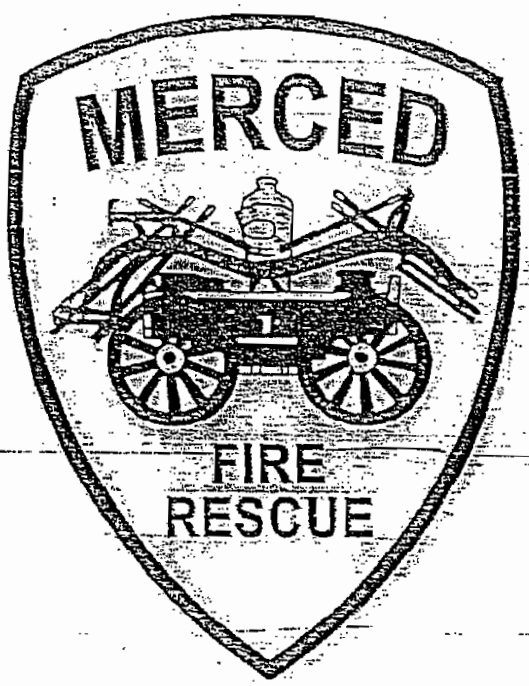
Development review processes should involve public protection service providers in the city. Public protection planning concepts such as "defensible space", security lighting, access, visibility, etc., may be applied to new development to reduce policing problems and improve police effectiveness.

(Note: Additional policies and implementing actions regarding police and fire protection services can be found in the Safety Element, Chapter 11.)

EXHIBIT L

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MERCED FIRE / RESCUE
STRATEGIC PLAN 2003



DELIVER PLUS YEARS

1) Due to community growth and development, review and revise the City of Merced Community Fire Protection Master Plan (CFPMP) to maintain adequate and affordable service levels, as directed by the City Council.

2) Develop a training complex, which includes props and resources for confined space, trench rescue, hazardous materials, burn facilities, simulations, and satellite Federal FETN training (dubbing/digital AV).

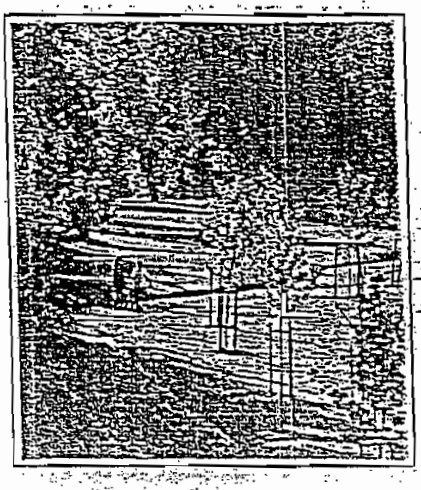
3) Establish a level "A" Hazardous Materials Response Team.

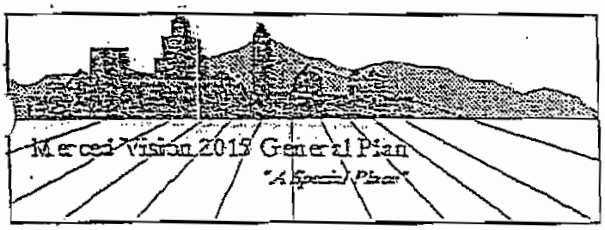
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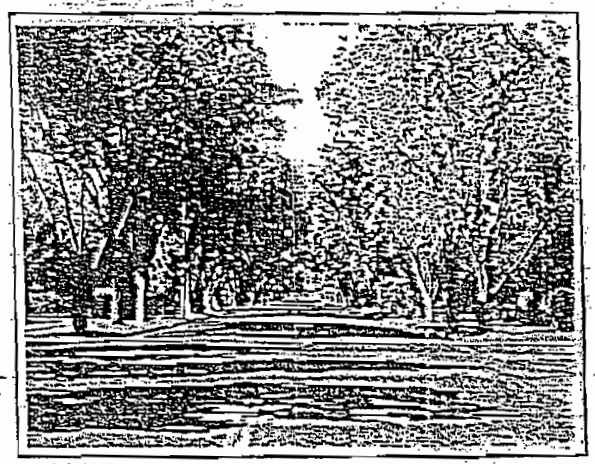
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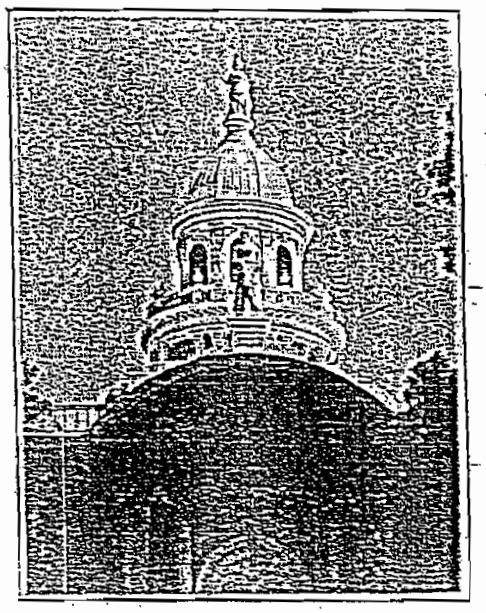
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abatement during the year. Each property within the City is served annually each spring with notice sent for removal of weeds, etc. The City Fire, Police, and Public Works Departments also pick up abandoned vehicles, and a "Spring Clean-up" conducted annually allows people to have bulky refuse picked up without charge.

Naturally, the use of built-in protection such as fire resistant materials and automatic sprinklers in all structures above that required by the Uniform Building and Fire Codes significantly reduces the risk of urban fires and may reduce the City's reliance upon fire suppression crews.

Land Use

Merced has a variety of land use types. Many of these require tailored fire protection considerations. These land uses are included as follows:

High-Hazard Occupancies
(schools, hospitals, nursing homes, and other high life hazard or large fire potential occupancies)

Medium-Hazard Occupancies
(apartments, offices, mercantile and industrial occupancies)

Low-Hazard Occupancies
(one-, two-, or three-family dwellings and scattered small businesses)

Rural Operations
(scattered dwellings, outbuildings, vacant lots)

Each of these land use types requires somewhat different fire suppression resources (e.g., emergency medical services, hazardous materials response, and heavy rescue). Merced's current policy is to provide emergency response within 4 to 6 minutes and to provide adequate resources to combat fires in these occupancies. The target of this response is to place a fire unit on scene at 95 percent of incidents in five minutes. Therefore, it is important that those industries using hazardous materials, large facilities, or requiring special fire hazard considerations going into new areas of the City not currently occupied by these types of businesses be accompanied by additional fire department equipment and/or personnel.

The current response practice provides for a first-alarm assignment of two pumpers, one ladder truck, one mini-pumper, and a chief officer for all structure fires. The increased awareness and use of hazardous materials, and the need for heavy rescue services as illustrated during the Loma Prieta Earthquake, however, have led the Fire Department to develop programs to provide expanded services.

Wildland Fires

Wildland fire hazards exist in varying degrees over approximately 90 percent of Merced County, mostly outside urban areas. The Valley's long, dry summers and extensive vegetation makes for a fire season that extends from late spring to early fall. Approximately fifty to one hundred wildland fires can occur in Merced County in any one year. Irrigated agricultural land, however, is less susceptible to wildland fires than grazing areas.

As the City has increasingly annexed large blocks of undeveloped land, the potential for wildland fires (mainly

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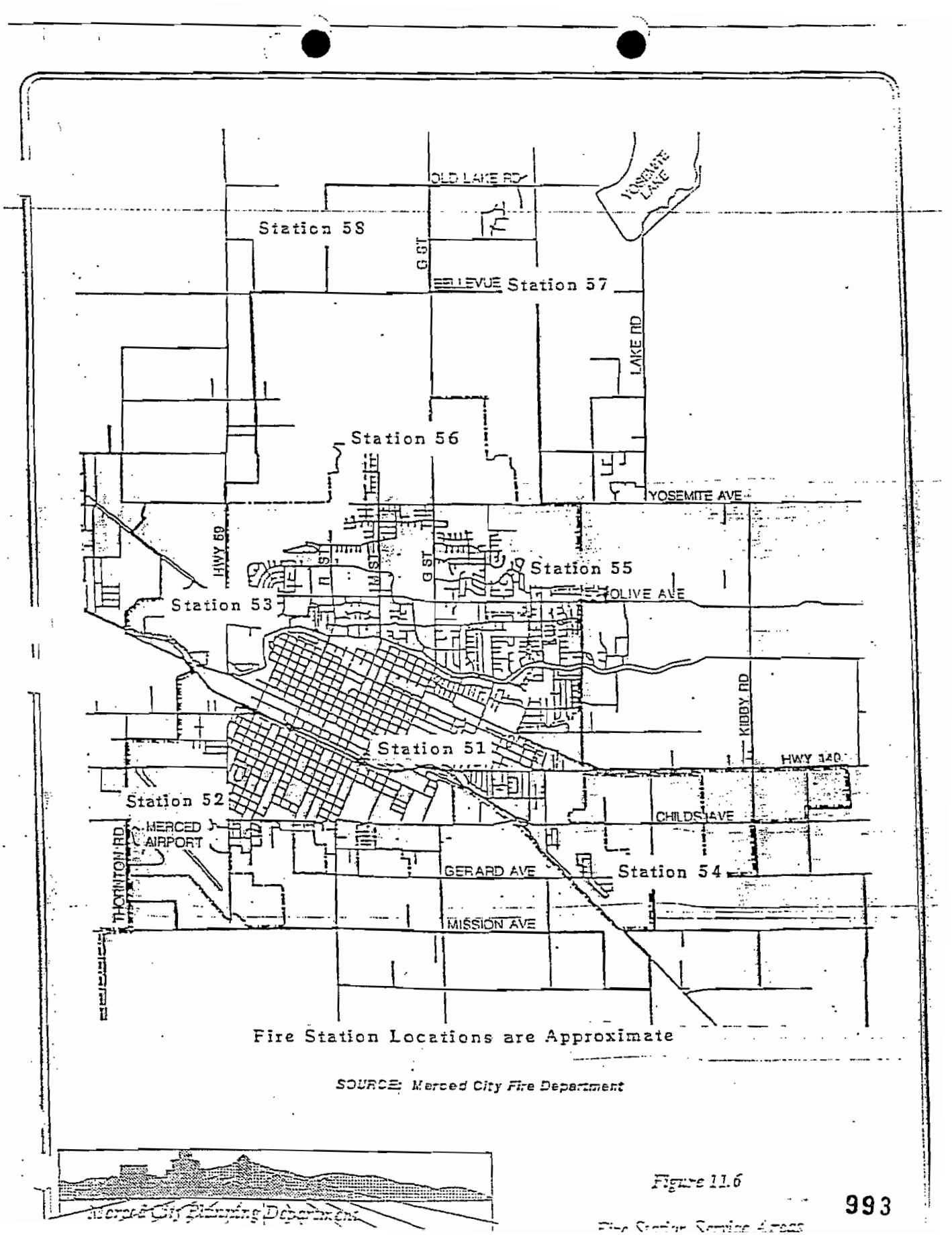


Figure 11.6

Fire Station Service Areas

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EXHIBIT N

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CITY COUNCIL/REDEVELOPMENT AGENCY PUBLIC HEARINGS CONTINUED

STAFF'S RECOMMENDATION: Adopt a motion denying the applicant's requested modification of Condition No. 2, but approving Vesting Tentative Subdivision Map No. 1292, subject to the conditions as recommended by staff to the Planning Commission on November 8, 2006, and modification of Condition No. 21, plus Findings A through S of Planning Commission Staff Report No. 06-42 - 4th Addendum.

L. CITY COUNCIL AND AGENCY REPORTS

1. ESTABLISHING PRIORITIES FOR DEVELOPMENT OF FIRE STATIONS *(At its December 18, 2006 meeting, the City Council directed staff to prepare an agenda item for City Council review concerning the priorities for development of fire stations within the City.)*

RECOMMENDATION: Adopt a motion:

A. Establishing priorities as recommended for the development of fire stations; and

B. Directing staff to seek proposals from architects for the design of Fire Station 56, to be located at the Merced College site.

ADMINISTRATIVE REPORT

AGENDA ITEM:___

MTG DATE:___

TO: James G. Marshall, City Manager
FROM: Jack D. Lesch, Director of Development Services
Ken Mitten, Fire Chief
Brad Grant, Finance Officer
William D. Cahill, Assistant City Manager
DATE: December 21, 2006
SUBJECT: Establishing Priorities for Development of Fire Stations

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RECOMMENDATION: Adopt a motion:

A. Establishing priorities as recommended for the development of fire stations; and

B. Directing staff to seek proposals from architects for the design of Fire Station 56, to be located at the Merced College site.

POSSIBLE ACTIONS:

1. Adopt the motion as recommended.
2. Modify the action.
3. Direct further staff work (specify in motion).
4. Deny the action.

AUTHORITY: Charter of the City of Merced, Section 200; Merced Municipal Code Section 2.36.20.

DISCUSSION: At its December 18, 2006 meeting, the City Council directed staff to prepare an agenda item for City Council review concerning the priorities for development of fire stations in the City of Merced. This item was prompted by discussion of a development proposal in northeast Merced, but has broader implications for the community as a whole.

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Past Fire Station Planning and Response Standards: The City has had an adopted Fire Station Master Plan since the middle 1980s. This Plan addresses future locations of fire stations to serve the existing Specific Urban Development Plan area, and is further incorporated into the City's General Plan. Fire station master planning is a process designed to provide adequate, yet affordable fire protection.

Pursuant to this longstanding plan, the City developed and opened Fire Station #55 on Parsons Avenue at Carpenter Park in early 2006. The City also followed the Plan in recently purchasing a site from Merced College for the planned Station #56. See Attachment 1 for map of existing coverage area and Attachment 2 for expanded area with Merced College and Southeast stations.

The Plan is based on accepted national fire response standards, especially those prescribed by the Insurance Service Office (ISO) for fire company distribution "standards of coverage" response areas. These include:

- Engine Company within 1.5 miles (circles)
- Response criteria of 4 to 6 minutes
  - 1 minute - alarm receipt
  - 1 minute - turn-out time for crews
  - 4 minute - road time average of 30 mph (2 miles max)

Accreditation criteria within the ISO grading process allows for an average of 90% of calls to be responded to within 5 minutes.

Setting Priorities: The City's Fire Master Plan and Public Facilities Financing Plan (PFFP) provide for six additional stations in the 20-year time horizon of the PFFP (two relocations and four new stations):

- Station 53 (replace Loughborough, move to near Hwy 59 & Olive)
- Station 54 (Southeast: replace 21st Street, move to near Gerard and Coffee)
- *Station 55 (on Parsons Avenue, at Carpenter Park – already completed)*
- Station 56 (Merced College)
- Station 57 (Bellevue between G and Lake)
- Station 58 (near Bellevue and R)

These stations are to be constructed as growth occurs, to serve expanded areas of the community. With Station 55 completed and opened, the question is prioritizing remaining stations.

In considering priorities and scheduling of construction, the following factors should be considered:

- Need for the station, as evidenced by call volume and the build-out of development within the service area of the station (see Attachment 2 which illustrates the degree of development within the service areas of each of the planned stations). Approximately 40% of calls in Merced are experienced north of Bear Creek.
- Readiness to build the station (in terms of ownership of the site and other factors)
- Vehicular circulation allowing adequate response times (any special limitations in the road network of the service area, creating difficulties in access). For example, in the case of the Absolute-Leeco annexation area, the lack of completion of Gardner and Cardella Roads prolongs response. In southeast Merced, the lack of completion of the road network generally also prolongs response.
- Availability of staffing for the stations. Funding is available to support staffing for one new station. Relocations of Stations 53 and 54 do not require additional funding for operations. However, new Stations 57 and 58 would require more operating funding than is currently available.

After considering these factors, staff recommends the following priority/scheduling list:

1. Station 56 (Merced College)
2. Station 54 (Southeast: replace 21st Street, move to near Gerard and Coffee)
3. Station 53 (replace Loughborough, move to near Hwy 59 & Olive)
4. Station 58 (near Bellevue and R)
5. Station 57 (Bellevue between G and Lake)

Station 56, Merced College: This station location is recognized in Merced College's Campus plan as well as City plans, and is ready to proceed to construction. The City owns the site, which was recently purchased from Merced College. Staffing for an additional station is available, due to revenues from Community Facilities Districts. The need for this station is the most immediate, evidenced by both growing call volume in the area, and the amount of development in the area to be served by the station (see Attachment 2). This station would serve Bellevue Ranch, recently annexed land (e.g. Absolute-Leeco), and proposed annexations shown in Attachment 2.

Crosswinds is also proposing phases to the north of Bellevue Road, which would rely on Station 56 and additional measures to provide adequate service, yet to be

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determined by further City staff evaluation. While the developer may wish to advance this development north of Bellevue and west of "R" Street (extended), it will need to be evaluated in terms of adequate safety services.

Station 54, Southeast: This station is less ready to proceed to construction than the Merced College site. Although a site has been identified, the City does not own it, and precise location and acquisition are dependent upon negotiations with developers intending a large-scale commercial development. If put in line before the Merced College station, the result is likely to be lengthier development times for both. While the service area is developing, it is far less developed than the service area for the College station, and call volumes in the southeast Merced area are less. However, as development progresses in the southeast area, additional fee income will be generated which will help support the station's construction. This includes proposed large commercial and industrial projects starting in 2009-2010. No new staffing is needed, because this station is a relocation of the 21st Street station, not a net new addition.

Station 53, Olive/59: While the relocation of the Loughborough station has been long anticipated, there is no specific site identified for it. It is not near construction readiness. The station in its present location is adequately located, but as development progresses to the north and west, there will be increasing need to move. No new staffing is needed, because this station is relocation, not a net new addition.

Stations 58 and 57: These are both seen as much longer-term for development. Neither location has any significant urbanized development around it, so there is no current need for either. Neither has a firmly identified site. Staffing costs for these stations are not yet affordable. However, it should be recognized that Crosswinds, the developers of Bellevue Ranch, would like to proceed with development of an area in the far northwest of Bellevue Ranch – north of Bellevue Road and west of R Street. Aside from this request, the City has no other reason to build this station in the near future.

Finances for Construction: Each of the future stations would be built for the purpose of serving newly-developed areas. Because new stations serve new growth, the capital costs of building new stations is provided for in impact fees charged to new development, as established in the City's adopted Public Facilities Financing Plan (PFFP). Fee levels are adjusted annually to assure adequate collection of funds. Although impact fees are deposited into separate accounts for various purposes (fire, police, roads, parks, etc.), the City Council may transfer money between the accounts as needed for construction of a particular project.

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Existing balances and expected revenues in fire-related impact fee funds are not sufficient to build a new fire station in the coming three fiscal years. If a station is to be constructed in that time, it is likely that the Council would need to authorize transfers from other impact fee funds, provided that the other funds have money available.

Stations 53 and 54 are relocations. Their current locations may be sold, raising revenues to support the replacements for these stations. Alternate uses for these location may be City operations – Station 54 has been discussed for recreation center use, and Station 53 for police use. Whatever the use, the sales revenues are already included in the City's adopted PFFP, for a combined total of $750,000. Even if market conditions increase the sale prices, the basic conclusion is still that the Council would need to transfer revenues among PFFP funds in order to obtain funding for multiple fire stations in the short term.

Development Process: The development process for fire stations can be summarized as four steps: (1) site acquisition (by purchase or dedication), (2) design, (3) construction, and (4) opening and operation.

The chart below summarizes recommended steps in the development process for the three stations which should be planned for now. Given the financial projections for fee income, the schedule shows construction and opening of the next station (#56) three years from now at the earliest, in FY 2010. This scheduling is likely to require some transfers by the City Council between impact fee funds, if the other funds have sufficient money available. If fee income is greater than expected, it may be possible to achieve construction earlier.

	Site Acquisition	Design	Construction	Opening/Operation
Station 56 (College)	2007 **	2008	2010	2010
Station 54 (Southeast)	2008	2010	future	future
Station 53 (Olive/59)	2011	future	future	future

** All years are fiscal years and are for the completion of that step. For example, "2007" means the fiscal year ending June 30, 2007.*

*** Acquisition of Station 56 site is complete.*

It is advisable to commence the design process for Station 56 now by seeking architectural proposals. While some of the design concept from the recently-completed Station 55 can be used, new construction drawings are needed because Station 56 will have a ladder truck (Station 55 does not), requiring additional space in the equipment bays.

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RECOMMENDATION: Staff recommends the approval of Fire Station priorities, with the Merced College site (#56) being ranked first, the Southeast site (#54) second, and the relocation of the Loughborough Station (#53) third. Staff also seeks approval for requesting architectural proposals for the development of Station 56 at Merced College. Proposals and costs will be returned to the Council at a later date for consideration.

Respectfully Submitted:

Jack D. Lesch
Development Services Director

William D. Cahill
Assistant City Manager

Bradley Grant
Finance Officer

Ken Mitten
Fire Chief

Reviewed and Approved:

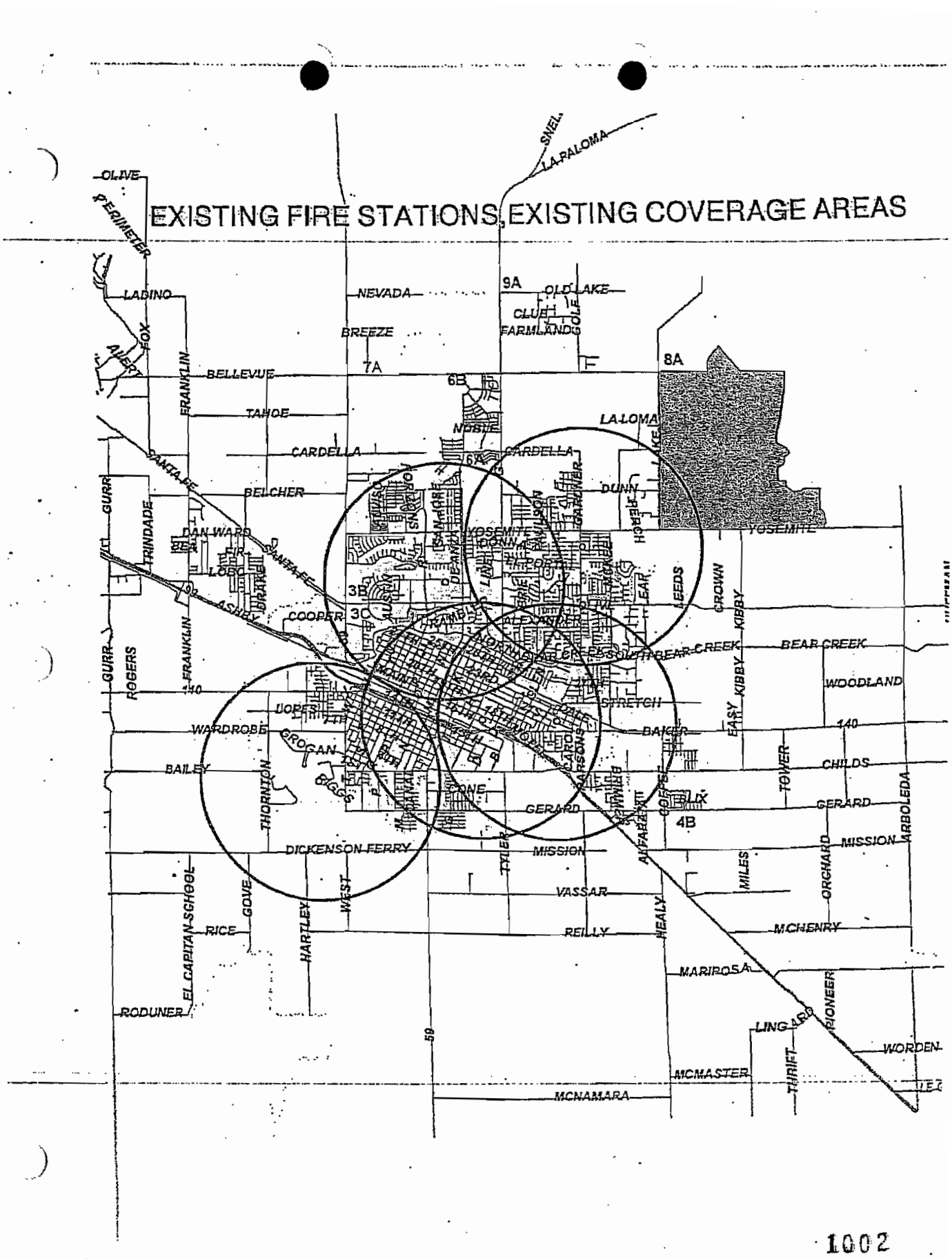
James G. Marshall
City Manager

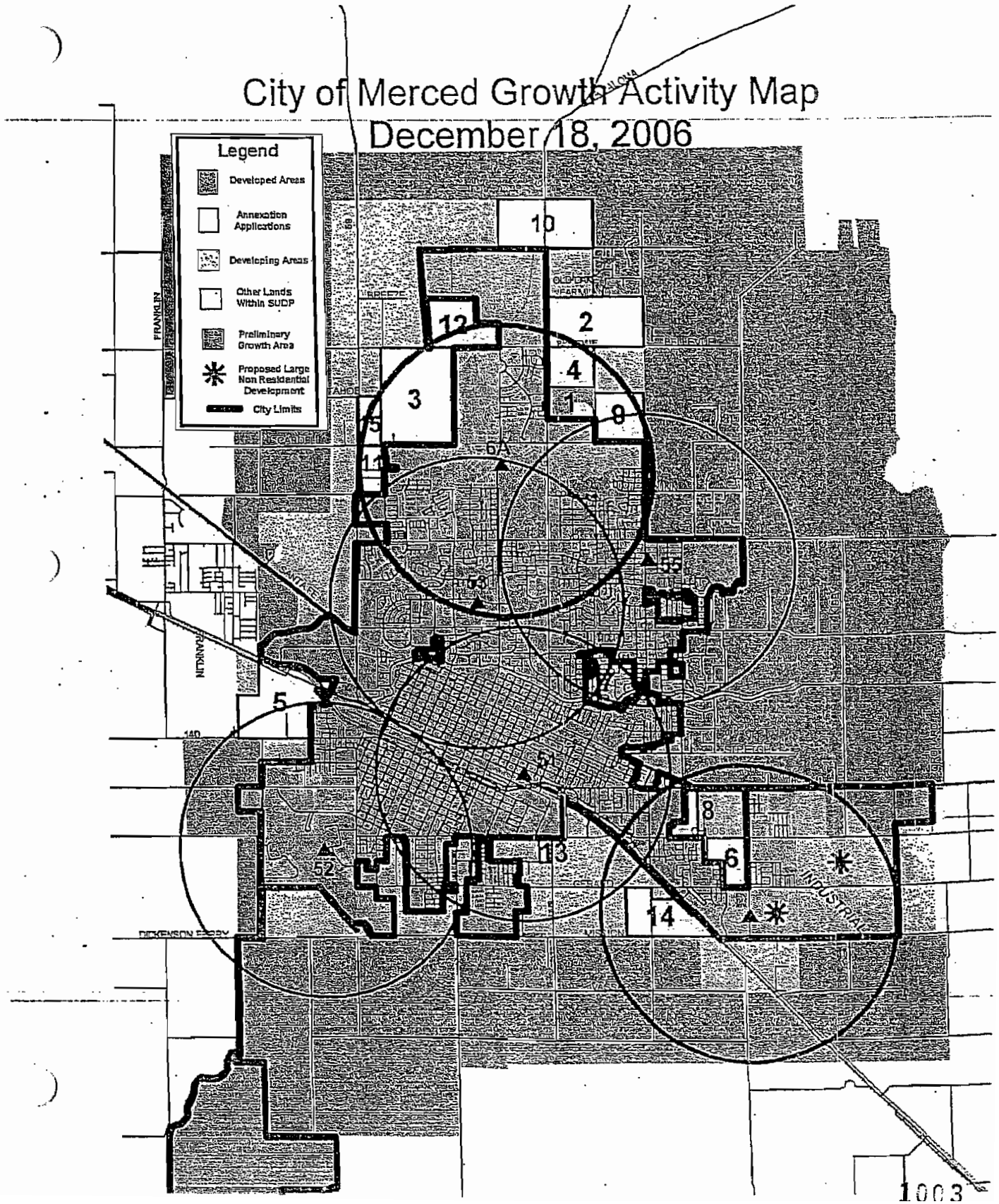
Attachments:

1. Existing Fire Stations, Existing Coverage Areas
2. Proposed Fire Stations, Proposed Coverage Areas

m-cc-fire priorities-12-26-06

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EXISTING FIRE STATIONS, EXISTING COVERAGE AREAS
OLIVE
PERIMETER
LADINO
FOX
ALBERT
FRANKLIN
BELLEVUE
TAHOE
CARDELLA
SANTA FE
BELCHER
GURR
TRINIDADE
DAN WARD
LORD
ASHBY
COOPER
ROGERS
140
HOPER
WARDROBE
BAILEY
THORNTON
RICE
EL CAPITAN SCHOOL
RODUNER
GROGAN
GOVE
HARTLEY
WEST
DICKENSON FERRY
NEVADA
BREEZE
9A
OLD LAKE
CLUB
FARMLANDS
GOLF
7A
6B
6A
NOBLE
CARDELLA
GARDNER
DUNN
LA LOMA
LAKE
8A
YOSEMITE
3B
3C
LEAR
LEEDS
CROWN
KIBBY
BEAR CREEK
WOODLAND
STRETCH
BAKER
EASY
CHILDS
TOWER
GERARD
4B
ARBOLEDA
MISSION
ORCHARD
MILES
TYLER
VASSAR
REILLY
HEALY
MCHENRY
MARIPOSA
PIONEER
LINGARD
WORDEN
THRIFT
MCMASTER
MCNAMARA
59
SNELL
LA PALOMA
1002


City of Merced Growth Activity Map
December 18, 2006
Legend
Developed Areas
Annexation Applications
Developing Areas
Other Lands Within SUDP
Preliminary Growth Area
Proposed Large Non Residential Development
City Limits
10
12
2
4
3
1
9
6A
55
53
5
52
13
8
6
14
1003

(Merced City Council Meeting January 2, 2007) 2007-11

BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS: OSORIO, SPRIGGS, CORTEZ, GABRIAULT-ACOSTA, POLLARD, SANDERS, WOOTEN
NOES: COUNCIL MEMBERS: NONE
ABSTAIN: COUNCIL MEMBERS: NONE
ABSENT: COUNCIL MEMBERS: NONE

(L-1) Establishing Priorities For Development Of Fire Stations

Fire Chief KEN MITTEN reviewed the administrative staff report.

Council Member SPRIGGS stated geography and access could make the relocation of Station 54 to the Gerard and Coffee area a prudent choice.

Council Member GABRIAULT-ACOSTA suggested using the Loughborough station as a youth recreation center if the Police Department does not re-use.

Speakers from the Audience in Favor:

CHARLIE HUDDLESTON, Merced
ROBERT HADEN, representing Crosswinds Communities – in favor of utilizing developer funding and construction to locate an interim facility located at the M Street traffic circle south of Bellevue Road. Council Member SPRIGGS stated he was in favor of the interim station idea.
DAVID HAHN, representing Crosswinds Communities

ON MOTION OF COUNCIL MEMBER OSORIO, SECONDED BY COUNCIL MEMBER POLLARD, DULY CARRIED, RESOLVED, TO ESTABLISH PRIORITIES AS RECOMMENDED FOR THE DEVELOPMENT OF FIRE STATIONS; DIRECT STAFF TO SEEK PROPOSALS FROM ARCHITECTS FOR THE DESIGN OF FIRE STATION 56, TO BE LOCATED AT THE MERCED COLLEGE SITE; AND TO CONDUCT A JOINT FIRE STATION STUDY SESSION ON TEMPORARY A (INTERIM) FIRE STATION FOR BELLEVUE RANCH NORTH.

1004

2007-12 (Merced City Council Meeting January 2, 2007)

BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS: OSORIO, SPRIGGS, CORTEZ, GABRIAULT-ACOSTA, POLLARD, SANDERS, WOOTEN
NOES: COUNCIL MEMBERS: NONE
ABSTAIN: COUNCIL MEMBERS: NONE
ABSENT: COUNCIL MEMBERS: NONE

(K-4) Continued Public Hearing – Appeal for Planning Commission Denial of Tentative Subdivision Map No. 1292-Palisades Park

Director of Community Development JACK LESCH reviewed the administrative staff report.

Speakers from the Audience: RICK TELEGAN, representing Absolute/Leeco LLC - in favor of recommendation with modifications of condition number twenty-one, plus Findings A through S of Planning Commission Staff Report.

The public hearing was closed at 9:20 p.m.

ON MOTION OF COUNCIL MEMBER OSORIO, SECONDED BY COUNCIL MEMBER SANDERS, DULY CARRIED, RESOLVED, TO DENY THE APPLICANT'S REQUESTED MODIFICATION OF CONDITION NO. 2, BUT APPROVE VESTING TENTATIVE SUBDIVISION MAP NO. 1292, SUBJECT TO THE AMENDED CONDITIONS AS RECOMMENDED BY STAFF TO THE PLANNING COMMISSION AND MODIFICATION OF CONDITION NO. 21, PLUS FINDINGS A THROUGH S OF PLANNING COMMISSION STAFF REPORT NO. 06-42 - 4TH ADDENDUM.

BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS: OSORIO, SPRIGGS, CORTEZ, GABRIAULT-ACOSTA, POLLARD, SANDERS, WOOTEN
NOES: COUNCIL MEMBERS: NONE
ABSTAIN: COUNCIL MEMBERS: NONE
ABSENT: COUNCIL MEMBERS: NONE

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EXHIBIT O

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ADMINISTRATIVE REPORT

AGENDA ITEM: L-1-I

MTG. DATE: 5/5/08

TO: James G. Marshall, City Manager

FROM: Kenneth W. Mitten, Fire Chief

DATE: May 1, 2008

SUBJECT: Report on the Progress of Fire Station Development

RECOMMENDATION:

For Information Only, no City Council action is necessary.

AUTHORITY:

Article II, Section 200 of the Merced Municipal Code, the power make legislative decisions in respect to municipal affairs.

DISCUSSION:

The purpose of this Administrative Report is to provide the Merced City Council with an update in regards to the development and relocation of City fire stations. This Report shall address the history, the current needs, status of current station development projects, and provide a response to information which was requested at the April 7th, 2008 City Council meeting.

Merced Fire Department ("MFD") facilities locations have been generally planned and are documented in Figure 5.1 of the Merced Vision 2015 General Plan. In April 1997, when the General Plan was adopted, it was projected that the Department would grow to total of eight stations at the build out of the Plan. The projected number of fire stations and their locations are based on the trends of population and area growth. Accordingly, an increase in population and development is directly proportionate to an increase in demands for service.

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The Insurance Services Organization ("ISO") Public Protection Classification ("PPC") system has been developed to rate the level of fire protection that is delivered within a specific geographic area. The PPC is used to determine fire insurance premium rates for the area. The PPC is expressed on a scale of one to ten, with Class 1 being exemplary where Class 10 fails to meet any of the ISO requirements. The City of Merced has been assigned and rated as an ISO PPC Class 2 since the mid 80's, which is considered to be outstanding and is one of the highest ratings of any city in the Valley. The ISO rating system considers a number of factors including how well an agency receives and dispatches fire alarms to the fire department (10% of the rating); the fire department including distribution of fire companies and equipment, training, response time, and equipment maintenance (50% of the rating); and water supply focusing on the ability of the community to meet fire suppression needs beyond maximum daily consumption—including the rate of flow for firefighting purposes at various locations throughout the community as well as the distribution of fire hydrants through the community (40% of the rating). To receive the ISO PPC Class 2 rating, the City had to rate near the top in each of these categories.

Specific fire station locations are to be based upon the complete build-out of an area, as projected within the adopted General Plan, as it relates to the ability to provide an acceptable level of service. Travel distance, population, and response routes are considered during the planning phase so as to maintain an acceptable emergency response time.

The City has taken several actions to meet the projected fire protection needs of the City of Merced, since the adoption of the current General Plan. By way of example, the City has completed the relocation of Station 51 from West 18th Street to 99 East 16th Street. The City has also completed the design and fabrication of Station 55, which has been fully functional since 2006.

Additionally, the current MFD fire station development plans are as follows:

Station 53 - Relocate the facility to the area of West Olive Avenue and Highway 59.

Station 54 - Relocate the facility further to the East and South of its current location to an area within the East Mission Avenue and Highway 99 Interchange commercial development project.

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Station 56 - Develop a combination fire station and college fire training facility, contiguous to Merced Community College.

Station 57 - Develop a facility in the area of Bellevue and Lake Roads.

Station 58 - Develop a facility in the area of Bellevue Road East of Highway 59.

Two fire station Capital Improvement Program Projects ("CIP") are currently in different stages for development. These CIP funds come primarily through the payment of development impact fees by developers into the City's Public Facilities Financing Plan ("PFFP") fund. These projects include: relocation of Fire Station 54 and development of Fire Station 56. Station 53 is not currently in the CIP process because Station 56 needs to be completed and functional before relocation of Station 53 is practical. However, staff continues to look at opportunities to acquire property for this purpose and to monitor growth in the part of the City to be served by a relocated Station 53. The status of these two current Fire Station CIP projects is as follows:

Station 54 – Relocation

Over the past few years, negotiations have been underway between the City and commercial developers to relocate Station 54 from East 21st Street to the East Mission Avenue at Highway 99 Interchange area. Approximately one-year ago, the consortium that was leading the development of a major retail complex disbanded and the project was dropped. Since the beginning of the year, talks with developers have resurfaced. Currently, there are four projects being negotiated in the Mission Interchange area; the fabrication of a fire station is being included in these discussions.

CIP funds are currently being requested in the FY2008-09 budget to start the design process.

Station 56 – M Street at Ironstone Drive

The City has purchased 2.83 acres from Merced College for the purpose of developing a fire station, a fire department training facility, and a City fuel island. The planned fire station will be large enough to accommodate two fully staffed fire companies: one engine and one truck. To date, both Phase I and Phase II Environmental Assessment Reports have been completed and no further actions are required for clearance. These reports help determine if the real property has

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any existing contamination which would be hazardous to humans or preclude the proposed use.

CIP funds are currently being requested in the FY2008-09 budget to re-start the design phase of this project.

On January 2, 2007, the City Council approved a motion directing staff to seek proposals from architects for the design of this fire station. The time frame to hire an architect to design any fire department facility is projected at one year to 18 months. Upon completion of the selection process, but before the architect was hired, the project was put on hold for two reasons: the slowdown in building resulting in the slower than anticipated generation of PFFP fees for capital and CFD taxes for personnel, and the proposal to develop a temporary fire station.

Developer-Funded Temporary Fire Station – M Street Circle at Mandeville Lane

J.B. Anderson Land Use Planning is the primary contact for the Crosswinds Project Team who has requested permission from the City to build out-of-phase in the northwestern corner of the City. The change in Bellevue Ranch North phasing poses concerns for the ability of the Fire Department to provide adequate levels of service to the citizens who will live in this area upon build-out. Therefore, it was proposed to have the developer design and build a temporary fire station to meet the Fire Department's response requirements while at the same time having a facility that is reusable by the community when a permanent fire station is built.

Generally, the City has avoided temporary facilities, especially temporary fire facilities. One of the reasons for this is that temporary facilities have the tendency to become permanent facilities. Moreover, as representatives of the school districts have stated to the City Council, the maintenance and operations costs for temporary facilities are significantly higher than for permanent facilities. In addition, one factor in making fire stations expensive is that they are designed and constructed to higher standards so that they can withstand most natural disasters. In the event of a natural disaster, the City would not want to have its front-line first responders or their equipment lost to the disaster and thus unavailable to meet the City's emergency needs. Finally, the investment in temporary facilities simply postpones from a financial perspective when permanent facilities designed to meet the City's long-term needs can be built.

In addition, given the current restrictions on the use of the funds in the Fire PFFP Account (e.g., by law, they can only be used for the identified facilities), the City

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would not be in a position to use its Fire PFFP funding for such temporary facilities because temporary facilities are not an identified project within the program.

The proposed facility would be located on M Street Circle at Mandeville Lane. This location will meet all current response needs of north Merced. Further, the proposed facility will also have dedicated office space for the Merced Police Department. With a design that meets both short-term and long-term reuse needs, such a facility in this location would make sense. However, it only makes sense at this time if the developer's "out of phase" request is approved by the City.

On Monday April 7th, 2008, Mr. Richard Harriman appeared before the City Council regarding the status of fire station planning and development. He specifically asked for the following:

Question: The account balance in the PFFP Fire Account and any transactions involving loans to or from the PFFP Fire Account:

Answer: No loans have been made to or from the Fire PFFP Account.

Current balances as of March, 2008 within the Fire PFFP Account total $1,727,020.57. This includes $645,715.87 City and $1,081,304.70 developer. Under the PFFP program, funds collected are separated into two areas within each category. The first category is for projects determined by the City Council to be a City-wide priority. The second category, the "developer reimbursement" category is designed to reimburse developers for eligible improvements which they construct that are beyond their "fair share" of the need for the improvement created by their project. The City Council specifically divided the PFFP funds between the City category and the developer reimbursement category so that the community's needs and priorities are addressed rather than having infrastructure addressed on a piecemeal basis as individual projects develop.

Question: An indication of when the design for Fire Station 56 will be completed:

Answer: At the January 2, 2007 City Council meeting, the City Council voted to establish the priority of fire station development and

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construction. Fire Station 56 was designated by the City Council as the top priority. The site acquisition has been completed. The schedule approved by the City Council was to undertake the design work in 2008, and construct the facility in 2010. It is currently projected that Fire Station 56 would be open and operational by the end of 2010. Design funds are being requested in the 2008-09 budget CIP program. The estimated time to hire an architect and have the architect design a fire station is 12 to 18 months.

Question: An explanation of why the land proposed to be dedicated for Fire Station purposes by Crosswinds was never accepted:

Answer: The Developer was required to dedicate a fire station site (Lot "O") unless an alternative, off-site location became available and was acceptable to the City. The site dedicated by the Developer was described as Lot "O." When the Lot "O" property was designated for a fire station it was contemplated that the City would continue to grow to the north. Subsequently, habitat and endangered species have been determined to be prevalent, making further growth to the north unlikely. Consequently, it is not practical to build and staff a fire station where its service area is only 180 degrees and not a complete 360-degree area. An alternative site has been identified and is acceptable to the City. This alternative site is the City property on "M" Street and Ironstone Drive, which had been discussed with Merced College for a number of years prior to purchase. Pursuant to the Subdivision Map Act, because the City no longer intends to use the originally identified site as a fire station, the City is obligated to return it to the developer. Specifically, Government Code Section 66477.5 requires the return of property dedicated to the City if it is not used for its intended purpose. For this reason, Crosswinds requested a quit claim of the City's interest in 2007. Crosswinds did so because in re-subdividing the area their engineer failed to note the relinquishment of Lot "O" as a fire station site on their final map. The Planning and Permitting Division of the Development Services Department of the City is preparing an initial study to determine any environmental issues prior to a

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City Council decision on the return of Lot "O" as required by Government Code Section 66477.5.

Question: A "date certain" when fire service will meet General Plan policies and goals in North Merced:

Answer: Fire services responses currently meet the policies and goal of the City of Merced General Plan - "The department has a goal of maintaining a response time of four to six minutes for the first crew to arrive at a fire or medical emergency within an assigned district." In particular, General Plan Policy P-2.1 provides that:

> "Public protection services and facilities are to be maintained in the City of Merced at a level that promotes the health and welfare of the City's residents. The City is committed to assuring that facilities, equipment and staff levels of its fire and police service units meet the highest standard that can be accommodated within the resource constraints of the City."

During the 2007 calendar year the fire department maintained a district average response time of less than six minutes. Accordingly, fire department facilities planning is a high priority, which is validated by the department's active involvement in the current General Plan update process.

Question: An analysis of how often Fire Station 53 responses meet current goals and policies of General Plan:

Answer: In the calendar year of 2007 fire station No. 53 responded to 941 incidents. The average response time was 4:24 minutes for the year. Accordingly, in order to maintain an acceptable level of fire service, fire department's facilities planning continues to be addressed. As the City progresses through the current General Plan update process, the information contained in current Vision 2015 document is being reviewed to revalidate that it remains current and accurate.

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In conclusion, the Merced Fire Department is working closely with the community and developers to be able to continue to maintain exceptional levels of emergency response and fire protection to carry out the City Council's decision regarding the priority of the fire station construction. The Vision of the Merced Fire Department is to make our community fire and life safe for all who live here and visit us. Through effective planning and implementation we will continue to proximate the Department with its Vision.

RECOMMENDATION:

For Information Only, no City Council action is necessary.

Submitted:

Kenneth W. Mitten
Fire Chief.

Approved:

James G. Marshall
City Manager

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Merced Citizens for Responsible Planning and Valley Advocates v. City of Merced
[Merced County Superior Court Case No. 150872]

PROOF OF SERVICE

STATE OF CALIFORNIA, COUNTY OF FRESNO

I am a citizen of the United States and a resident of the County of Merced; I am over the age of 18 years and not a party to the within action; my business address is 191West Shaw Avenue, Suite 205B, Fresno, California, 93704-2826.

On May 5, 2008 I served the within

VERIFIED SECOND AMENDED PETITION FOR MANDAMUS AND COMPLAINT FOR DECLARATORY RELIEF

by placing a true copies thereof, and delivering them as follows:

Gregory G. Diaz, Esq.
City Attorney
City of Merced
678 West 18th Street
Merced, CA 95340
[Fax No. (209) 723-1780]

M. Katherine Jenson, Esq.
Rutan & Tucker, LLP
611 Anton Boulevard, Fourteenth Floor
Costa Mesa, CA 92626-1931
[Fax No. (714) 546-9035]

____ **(By overnight courier)** I caused such envelope with postage fully prepaid to be sent by _____.

_X_ **(By Mail)** I placed the envelope for collection and processing for mailing following the ordinary practice of this business which I am already familiar. On the same day correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service with the postage fully paid. Addressed with the addresses above.

_X_ **(By Hand)** I caused each envelope to be delivered by hand.
Gregory G. Diaz, Esq., only

____ **(By Facsimile)** I caused each document to be sent by telecopier to the following number(s):

The foregoing declaration is true and correct and is executed under penalty of perjury under the laws of the State of California on May 5, 2008, at Merced, California.

RICHARD L. HARRIMAN

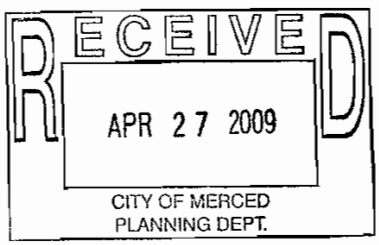
Espinosa, Kim

From: Richard Harriman [harrimanlaw1@sbcglobal.net]
Sent: Monday, April 27, 2009 3:56 PM
To: Espinosa, Kim
Subject: Comments of Valley Advocates and Merced Citizens for Responsible Planning re Draft EIR for Wal-Mart Regional Distribution Center

Dear Kim:

Attached please find the Comments from my clients referred to above, without Attachment A, which I am including in the Comments hand delivered to the City today.

Richard L. Harriman



4/27/2009

RECEIVED
APR 27 2009
CITY OF MERCED
PLANNING DEPT.

Law Offices of
Richard L. Harriman
1130 L Street, Suite B
Modesto, California 95354
Telephone: (559) 526-3429
Facsimile: (559) 526-3674
Email: harrimanlaw1@sbcglobal.net

April 27, 2009

VIA HAND DELIVERY

Ms. Kim Espinosa, Planning Manager
City of Merced Planning Department
678 West 18th Street
Merced, CA 95340

Re: Proposed Wal-Mart Regional Distribution Center
Draft Environmental Impact Report (DEIR)
SCH No. 2006071029
Comments of Valley Advocates and
Merced Citizens for Responsible Planning

Dear Ms. Espinosa:

This office has been retained to prepare and submit comments on the above-referenced Draft Environmental Impact Report. After reviewing the DEIR, including the Appendices contained in Volume 2 of the DEIR, my clients and I have set forth the following comments and objections.

1. Inadequate Analysis and Mitigation of Cumulative and Secondary Adverse Impacts to Agricultural Resources

Section 4.1 of the DEIR, pp. 4.1-1 through 4.1-13, purports to disclose and analyze the adverse impacts from the proposed project on agricultural resources. At p. 4.1-11, the DEIR states

> "Because of (*sic*) the project would result in the conversion of 228.68 acres of Farmland and the significant LESA score, the effect on farmland soils is considered a significant impact. Furthermore, industrial uses adjacent to agricultural land can result in land use conflicts and create incentives for agricultural producers to discontinue agricultural operations and sell their land for development.
> ...
> ...The City's General Plan EIR further concludes that to achieve the goals of maintaining a compact urban form, and other types of land-use compatibility issues,

mitigation that would eliminate the loss of agricultural land to urban development is not possible. Therefore, because no mitigation is available to reduce this impact, the impact would remain ***significant and unavoidable***. This conclusion is consistent with the conclusion of the EIR prepared for the Merced Vision 2015 General Plan. It should be noted that the City considered the significant impact associated with the conversion of farmland resulting from the buildout of the General Plan and adopted a Statement of Overriding Considerations (Resolution No. 97-22)." (emphasis included in original)

Similarly, the Summary of Impacts and Mitigation Measures (DEIR, p. 2-5) makes similar findings and relies upon the current City General Plan EIR for the conclusion that:

"...mitigation that would eliminate the loss of agricultural land to urban development is not possible. Therefore, because no mitigation is available to reduce this impact, the impact would remain significant and unavoidable."

However, as noted hereinbelow, the City General Plan and EIR were adopted in 1997, over twelve (12) years ago, and have not been comprehensively updated since then. These commentators respectfully submit that the City General Plan is outdated and inadequate in terms of the current mitigation measures available to and employed by other jurisdictions in the Central Valley, including the City of Davis, Yolo County, and Solano County and other jurisdictions which have adopted Agricultural Elements. Among the mitigation measures available and used by other jurisdictions Agricultural Land Trusts and off-site conservation easements or fee title acquisitions of comparable farmland. In fact, the City of Riverbank in Stanislaus County is in the process of considering the inclusion of such mitigation measures in its General Plan Update.

Thus, these commentators contend that the City General Plan EIR is outdated and inadequate and that there are readily available and feasible mitigation measures which can reduce or mitigate the cumulative impacts of agricultural land conversion to urban uses in the City and County of Merced and elsewhere in the San Joaquin Valley. Therefore, the Final EIR for the proposed project should include a complete and adequate disclosure and analysis of the specific agricultural buffers, easements, and purchases of comparable agricultural land in Merced County which will mitigate the acknowledged significant impacts to agricultural land.

Second, for purposes of the City's proposed Statement of Overriding Considerations, the FEIR should contain a quantified analysis of the economic losses, including appropriate multiplier effects, to the local and county-wide economies, to be utilized in the City's weighing and balancing procedure required by CEQA and the CEQA Guidelines in the City's findings of overriding consideration.

Third, the disclosure and analysis of the cumulative adverse impacts to agricultural resources is inadequate, due to the fact that it is too limited in its scope. Specifically, the proposed project purports to serve the present and future Wal-Mart retail facilities, including super-centers, general merchandise stores, in the San Joaquin Valley and Northern California. Consequently, the proposed regional distribution center project in Merced will be the facilitator and "linchpin" of the San Joaquin Valley and Northern California by enabling the expansion of

the Applicant's retail store operations in the region referred to above. Since Wal-Mart has never provided any agricultural mitigation for **any** of its projects in the Central Valley or elsewhere in Northern California and since virtually all of its projects in these areas have been built upon agricultural land, the FEIR should contain a quantified disclosure and analysis of all of the true direct, secondary, and indirect cumulative impacts to the agricultural resources of the Central Valley and Northern California---not solely the 238-acre proposed project, but also the Porterville Distribution Center and all of the existing, currently proposed, and reasonably foreseeable future retail stores in these areas and should provide for off-site mitigation for the total cumulative impacts from the conversion of agricultural lands to urban use.

Finally, in addition, the cumulative adverse impacts to agricultural resources from the above-referenced projects should include a quantified disclosure and analysis of the adverse impacts in economic terms to the crop production caused by the cumulative mobile source air emissions should be included in the FEIR for the proposed project, which should include all of the above-referenced retail stores, so that the economic impacts may be weighed and balanced in the Statement of Overriding Considerations. Among the other factors to be considered and weighed should be the possible use of such off-site mitigation habitat to grow the fresh produce which will not be stored in the proposed regional distribution center, as an offset for the economic impact caused by the conversion of the agricultural land for the proposed project.

2. Inadequate Analysis and Mitigation of Cumulative Adverse Impacts of Mobile Sources to Air Quality

The DEIR purports to disclose all adverse cumulative impacts to air quality from the proposed Wal-Mart regional distribution center. However, the DEIR fails to disclose and to require readily available and feasible mitigation measures which can substantially reduce the significant and unavoidable cumulative adverse impacts to air quality.

Specifically, the FEIR should require the following mandatory mitigation measures.

A. The proposed project shall use on-site Photo-Voltaic and Photo-Thermal Solar panels to provide all electric power, heating, cooling, and hot water for the proposed project operations. In the event that there is not enough space on the distribution center roof [1,100,000 sq.ft. divided by 43,560 sq. ft. per acre = approximately 22 acres under roof], the Applicant shall be required to construct additional on-site solar panels to supply all electricity required for the proposed project.

B. All on-site vehicles, including all fork-lifts and other support vehicles, shall be electric-
powered vehicles.

C. All trucks (tractors) which serve the regional distribution center and retail stores served by the proposed project shall be required to use engines fueled by Compressed Natural Gas or methane (CNG), Liquid Propane Gas (LPG), or other alternative

renewable fuels, such as bio-diesel, ethanol, or blends of renewable energy fuels and/or
electric-powered vehicles.

D. The on-site fueling station for the proposed project shall provide the fuels referred to in the preceding mitigation measure.

E. The trucks (tractors) for the distribution of fresh produce to the retail stores served by the proposed regional distribution center shall be required to use the fuels referred to in the preceding mitigation measures.

F. The Applicant shall be required to enter into an agreement with Merced Community College or the Merced Union High School District for the purpose of training and employing automotive mechanics with experience in alternative renewable fuel engines
and in converting gasoline and diesel engines to use the alternative renewable fuels referred to in the mitigation measures set forth above.

G. The proposed project shall provide fuel for its employees who use alternative renewable fuel powered vehicles to purchase on-site.

H. The proposed project shall provide on-site electric recharging stations for use by employees, visitors, and guests to purchase electric power to recharge their vehicles on-site.

I. The proposed project applicant shall provide an electric-powered bus or jitneys to to provide transportation or carpooling for its employees who wish to use such service.

3. Energy Conservation

These commentators reiterate and incorporate herein by reference the mitigation measures set forth in paragraph 2 above, which are readily available and feasible, for the purpose of reducing energy usage by the proposed project.

4. Inadequate Disclosure and Analysis of Fire Protection Services

The total disclosure and analysis of Fire Protection Services for this proposed 1.1 million square foot project is contained on less than one (1) page at Section 4.12 (Utilities and Public Services), at p.4.12-6. This topic is also briefly mentioned on one(1) page in Appendix F, at p. 12. The Summary of Impacts and Mitigation Measures includes one brief reference to the group of services identified as "Public Services---Police, Fire and Schools" at p. 2-60.

At the outset, the DEIR fails to disclose to the responsible and trustee agencies and to the general public that the City has been sued for its failure to comply with its own General Plan Safety Element Policies, Goals, Objectives, and Implementation measures, based upon the failure of the City to construct and have operational two (2) additional fire stations. In fact, the City is required by its General Plan and its ordinances to have a fire station within 1.5 miles of the proposed Project. However, the DEIR fails to disclose this information and fails to disclose and analyze the inconsistencies with the General Plan Safety Element and other regulatory requirements of the City. [A true and correct copy of the pending legal action is attached hereto and incorporated herein by reference; see "Attachment A:" ***Merced Citizens for Responsible Planning v. City of Merced*** (Merced County Superior Court Case No. 150872, Court of Appeals Civil Case No. F056076]

In addition, the DEIR fails to disclose or analyze the failure of the City to comply with the mitigation measures set forth in the City General Plan Final Environmental Impact Report (FEIR) which address and mitigate the potentially significant effects of future growth and development on the ability of the City to provide adequate fire protection services to new developments, such as the proposed project. In fact, the City General Plan and other documents referred to in the above-referenced legal action expressly identify a fire station to be constructed and operated within the distance identified and required by the City from the proposed Wal-Mart Regional Distribution Center.

There is no disclosure or analysis of the mitigation measures of the City General Plan FEIR, adopted and certified in 1997, as required by the California Environmental Quality Act (CEQA) [Public Resources Code section 21000 et seq.]. The fact that the City of Merced is a "charter city," as distinguished from a "general law city," is irrelevant to its duty to comply with CEQA and the mitigation measures approved and adopted by the City in its own General Plan EIR for fire protection services. Given the rapid growth in the City, which occurred between 2003 and 2006, the current City General Plan is invalid and outdated, based upon the fact that it is over twelve (12) years old. Moreover, the current cumulative deficiency in the fire protection services will be substantially exacerbated by the approval of the proposed project. In this context, it should be noted that the City General Plan does not provide for an exclusion from, or waiver of compliance with, the mandatory Safety Element Policies, Goals, Objectives, and Implementation measures. More important, the General Plan EIR does not provide for an exclusion from compliance with, or a waiver of compliance based upon, the proposed project's inclusion of a sprinkler system.

Further, in the Water Supply Assessment (WSA) contained in Appendix F, the DEIR omits any analysis, discussion, quantified calculations, or other facts upon which the EIR Preparer made the determination that the two (2) 300,000 gallon tanks would contain sufficient capacity to mitigate the potential fire hazards caused by the proposed project. Similarly, in the Fire Protection section at p. 4.12-6 of the DEIR, there is no identification of the relevant section(s) of the California Fire Code to support the finding of adequate fire flow for the proposed project.

Also, there is only a passing reference to a "mutual aid agreement with the Atwater and County Fire Departments," but there is no copy of this Agreement contained in the DEIR, nor is any relevant section quoted in the DEIR or the location of such Agreement disclosed. This information needs to be provided in the DEIR or Appendices.

Since the Mutual Aid Agreement is not contained in the DEIR and there is no disclosure or analysis of the inconsistencies with the General Plan Safety Element and other City regulatory policies and development standards, the DEIR is inadequate, due to the fact that it does not address how the proposed project will have adequate fire protection from one (1) on-site pumper truck. Likewise, there is no disclosure or analysis of how the proposed mitigation measures and/or conditions will be sufficient to respond to a large-scale fire at a warehouse with multiple chemicals, toxic substances, and hazardous substances stored in the proposed warehouse/distribution center, including domestic cleaning agents, drain cleaners, chlorine bleaches, and other common household chemicals and garden fertilizers that will be stored in the warehouse. The DEIR should disclose a complete list of all such chemicals and toxic and hazardous substances which will be stored on-site and how the fire protection system will deal with these items.

In addition to the foregoing comments and omissions, it should be noted that, although the proposed project will include sprinklers,

Finally, since the following issues have not been adequately addressed, the Response to Comments should address the following questions:

A. Who will be responsible for providing the personnel to staff and operate whatever fire suppression equipment is intended to be utilized for the proposed project?

B. Where will the City be constructing the new fire station necessary to provide fire protection services for the proposed project set forth in the City General Plan?

C. When will the City be constructing the new fire station necessary to provide fire protection services for the proposed project set forth in the City General Plan?

D. Does the City intend to amend its General Plan Safety Element for purposes of bringing the proposed project into consistency with the General Plan?

E. Does the City intend to revise and amend its General Plan EIR for the proposed project purposes of CEQA compliance with the mitigation measures, conditions, and other implementation measures included in the GP EIR? [See, ***Lincoln Place Tenants Assn. v. City of Los Angeles*** (2007) 155 Cal.App.4th 425 in support of of position that CEQA mitigation measures approved and adopted by the lead agency and constitute conditions running with the land under state law and must be enforced by the lead or other responsible agency, unless and until the EIR for the General Plan is revised or amended, irrespective of whether the lead agency is a "charter city."]

5. Statement of Overriding Considerations

These commentators request that the Findings and/or Statement of Overriding Considerations be included with the Final Draft EIR at least ten (10) days prior to the Planning Commission hearing on the proposed project. Further, these commentators expressly request that the Statement of Overriding Considerations include a spreadsheet or table including quantified economic values or other values for all benefits and detriments (costs/benefits) considered, weighed, and balanced by the lead agency in the Statement/Findings of Overriding Consideration and identifying the substantial evidence in support of both the findings of benefit and detriment considered by the lead agency in the Statement/Findings of Overriding Consideration.

Thank you for the opportunity to submit the foregoing comments to the City of Merced regarding this important proposed project

Very truly yours,

RICHARD L. HARRIMAN

cc: Sally Magnani Knox, Deputy Attorney General
Clients

101-1 The commenter restates portions of the DEIR that analyzes impacts to agricultural resources. The commenter states the DEIR should not rely on the conclusions made in the Merced General Plan EIR because the General Plan is outdated and inadequate. The commenter identifies other municipalities that mitigate for loss of important farmland. The commenter states there are feasible mitigation measures available to reduce impacts related to conversion of agricultural land. Please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion, or loss, of important farmland.

101-2 The commenter states the EIR should analyze economic losses to local and county-wide economies. Please refer to Response to Comment 12-14.

101-3 The commenter states analysis of cumulative impacts to agricultural resources is inadequate because of its limited scope. The commenter states implementation of the project would result in expansion (i.e., new construction) of Wal-Mart retail stores. The commenter states the EIR should analyze the direct, indirect, and secondary cumulative impacts to agricultural resources including "the existing, currently proposed project, and reasonably foreseeable future retail stores" and provide mitigation for the total cumulative impacts from conversion of agricultural lands.

Related to mitigation measures for impacts to agricultural resources, please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

Related to cumulative impacts, the DEIR fully and adequately analyzes cumulative impacts to agricultural resources that would result with implementation of the proposed project (see Section 6.1.2, "Cumulative and Growth-Inducing Impacts"). Specifically, the DEIR identifies projects in various stages of development (see Table 6-1, "Cumulative and Growth-Inducing Impacts") and identifies the list approach with related past, present, and reasonably foreseeable future projects identified by the City of Merced was used for the cumulative analysis (see Section 6.1, "Cumulative and Growth-Inducing Impacts"). Regarding the proposed project's potential to promote the development of new Wal-Mart retail centers, the project objectives identified in the DEIR (see Section 3.6, "Project Description") do not suggest the purpose of the proposed project is to develop additional retail centers but to allow for efficient operation and adequate distribution of goods to serve markets throughout the Central Valley in California. Any future, new development of a Wal-Mart retail center would be required to undergo a project-level environmental analysis as required by CEQA. The DEIR prepared for the proposed project is not required to analyze the potential impacts that could result from an unknown future Wal-Mart project. As such, the DEIR cannot reasonably anticipate any potential future Wal-Mart retail center projects with any certainty. No further analysis is required. Please refer to Master Response 1: Growth Inducement and Expansion for further discussion related to the potential for the distribution centers to promote development of additional retail stores.

101-4 The commenter states the DEIR should analyze economic impacts to crop production caused by cumulative mobile source air emissions generated by the proposed project and potential future, new Wal-Mart retail centers. The commenter suggests a mitigation measure to offset the economic impact caused by conversion of agricultural land with implementation of the proposed project. The recommended measure, which suggests "off-site mitigation habitat to grow the fresh

produce which will not be stored at the proposed distribution center" is unclear and cannot be responded to with accuracy. Please refer to Response to Comment 12-14.

101-5 The commenter proposes a series of mitigation measures, many of which are similar to measures proposed in Chapter 4.2 of the DEIR. The commenter asserts that these measures would substantially reduce the significant and unavoidable cumulative adverse impacts to air quality.

The measures proposed by the commenter would be infeasible or duplicative of measures already proposed in the DEIR, as described further below. More importantly, even if the infeasible measures could be implemented for the proposed project, the significant cumulative impact to air quality would remain significant and unavoidable due to the large quantity of emissions that would occur and the nonattainment status of the project area. A significant cumulative impact exists, and the project would contribute substantially to that cumulative impact. Even with the commenter's proposed mitigation measures in place, there is no available method or analysis to demonstrate that these measures would substantially lessen the project's contribution to the cumulative impact.

The commenter proposes as mitigation:

A. All electric power, heating, cooling, and water heating be provided by on-site photovoltaic technology. This measure is substantially similar to measures 4.2-2d on page 4.2-40 of the DEIR and 4.2-6d on page 4.2-49 of the DEIR. However, the commenter's proposed mitigation measure would likely have secondary site-specific impacts due to the large area of solar panels required to supply the energy load being requested by the commenter (i.e., 100% on-site energy, regardless of the size of the site). (Please refer to response to comment 22-7 regarding some text changes that will be made to Mitigation measure 4.2-6d.)

B. All on-site vehicles shall be electric powered vehicles. This measure is substantially similar to measure 4.2-2d on page 4.2-40 of the DEIR.

C, D, E. All trucks serving the center and retail stores shall be alternative fueled vehicles and the on-site fueling station shall provide alternative fuels. This measure would be considered economically and technologically infeasible per Cal. Admin. Code, title 14, § 15364; cf. Pub. Res. Code, § 21061.1. ("'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.") However, measure 4.2-2c on page 4.2-40 of the DEIR (participation in EPA's SmartWay program) would act as a feasible and effective alternative to the commenter's proposed measure. (Please refer to response to comment 9-2 regarding some text changes that will be made to Mitigation measure 4.2-2c.)

F. The Applicant shall enter into an agreement to provide training to local educational institutions for the purpose of training mechanics with experience in alternative fuels. This measure would not have proper nexus or proportionality to the impact in question (cumulative impacts to air quality). (See Dolan v. City of Tigard, 512 U.S. 687 (1994), Nollan v. California Coastal Commission, 483 U.S. 825 (1987)).

G,H. The project shall provide alternative fuels for employees for purchase on-site and provide on-site electric charging stations for use by employees, visitors, and guests. The effectiveness of this measure cannot be determined and could vary substantially because it would rely on employees, visitors, and guests choosing to refuel their vehicles from

the energy sources provided by the applicant and the proportion of alternatively-fuel or electric vehicles driven by employees, visitors, and guests is not expected to be nominal.

I. The project shall provide an electric-powered bus to provide transportation for employees. This measure is substantially similar to, but less detailed than, measure 4.2-2b which includes the requirement: "Operate free employee shuttle or vanpool system that serves employees according to their shift times and places of residence. Low-emissions shuttle or vanpool vehicles shall be used (e.g., hybrid, CGN, or electric). Provide a covered area for the on-site employee shuttle stop or vanpool parking lot and an open-air covered walkway connection to the employee entrance of the building to provide summertime shade and protection from rain." See page 4.2-38 of the DEIR and the revised Air Quality section included in Section 4.4 of this FEIR.

In addition, as explained in the DEIR, Mitigation Measures 4.2-2a through 4.2-2e would reduce operational emissions of CAPs to a less-than-significant level. Therefore, no additional mitigation is required in the DEIR.

101-6 The commenter indicates that the mitigation measures recommended in the previous comment should also apply to reducing the project's energy consumption. As noted in Response to Comment 101-5, most of the measures proposed by the commenter would be infeasible or duplicative of measures already proposed in the DEIR. Other mitigation would not be considered feasible.

101-7 The commenter states that the disclosure and analysis of Fire Protection Services is minimal and lists three locations in the DEIR. This is incorrect. Analysis of the impact of increased demand for fire protection facilities, systems, equipment and services is found at Impact 4.12-7, p. 4.12-20; further disclosure and analysis of fire protection issues is located at Section 5.4.11, p. 5-7,8 (No Project Alternative, Utilities and Public Services); Section 5.5.11, p. 5-15 (Redesigned Site Plan Alternative); Section 5.7.1, p. 5-27 (Alternative Site No. 1); Section 5.8.11, p. 5-32 (Alternative Site No. 2); Section 5.9.11, p. 5-36 (Alternative Site No. 3); p. 6-12 (Cumulative and Growth Inducing Impacts—Utilities and Public Services); p. 6-14 (Cumulative and Growth Inducing Impacts—Public Services, Police, Fire and Schools).

As the DEIR discusses on p. 4.12-20, Station 54 is the closest existing station (approximately 3.9 miles northwest of the project site).The Fire Department has indicated that it is capable of responding to emergencies at the proposed warehouse, with existing equipment, within the desired average response time of four (4) to six (6) minutes. The Fire Department has also indicated that this project does not create the need for an additional Fire Station. The DEIR also discusses the on-site fire suppression that is included in the project design, including building fire sprinkler systems, onsite fire hydrants, a 1,600 square foot fire pump house that would include primary and standby fire pumps serving the buildings fire sprinkler systems and fire hydrants, and two 300,000 gallon steel aboveground water storage tanks (not connected to the domestic water supply). These facilities would provide adequate water flow for fire suppression to meet California Fire Code requirements. The applicant would also be required to incorporate additional California Fire Code and City Fire Code requirements into the project design, including adequate onsite circulation, equipment access during emergency conditions, adequate firefighting water flow, hydrant spacing and other safety standards. The facility would be subject to annual inspections by the City of Merced Fire Department, which would include approving receptacles, vehicles, building devices, premises, storage spaces or any areas used to ensure facility operations meet all applicable California and City Fire Code requirements and standards. The City of Merced Fire Department has reviewed the proposed project and determined that it is

capable of serving the proposed project with existing equipment and also of meeting the Fire Department's average response time goal.

The City of Merced operates under "growth pays for growth" strategy, and new development is required to pay its fair share of the costs associated with an increased demand for fire protection facilities and services, as appropriate. The City has adopted a Public Facilities Impact Fees Ordinance (Merced Municipal Code Chapter 17.62), and such fees are established in accordance with that chapter on issuance of building permits for development (Section 17.62.040(A)). Based upon the existing fee levels, it is anticipated that the proposed project would contribute approximately $4.2 million in Public Facilities Impact Fees (based on 2009 fee levels; see Response to Comment 16-5), of which $501 per 1,000 square feet, or approximately $551,000, is collected for fire service facilities. The DEIR also discusses that fees associated with fire inspections and permits would be offset with the collection of established Permit Inspection Fees.

The commenter objects to the DEIR on the basis that it does not discuss or disclose the lawsuit filed by the Merced Citizens for Responsible Planning and Valley Advocates against the City of Merced (Case No. 150872), in which the commenter unsuccessfully argued that residential development within the City should be shut down until such time as fire stations were constructed and operating within 1.5 miles of the proposed development. This objection has no bearing on the DEIR for numerous reasons.

First, the filing of a lawsuit is not an environmental impact, let alone an environmental impact associated with the proposed project, and therefore disclosure or discussion of the lawsuit is not required by CEQA.

Second, the Merced County Superior Court found, on three separate occasions that the lawsuit has no merit. The Court granted judgment in favor of the City. The commenter was given three chances to allege a claim that the City was not following its General Plan, and each time, the Trial Court determined that what the commenter claimed in the lawsuit (and claims again here) has no legal basis. After losing in the Trial Court, the commenter filed an appeal of the judgment. That appeal is pending. A copy of the trial court's decision and the City's Reply to Petitioners' Untimely Opposition to City's Demurrer to Second Amended Petition for Writ of Mandamus is included in Appendix B of this FEIR.

More fundamentally, with regard to the commenter's claim of a conflict between this project and the General Plan's provisions on fire protection, the General Plan's statements regarding time and distance standards for fire stations are mere goals and objectives; they are not mandatory, and thus there is no requirement that a fire station be constructed closer to the project before its development could occur. General plans normally do not state specific mandates or prohibitions. Rather, they state "policies," and set forth "goals." (*Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 378.) Because these policies reflect a range of competing interests, the public entity must be allowed to balance the general plan's policies when applying them, and it has broad discretion to construe its policies in light of the plan's purposes.

Although the commenter suggests that the City's General Plan mandates that a fire station must be operating within 1.5 miles of development, and that approving this project would create a conflict with the General Plan that must be disclosed in the DEIR, nothing in the General Plan or the other documents submitted by the commenter supports this conclusion. The various documents submitted by the commenter, including the General Plan, reflect the discretionary nature of the City's provision of fire services to its residents and businesses. For example, Exhibit A, the 1982 Fire Chief's Report, described itself as a "policy guide" for managing fire

services in the community, setting forth "goals and objectives" and "targets" in order "to give the fire department an opportunity to direct the community toward a reasonable level of fire protection within the allocated local resources." The report expressly recognized that "[a] certain level of losses from fire must be accepted as tolerable simply because of the limited resources of the community."

Similarly, Exhibit B, the 1983 Merced Fire Department Master Plan, was simply a series of recommendations to establish a standard, not a mandatory, requirement in and of itself.

Exhibit C, the 1987-2002 Fire Department Facilities Study, discussed "average response distance" and "priorities," and expressly recognized that "due to the complexities associated with projected growth and development and the major expenditures associated with [a fire facilities] program," the time frames of providing facilities "be considered general in nature. . . ."

Similarly, Exhibit D, the 1990 Fire Department Service Level Report, described "recommendations" and "goals;" Exhibit E, the 1992 Fire Department Strategic Plan, discussed "objectives," "strategy," and "standard criteria;" and Exhibit F, the 1997 Fire Department Strategic Plan, spoke of "goals and objectives," not mandates.

The General Plan's policy related to fire protection services is Policy P-2.1 and is found in Goal Area P-2 of Section 5.4. This provision is labeled as simply a "policy" rather than a mandate. By its express terms it qualifies the need to provide fire services:

The City is committed to assuring that facilities, equipment and staffing levels of its fire and police service units meet the highest standard that can be accommodated within the resource constraints of the City.

Thus, the General Plan standard regarding fire protection facilities is specifically limited by the ability of the City (financially or otherwise) to actually provide such facilities. This is further demonstrated in Exhibit N to the Petition. This Exhibit is a staff administrative report recommending certain "priorities" for the development of fire stations in the City. The Report's recommendations were ultimately adopted by the City Council by motion in January 2007. "Priorities" are not mandates; rather, they merely establish the order of preference for competing alternatives. The Report discusses the relocation of two fire stations and the construction of four new stations in a 20-year time frame, and provides that the fire stations "are to be constructed as growth occurs," not prior to growth occurring. Moreover, by approving the Report's recommendations, the City Council expressly determined that the City was currently unable to provide the requested fire stations due to financial constraints:

Existing balances and expected revenues in fire-related impact fee funds are not sufficient to build a new fire station in the coming three fiscal years. If a station is to be constructed in that time frame, it is likely that the Council would need to authorize transfers from other impact fee funds, provided that the other funds have money available.

Far from establishing a mandate, the City Council, in its legislative discretion, determined that (i) the City lacked sufficient funds to construct a new fire station within the City until 2010 at the earliest; and (ii) it would need to authorize a transfer of money from other funds to finance such construction prior to that time. Thus, the commenter's claim that the City would be violating the General Plan if it approves this project is incorrect.

The City does have plans to build a fire station closer to the project location, near Coffee and Gerard. That location would be approximately 1 mile from the project site. The Public Facilities Impact Fees paid by the developer of the proposed project will help to fund that fire station.

However, as discussed above, there are no immediate plans to build this station; rather it will be built in accordance with direction from the City Council as the need arises due to further development and as the funds become available.

The commenter also suggests that the City has failed to comply with mitigation measures relating to fire protection contained in the EIR certified in 1997 for the City's General Plan. No mitigation measures relating to fire service or fire protection were adopted in connection with the certification of the EIR for the General Plan update.

101-8 The commenter objects that the DIER does not contain any facts or calculations as to the determination that two 300,000 gallon tanks would contain sufficient capacity to serve the fire protection system and mitigate potential fire hazards, or of the relevant California Fire Code sections. If approved, the project would be required to comply with the Fire-Flow Requirements contained in the California Fire Code, Appendix B. The sufficiency of the two 300,000 gallon tasks would be verified during the plan check review for the project. The commenter objects that there is no copy of the "mutual aid agreement with the Atwater and County Fire Departments" attached to the DEIR. This document is entitled the "California Disaster and Civil Defense Master Mutual Aid Agreement" is included in Appendix B.

The commenter states that because the DEIR does not contain the Mutual Aid Agreement, does not disclose inconsistencies with the General Plan Safety Element and other City regulatory policies and development standards, the "DEIR is inadequate due to the fact that it does not address how the proposed project will have adequate fire protection from one (1) onsite pumper truck." This comment is not clear. As discussed above, the Mutual Aid Agreement is available upon request, and the proposed project is not inconsistent with the General Plan Safety Element or with any City regulatory policies and development standards. The commenter has not identified any particular policy or standard which is inconsistent with the proposed project. As to the issue on one pumper truck onsite, the DEIR does not specify that the applicant will maintain an onsite pumper truck. As indicated previously, the City Fire Department has determined that it has the necessary existing equipment to provide fire suppression services.

Commenter also objects that the DEIR does not disclose or analyze "how the proposed mitigation measures and/or conditions will be sufficient to respond to a large-scale fire at a warehouse with multiple chemicals, toxic substances and hazardous substances stored in the proposed warehouse/distribution center…" and that there should be disclosure of the chemicals and other hazardous substances that will be stored onsite and how the fire protection system will address such items. The DEIR addresses hazards associated with use and storage of hazardous materials on the site. Please refer to Section 4.10 "Public Health and Hazards" which identifies the various regulations with which Wal-Mart must comply for storage and handling of the various hazardous materials on site (mostly consisting of household materials, such as bleach and cleaners, but also diesel and other fuels). The Fire Department is familiar with the types of merchandise and other materials that will be stored at the facility, and took those factors into account in determining that the Department was capable of responding to emergencies at the facility without the need for additional Fire Department equipment. Also, the applicant is required to submit a plan for storing and handling these types of substances, as well as an emergency response plan, at the time the building permit is applied for. Because it has been determined that any impact will be less than significant, no mitigation measures are proposed. With respect to the sizing of the water tanks, 300,000 gallons is assumed to be the correct size, based on the applicant's engineers' estimates, but if the project is approved, it would undergo plan check at the City, which would verify the tank size is consistent with local and State fire code, and may require a slight increase or decrease in the tank size. However, such an alteration in the size of the tanks would not alter any of the conclusions of the Draft EIR. No changes to the Draft EIR are necessary.

101-9 The commenter questions who will be responsible for providing the personnel to staff and operate whatever fire suppression equipment is intended to be utilized for the proposed project. It is unclear as to whether the commenter is referring to the City Fire Department or onsite fire protection systems for the project. The City Fire Department will be responsible for staffing and operating City equipment. The applicant will be required to submit an emergency response plan at the time the building permit is applied for. That plan will include details concerning trained personnel on site to handle fire response and suppression.

101-10 The commenter questions whether the City be constructing the new fire station necessary to provide fire protection services for the proposed project set forth in the City General Plan and also when will the City be constructing the new fire station necessary to provide fire protection services for the proposed project set forth in the City General Plan. As stated above, there are future plans to build a new station in the vicinity of Coffee and Gerard. The proposed project does not trigger the need for the new fire station, and adequate fire services for the proposed project can be provided by Station 54. However, this project contributes to the overall need for additional fire service and will contribute approximately $551,000 in fees for new and enhanced fire service facilities. As stated above, the timing of the construction of the new fire station is dependent on a number of issues, including funding, growth and need for service, and the priorities set by the City Council regarding fire service.

101-11 The commenter asks about the timing for the new fire station. Please refer to Response to Comment 101-10, which addresses this issue.

101-12 The commenter asks if the City intends to amend the General Plan EIR for consistency purposes. With regard to Comments “D” as set forth on page 6 of the commenter’s letter, as discussed above, there is no need for the City to amend its General Plan Safety Element as the proposed project is not inconsistent with the Safety Element. Furthermore, the City is not proposing to amend the General Plan EIR because no amendments are required. As explained above, the General Plan EIR did not contain mitigation measures relating to fire service, and therefore the commenter’s contention that the project is being exempted from previously adopted mitigation measures is not correct. No amendment of the General Plan EIR is needed.

101-13 The commenter asks if the City intends to amend the General Plan EIR for CEQA-consistency purposes. Please refer to Response to Comment 101-12, which addresses this issue.

101-14 The commenter requests that the Findings and/or Statement of Overriding Considerations be included with the final EIR at least ten (10) days prior to the Planning Commission hearing on the proposed project and requests that specific items be included in the Statement of Overriding Considerations. There is no legal requirement that these be prepared in advance of the hearing before the Planning Commission. The Findings and Statement of Overriding Considerations will be prepared in accordance with CEQA and will be prepared for presentation to the City Council, as required by law.

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