DRAFT ENVIRONMENTAL IMPACT REPORT
GRAPEVINE PROJECT

SCH# 2013031078

Volume 1

City of Delano – March 28, 2014

BSK Associates
Engineers & Laboratories

CITY HALL
1015 ELEVENTH AVENUE
POST OFFICE BOX 3010

DELANO, CALIFORNIA 93216-3010

(661) 721-3300
(661) 721-3317 TDD
www.cityofdelano.org

COUNCIL MEMBERS
Grace Vallejo
MAYOR
Rueben Pascual
MAYOR PRO TEM

Liz Morris
Ricardo Chavez
Joe Aguirre Jr.

CITY MANAGER
Maribel Reyna

March 28, 2014

ADDRESSEE LIST (See Distribution List)

Re: The Grapevine Project by YK America (Subdivision Parcel Map No. 2014-01, Conditional Use Permit No. 2014-02 and Site Plan Review No. 2014-01).

To Whom It May Concern:

The City of Delano Community Development Department has prepared a draft environmental impact report (EIR) Grapevine Project by YK America, requesting approval of Conditional Use Permit (CUP No. 2014-02) to allow for the construction and operation of a movie theater, as well as a Subdivision Parcel Map (No. 2014-01) and a Site Plan Review (SPR No. 2014-01) for the project.

The project site is approximately 44.64 acres identified as Assessor's Parcel Number (APN) 521-010-21, located east of Albany Street, west of Dover Parkway, north of Woollomes Avenue, and south of Morse Boulevard. The project site is located in Section 14, Township 25 South, Range 25 East, Mount Diablo Base and Meridian (MDB&M).

The City of Delano Community Development Department, as the lead agency under the California Environmental Quality Act (CEQA), has determined that preparation of an EIR would be appropriate for the referenced projects. Enclosed is a copy of the draft EIR.

If we have not received a reply from you by **May 12, 2014, at 5:00 P.M.**, we will assume that you have no comments regarding this draft EIR.

Sincerely,

Jerome Keene
Interim Director
City of Delano Community Development Department

Newspaper Public Notice

The Bakersfield Californian Classified
Legal Desk – 661-322-7355
http://www.bakersfieldcalifornian.com/

DEIR MAILING LIST

From: City of Delano Community Development Dept.
1005 11th Avenue
Delano, CA 93215

CITY

City of Delano Engineering and Public Works
Roman Dowling, City Engineer
Engineering Department
1015 Eleventh Avenue
2nd Floor
Delano, CA 93215

City of Delano Community Services
Maribel Reyna, City Manager
925 Ellington Street
Delano, CA 93215

City of Delano Police Dept
Mark P. DeRosia, Chief of Police
1022 12th Avenue
Delano, CA 93216

City of Delano Transportation Services
Transportation Manager
Delano Station
1120 Glenwood Street
Delano, CA 93215

COUNTY AND REGIONAL

Kern County Planning & Community Development Dept.
Lorelei H. Oviatt, AICP, Director
Public Services Building
2700 M Street, Suite 100
Bakersfield, CA 93301-2370

Kern County Economic Development
Teresa Hitchcock
County Administrative Office
1115 Truxtun Avenue, 5th Floor
Bakersfield, CA 93301

Kern County Engineering, Surveying & Permit Svs.
Floodplain Management Section
Public Services Building
2700 M Street, Suite 570
Bakersfield, CA 93301-2370

Kern County Env. Health Services Department
Public Services Building
2700 M Street, Suite 300
Bakersfield, CA 93301-2370

Kern County Fire Dept.
Nick Dunn, Fire Chief
Kern County Fire Department Headquarters
5642 Victor Street
Bakersfield, CA 93308

Kern County Library
Main Branch- Reference Room
701 Truxtun Avenue
Bakersfield, CA 93301

Delano Branch of Kern County Library
925 10th Avenue
Delano, CA 93215

Kern County Sheriff's Dept.
Sheriff Donny Youngblood
Kern County Sheriff's Office
1350 Norris Road
Bakersfield, CA 93308-2231

Kern County Roads Department
Warren Maxwell, Development Review Engineer
Public Services Building
2700 M Street, Suite 400
Bakersfield, CA 93301-2370

Kern County Supervisor Mick Gleason
1115 Truxtun Avenue, 5th Fl.
Bakersfield CA 93301
Kern County Waste Management Department
Public Services Building
2700 M Street, Suite 500
Bakersfield, CA 93301-2370

San Joaquin Valley Air Pollution Control District
Southern Region Office
34946 Flyover Court
Bakersfield, CA 93308

Tulare County Administration
2800 West Burrel Ave
Visalia, CA 93291

Tulare County Health and Human Services Agency
Attention: Health Services
5957 South Mooney Boulevard
Visalia, CA 93291

Tulare County Resource Management Agency
Mike Spata, Assistant Director, Planning Branch
5961 South Mooney Boulevard
Visalia, CA 93291

South San Joaquin Valley Archaeological Information Center
California State College at Bakersfield
9001 Stockdale Highway
Bakersfield, CA 93311

Native American Heritage Council of Kern County
P.O. Box 1507
Bakersfield, CA 93302

School Districts

Columbine Elementary School District
Tim Jones, Superintendant
2240 Road 160
Delano, CA 93215-9600

Delano Union Elementary School District
1405 12th Avenue
Delano, CA 23219

Delano Joint Union High School District
Rosalina C. Rivera, superintendent
1720 Norwalk Street
Delano, CA 93215

Kern County Superintendent of Schools
Attention Mary Baker
1300 17th Street
Bakersfield, CA 93301

Bakersfield College, Delano Campus
1450 Timmons Avenue, Delano CA 93215

Kern Community College District (Bakersfield College is part of this District)
2100 Chester Avenue
Bakersfield, CA 93301

KernCOG
Troy Hightower / Rob Ball
1401 19th Street - Suite 300
Bakersfield, CA 93301

Kern County LAFCo
Local Agency Formation Commission
5300 Lennox Avenue, Suite 303
Bakersfield, CA 93309

STATE

State Clearinghouse – USPS Address
Office of Planning and Research
P.O. Box 3044
Sacramento, CA 95812-3044

State Clearinghouse – Street Address
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814
916-445-0613

California Air Resources Board – Transportation Projects
Attn: Lucille van Ommering
1001 "I" Street, PTSDAQTPB
Sacramento, CA 95814

Caltrans, District 6
Attn: Michael Navarro
P.O. Box 12616
Fresno, CA 93778-2616

California Dept of Fish and Wildlife, Region 4
Attn: Julie Vance
1130 East Shaw Avenue, Suite 206
Fresno, CA 93710

California Public Utilities Commission
Attn: Kevin Schumacher
Rail Crossings Engineering Section
Consumer Protection and Safety Division
505 Van Ness Ave.
San Francisco, CA 94102

California Department of Toxic Substances Control (DTSC)
Attn: Thomas W. Kovak, P.E., Chief
Fresno Responsible Party Unit
Northern California – Central
Cleanup Operations Branch
1515 Tollhouse Road
Clovis, CA 93216

FEDERAL

USFWS
2800 Cottage Way
Rm W-2605
Sacramento, CA 95825

Railroad through Delano by Highway 99
BNSF Railway
Corporate Headquarters
2650 Lou Menk Drive
Fort Worth, TX 76131-2830

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE GRAPEVINE PROJECT (AND DEVELOPMENT PURSUANT THERETO) CITY OF DELANO

AGENCIES, ORGANIZATIONS AND INTERESTED PARTIES:

The City of Delano Community Development Department requests your comments and concerns regarding revised information and analysis regarding the environmental issues associated with construction and operation of the proposed project.

PROJECT TITLE:

The Grapevine Project by YK America (Subdivision Parcel Map No. 2014-01, Conditional Use Permit No. 2014-02 and Site Plan Review No. 2014-01).

PROJECT DESCRIPTION:

The proposed project would include a 12-screen theater; a lifestyle component to include retail shops and restaurants (sit-down and fast-food); mid-size retailers between 10,000 to 25,000 square feet and outparcels for fast food; and drive-through and sit-down restaurants, with proposed building sizes ranging from 2,500 to 10,000 square feet.

The height of the majority of the buildings at the project site would range between 20 and 40 feet with some buildings reaching a height of 50 feet for an architectural feature. On-site illuminated signs of up to 80 feet in height will also be used to publicize the proposed shopping center.

PROJECT LOCATION: The project site is approximately 44.64 acres identified as Assessor's Parcel Number (APN) 521-010-21, located east of Albany Street, west of Dover Parkway, north of Woollomes Avenue, and south of Morse Boulevard. The project site is located in the Section 14, Township 25 South, Range 25 East, Mount Diablo Base and Meridian (MDB&M).

Anticipated Significant Impacts on Environment: Air Quality (cumulative)

PUBLIC REVIEW PERIOD: The Draft EIR is available for public review and comment pursuant to California Code of Regulations, Title 14, Section 15105. **The comment period for the EIR begins on Friday, March 28, 2014 and ends on Monday, May 12, 2014.**

If you choose to submit comments relating to this project, please send your comments to the following individual at the Lead Agency and provide your contact information:

Mr. Jerome Keene, Interim Community Development Director
Community Development Department, City of Delano
1015 11th Avenue
Delano, CA, 93215

DOCUMENT AVAILABILITY: During the Draft EIR public review period, copies of the Draft EIR and technical appendices will be available for review at the City of Delano – Community Development

Department on Monday through Friday during normal business hours (8:00 AM to 5:00 PM).The Community Development Department is located at 1015 11th Ave., Delano, California 93215, and the phone number is (661) 721-3340.

The document is also available at the City of Delano Website at www.cityofdelano.org.

For further information, please contact: Jerome Keene, Interim Community Development Director, (661) 721-3340.

The City of Delano has independently reviewed and analyzed all documents within this Draft EIR in accordance with Public Resources Code Section 21082.1(c)(1).

To be published once only on next available date and as soon as possible

ENVIRONMENTAL EFFECTS OF THE PROJECT: The DEIR has identified significant and unavoidable impacts related to Air Quality and Transportation/Traffic that cannot be feasibly mitigated to a less than significant level.

PAC HOLT CORP
P O BOX 3559
MERCED, CA 93540

CLINTON DOVER INC
2527 W CRICKELWOOD CT
PORTERVILLE, CA 93257

DELANO RETAIL CENTER WEST LLC
10508 LOWER AZUSA RD STE 200
EL MONTE, CA 91731

PACIFIC INVESTMENT ADVISORS LLC
SWORDS SEAN
P O BOX 6098
SANTA BARBARA, CA 93160

STATE OF CALIFORNIA

HD DEV OF MD INC
HOME DEPOT USA INC
2455 NW PACES FERRY RD
ATLANTA, GA 30339

DIVINE COMML GROUP LLC
2305 WINDERMERE ST
BAKERSFIELD, CA 93311

TALL COTTON LLC
MORGAN LARRY
5555 S BUSINESS PK STE 210
BAKERSFIELD, CA 93309-1678

TENIR LLC
10508 LOWER AZUSA RD STE 200
EL MONTE, CA 91731-1209

DMP 1C LP
10508 LOWER AZUSA RD STE 202
EL MONTE, CA 91731

DMP 1B LP
PO BOX 182571
COLUMBUS, OH 43218-2571

DELANO RETAIL CENTER LLC
GIGI LEUNG
10508 LOWER AZUSA RD STE 200
EL MONTE, CA 91731

WAL MART REAL ESTATE BUSINESS TRUST
PROPERTY TAX DEPT MS 0555 ACRE NO 5215-01
P O BOX 8050
BENTONVILLE, AR 72716-8050

AS OM COMMERCIAL REALSTATE L L C
900 MOHAWK ST STE 245
BAKERSFIELD, CA 93309-7444

LEDGES LLC
PACIFIC HOLT CORP
PO BOX 3559
MERCED, CA 95344

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Print Form

Appendix C

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 # 2013031078

Project Title: The Grapevine Project

Lead Agency: City of Delano
Contact Person: Jerome Keene
Mailing Address: P.O. Box 3010 1015 11th Ave
Phone: (661) 720-2236
City: Delano
Zip: 93215
County: Kern

Project Location: County: Kern
City/Nearest Community: Delano
Cross Streets: Wollomes Ave and Strafley Ave
Zip Code: 93215
Longitude/Latitude (degrees, minutes and seconds): 35 ° 44 ′ 51 ″ N / 119 ° 15 ′ 04 ″ W
Total Acres: 44.64
Assessor's Parcel No.: 521-010-21
Section: 14
Twp.: 25S
Range: 25E
Base: Mt Diablo
Within 2 Miles: State Hwy #: 99
Waterways: N/A
Airports: Delano Municipal Airport
Railways: BNSF
Schools: Almond MS/Kennedy HS

Document Type:

CEQA:
- ☐ NOP
- ☐ Early Cons
- ☐ Neg Dec
- ☐ Mit Neg Dec
- ☒ Draft EIR
- ☐ Supplement/Subsequent EIR (Prior SCH No.) ____
- Other: ____

NEPA:
- ☐ NOI
- ☐ EA
- ☐ Draft EIS
- ☐ FONSI

Other:
- ☐ Joint Document
- ☐ Final Document
- ☐ Other: ____

Local Action Type:

- ☐ General Plan Update
- ☐ General Plan Amendment
- ☐ General Plan Element
- ☐ Community Plan
- ☐ Specific Plan
- ☐ Master Plan
- ☐ Planned Unit Development
- ☐ Site Plan
- ☐ Rezone
- ☐ Prezone
- ☒ Use Permit
- ☐ Land Division (Subdivision, etc.)
- ☐ Annexation
- ☐ Redevelopment
- ☐ Coastal Permit
- ☐ Other: ____

Development Type:

- ☐ Residential: Units ____ Acres ____
- ☐ Office: Sq.ft. ____ Acres ____ Employees ____
- ☒ Commercial: Sq.ft. 328500 Acres 44.64 Employees 617
- ☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
- ☐ Educational: ____
- ☐ Recreational: ____
- ☐ Water Facilities: Type ____ MGD ____
- ☐ Transportation: Type ____
- ☐ Mining: Mineral ____
- ☐ Power: Type ____ MW ____
- ☐ Waste Treatment: Type ____ MGD ____
- ☐ Hazardous Waste: Type ____
- ☐ Other: ____

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
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- ☒ Water Quality
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- ☐ Wetland/Riparian
- ☒ Growth Inducement
- ☒ Land Use
- ☒ Cumulative Effects
- ☐ Other: ____

Present Land Use/Zoning/General Plan Designation:

Commercial land use and zoned as community retail commercial and general commercial

Project Description: *(please use a separate page if necessary)*

The project is proposed as a 328,000 square-foot shopping center and will include a 12-screen theater; a lifestyle component to include retail shops; midsized retail and restauants and outparcels for fast foods; and drive-through and sit-down restaurants. Building sizes range from 2,500 to 10,000 square feet. Building heights will fall between 20 to 40 feet with some buildings reaching 50 feet. Illumination signs of up to 80 feet in height will be used to publicize the proposed shopping center.

Note: The

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

X	Air Resources Board		Office of Historic Preservation
	Boating & Waterways, Department of		Office of Public School Construction
	California Emergency Management Agency		Parks & Recreation, Department of
	California Highway Patrol		Pesticide Regulation, Department of
X	Caltrans District # 6	X	Public Utilities Commission
	Caltrans Division of Aeronautics	X	Regional WQCB # 5
	Caltrans Planning		Resources Agency
X	Central Valley Flood Protection Board	X	Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy		S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of		SWRCB: Water Quality
	Energy Commission		SWRCB: Water Rights
X	Fish & Game Region # 4		Tahoe Regional Planning Agency
	Food & Agriculture, Department of	X	Toxic Substances Control, Department of
	Forestry and Fire Protection, Department of		Water Resources, Department of
	General Services, Department of		
	Health Services, Department of		Other:
	Housing & Community Development		Other:
	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date March 28th, 2014 Ending Date May 12th, 2014

Lead Agency (Complete if applicable):

Consulting Firm: BSK Associates
Address: 3140 Gold Camp Drive
City/State/Zip: Rancho Cordoca, CA 95670
Contact: Lucinda Calvo
Phone: (916) 853-9297 ext. 135

Applicant: City of Delano
Address: 1015 11th Ave
City/State/Zip: Delano, CA 93215
Phone: (661) 720-2236

Signature of Lead Agency Representative: for J.K. **Date:** 5/27/14

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

DRAFT ENVIRONMENTAL IMPACT REPORT
FOR THE
GRAPEVINE PROJECT
CITY OF DELANO, KERN COUNTY

VOLUME 1

STATE CLEARINGHOUSE No. SCH2013031078

Prepared for:

City of Delano
Community Development Department
1005 Eleventh Avenue
Delano, CA 93215

Contact: Jerome Keene
Interim Community Development Director

Prepared by:

BSK Associates
3140 Gold Camp Drive, Suite 160
Rancho Cordova, CA 95670
(916) 853-9293
www.bskassociates.com
BSK Project: E1300910S

March 28, 2014

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EXECUTIVE SUMMARY

The purpose of this Draft Environmental Impact Report (DEIR) is to inform decision makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from implementation of the proposed project by describing potential impacts relating to a variety of environmental issues and the methods by which these impacts can be mitigated (i.e., lessened), or avoided. This section provides a summary overview of the project environmental analysis, impacts, and mitigation measures; the choice among alternatives to the proposed project; and areas of controversy known to the City of Delano (City). For additional detail regarding specific issues, please consult the appropriate subsection of Section 3.0, Environmental Setting, Impacts, and Mitigation Measures.

S.1 PROJECT OVERVIEW

The project applicant, YK America (hereinafter "project applicant") proposes to establish a development plan for a 328,500-square-foot shopping center on an approximately 44.64-acre site located at the northwest corner of Woollomes Avenue and Dover Parkway, west of the intersection of State Route 99 and Woollomes Avenue, in the City. The proposed project would include retail stores, restaurants (sit-down and fast-food), a 12-screen theatre, and parking and supporting facilities, such as loading areas. Section 2.5, Project Objectives, of this DEIR provides a list of the objectives that will be met with this proposed project. Section 2.7, Requested Actions and Required Approvals, of this DEIR lists the requested actions and required approvals for the proposed project.

S.2 PROJECT IMPACTS

The City issued a Notice of Preparation (NOP) for the proposed project on March 27, 2013, which was circulated between March 29, 2013 and April 29, 2013 for the statutory 30-day public review period. The NOP identified the potential for significant impacts on the environment related to the following topical areas:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Climate Change and Greenhouse Gas Emissions
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use Planning
- Noise
- Population and Housing
- Public Services
- Transportation/Traffic
- Utilities and Service Systems

The NOP identified that the project did not have the potential for significant impacts on the following topical areas: Mineral Resources, and Recreation. The findings of this DEIR are that the majority of the potentially significant impacts identified in the NOP can be made less than significant with

implementation of mitigation measures. A complete list of potentially significant impacts and mitigation measures can be found at the end of this Executive Summary (Table S-1 Executive Summary of Project and Cumulative Impacts and Mitigation Measures). The NOP and comments to the NOP are contained in Appendix 1.0.

Significant and Unavoidable Impacts

Based upon the environmental analysis provided in Section 3.0, most of the proposed project's potentially significant impacts can be avoided or reduced to a less than significant level through the application of mitigation measures that would be implemented in conjunction with the proposed project. However, this DEIR has identified significant and unavoidable impacts related to Air Quality and Transportation/Traffic that cannot be feasibly mitigated to a less than significant level. Regarding Air Quality, the project's incremental contribution to operational emissions of regional pollutants of primary concern, reactive organic gases (ROG) and oxides of nitrogen (NO_X), during project operations will result in a significant and unavoidable impact on regional air quality conditions. The project's incremental contribution to emissions of NO_X, and ROG will result in a significant and unavoidable impact on cumulative regional air quality conditions. Short-term project-level traffic impacts on the Woollomes Avenue/State Route 99 northbound ramps would be temporarily significant and unavoidable, on a short-term basis between operation of the proposed project and full build out under cumulative conditions.

S.3 PROJECT ALTERNATIVES CONSIDERED

Four alternatives to the proposed project were considered: Alternative 1 – No Project/No Development Alternative, Alternative 2 – Reduced Density Alternative, Alternative 3 – Commercial Mix with 24-Hour Truck Stop/Gas Station Complex Alternative, and Alternative 4 – Non-Retail Commercial Alternative. These alternatives are examined and compared to the proposed project in detail in Section 4.0, Alternatives to the Project. CEQA Guidelines Section 15126.6(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the "No Project/No Development Alternative," the DEIR shall also identify an environmentally superior alternative among the other alternatives.

Based on the alternatives analysis contained within Section 4.0, Alternatives to the Project, the DEIR concludes that Alternative 1, the No Project/No Development Alternative, represents the environmentally superior alternative because most impacts would be reduced relative to the proposed project. However, the "No Project/No Development Alternative" does not meet any of the project objectives and is inconsistent with the City of Delano General Plan land use and zoning designation which designates the project site for commercial use. Therefore, Alternative 4, the Non-Retail Commercial Alternative, would be the environmentally superior alternative and would result in a lesser degree of environmental impact as compared to the proposed project. This is because it would reduce the proposed project's significant and unavoidable impacts after mitigation (short-term project-level traffic impact and operational and cumulative air quality impacts) to a level that is less than significant

after mitigation. However, this alternative would not meet the project objectives or the City's objectives to provide a commercial retail shopping center that serves the local and regional market, results in a net fiscal benefit to the City, reduces sales dollar leakage, and creates new jobs for the City. Table 4-1 in Section 4.0, Alternatives to the Project, compares each considered alternative with the proposed project.

S.4 ISSUES TO BE RESOLVED

Pursuant to CEQA Guidelines section 15123(b), (b)(3), the summary section of a draft EIR must identify issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. At the time of release of this DEIR, the choice among alternatives is the proposed project, as most of the potentially significant impacts of the project can be fully mitigated with the implementation of mitigation measures, and the proposed project meets the City's objectives to provide a commercial retail shopping center.

S.5 AREAS OF CONTROVERSY

CEQA Guidelines Section 15123(b)(2) requires the summary section of a DEIR to address areas of controversy known to the lead agency, including issues raised by agencies and the public. Comments received from local government on the NOP encompassed issues including water, wastewater, stormwater, air quality, solid waste generation and recycling, roadway structural capacity, bus and police services, and additional actions necessary to implement the project. These comments are contained in Appendix 1.0. Comments raised by the public during the NOP public scoping meeting on April 25, 2013 included the project's size compared to other regional projects, the community need to keep sales local, the community desire for a nearby movie theater, and potential impacts upon the project and the local soccer field by the closed McFarland-Delano Sanitary Landfill located approximately 0.45 mile from the proposed project site (see Section 3.7, Hazards and Hazardous Materials, for landfill discussion).

S.5 PUBLIC REVIEW OF THE DEIR

Upon completion of this DEIR, the City will file a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (Public Resources Code, section 21161). This DEIR will be distributed to responsible and trustee agencies, other affected agencies, and interested parties, as well as all parties requesting a copy of the DEIR in accordance with Public Resources Code section 21092(b)(3). During the public review period, the DEIR, including the technical appendices, is available for review at the City of Delano Community Development Department and the Delano Branch of the Kern County Library. The address for each location is provided below:

City of Delano
Community Development Department
1015 11th Ave
Delano, CA 93215

Kern County Library
Delano Branch
925 10th Avenue
Delano, CA 93215

The DEIR will also be posted in electronic format on the City of Delano's website: www.cityofdelano.org. Agencies, organizations, and interested parties have the opportunity to comment on the DEIR during the public review period. Written comments on this DEIR should be addressed to:

Jerome Keene, Interim Community Development Director
City of Delano
1015 11th Ave
Delano, CA 93215
Attn: Grapevine EIR
Phone: (661) 720-2236
Fax: (661) 721-3298
Email: cddadmin@CityofDelano.org

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to all significant environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to certification of the Final EIR. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the project.

S.6 SUMMARY TABLE OF ENVIRONMENTAL IMPACTS

Table S-1 presents a summary of project impacts and proposed mitigation measures that would reduce, minimize, or avoid potential impacts. The level of significance of each environmental impact is indicated after the application of the recommended mitigation measure(s). For detailed discussions of all project impacts and mitigation measures, the reader is referred to topical environmental analysis in Section 3.0 of this DEIR.

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Aesthetics			
Impact 3.1-1. Implementation of the proposed project could have a substantial adverse effect on a scenic vista.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.1-2. The proposed project could substantially degrade the visual character or quality of the site and its surroundings.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.1-3. The proposed project could generate a new source of light and/or glare which would adversely affect day or nighttime views in adjacent areas.	Potentially Significant Impact	Mitigation Measure MM 3.10-1 (see Section 3.10, Noise) would limit construction activities to the daytime hours of 7 a.m. to 10 p.m. This will effectively eliminate nighttime light and glare impacts during construction. No additional mitigation is necessary.	Less than Significant Impact
Impact 3.1 Cumulative Visual Effect The proposed project, combined with other similar projects in the area, may result in a cumulative aesthetic impact to the existing visual character of the project area.	Potentially Significant Impact	However, the proposed project would extend the existing development of commercial land uses in the area. While this alters the area's visual character, this change would not constitute any degradation of visual quality – particularly where the City's General Plan and Zoning Ordinance contain specific development standards to ensure that new commercial development is attractive and of high-quality design (City of Delano, 2005; pg. 6-5). Mitigation Measure **MM 3.10-1** (see Section 3.10, Noise) has also been proposed that will reduce the proposed project's incremental contribution to nighttime lighting impacts to less than significant levels. Therefore, compliance with the City's existing design review process and proposed Mitigation Measure **MM 3.10-1** will ensure that the proposed project will not have a cumulatively considerable aesthetic impact in combination with other closely related past, present, and reasonably foreseeable probable future projects in the area.	Less than Significant Cumulative Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
Agricultural Resources			
Impact 3.2-1. The proposed project would convert approximately 44.64 acres of land designated as "Grazing Land" in the Important Farmlands Map of Kern County to urban use as a regional shopping center.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.2-2. The project could involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.2. Cumulative Conversion of Farmland The proposed project would convert approximately 44.64 acres of land designated as "Grazing Land" in the Important Farmlands Map of Kern County to urban uses and would not contribute to the cumulative loss of agricultural land in the region.	Less than Significant Cumulative Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Cumulative Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
Air Quality and Greenhouse Gas Emissions			
Impact 3.3-1. Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan by violating SJVAPCD regulations on particulate matter (Air Quality Standard of Significance 1).	Potentially Significant Impact	Given that the project's construction-related PM_{10} emissions of 1.24 tons per year or less are below the SJVAPCD PM_{10} threshold of 15 tons per year, and the project will comply with existing SJVAPCD PM_{10} emission reduction rules (Regulation VIII and ISR Rule 9510), which the SJVAPCD also relies upon to reduce $PM_{2.5}$ emissions, the project's impact related to construction-related PM emissions is **less than significant** and no mitigation is necessary.	Less than Significant Impact
Impact 3.3-2. Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan by exceeding SJVAPCD significance thresholds (Air Quality Standard of Significance 1).	Potentially Significant Impact	**MM 3.3-2** The project applicant shall comply with the SJVAPCD Indirect Source Review Rule (Rule 9510). In accordance with ISR Rule 9510, a detailed air impact assessment (AIA) shall be prepared detailing the specific construction requirements (i.e., equipment required, hours of use, etc.) and operational characteristics associated with proposed on-site and off-site improvements. In accordance with this rule, exhaust emissions of NO_x from construction equipment greater than fifty (50) horsepower used or associated with the development project shall be reduced by 20 percent. The project will demonstrate compliance with ISR Rule 9510, including payment of all applicable fees, before issuance of first building permit. As is set forth in ISR Rule 9510 subsection 6.3, mitigation required by the rule may be met through a "combination of on-site emission reduction measures or off-site fees." Construction emissions may be reduced on-site by using less-polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer lower emitting equipment of at least Tier II or better (SJVAPCD, 2013b; pg. 2). The CalEEMod program utilized a particular combination of Tiers during analysis. However, this combination of equipment and Tiers can be altered as long as reductions and thresholds are still met, which will be identified in the AIA. Based on the findings of the AIA, the project applicant shall pay to the SJVAPCD a monetary sum necessary to offset the required construction emissions not reduced by measures contained in the AIA. Any offset fees to be paid will be dependent on the findings of the AIA, to	Less than Significant Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		be calculated in accordance with the methodologies identified in the ISR Rule 9510 and approved by the SJVAPCD. To reduce short-term air quality impacts attributable to the proposed project, the following SJVAPCD-recommended mitigation measures will be implemented: • Off-road construction equipment will achieve fleet average emissions equal to or cleaner than the Tier II emissions standards set forth in section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations. (SJVAPCD, 2013b) • When not in use, on-site equipment shall not be left idling longer than 10 minutes • On-site equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. Equipment maintenance records shall be kept on-site and made available upon request by the SJVAPCD or City • The project applicant shall comply with all applicable SJVAPCD rules and regulations. Copies of any applicable air quality permits and/or monitoring plans shall be provided to the City With implementation of the above mitigation, maximum annual emissions of NO_X would be reduced by a minimum of approximately 23.3%, in accordance with SJVAPCD ISR Rule 9510. • Mitigated emissions of NO_x and PM_{10} are depicted in Table 3.3-8, Construction-Generated Emissions of NO_X and PM_{10} with Mitigation. As discussed in Impact 3.3-1, PM_{10} meets its thresholds with mitigation and therefore will not be discussed in this impact. Furthermore, PM_{10} is not an ozone precursor and therefore does not fall under this impact. In total, after mitigation, construction of the proposed project would generate an estimated total of 15.87 tons of NO_x over the entire course of construction. Although construction is	

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		anticipated to occur over a period of multiple years, a more rapid construction timeline could generate emissions of NO_X that exceed the SJVAPCD CEQA significance threshold of 10 tons/year (SJVAPCD, 2013b; pg. 1; and SJVAPCD, 2002; pgs. 25 and 45). In this event, emission offsets would be required to offset any remaining project-generated emissions over 10 tons per year of NO_x. Mitigated maximum annual emissions of NO_X with offsets would be 6.74 tons per year or less and would not exceed the SJVAPCD's significance threshold of 10 tons/year.	
Impact 3.3-3. Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan by exceeding SJVAPCD significance thresholds (Air Quality Standard of Significance 1).	Potentially Significant Impact	In accordance with ISR Rule 9510, the purchase of offsets or provision of equivalent funding would be required to mitigate operational emissions associated with the proposed project (see ISR Rule 9510, subsection 7). The specific fees to be paid would be determined in consultation with the SJVAPCD and would be dependent on various factors, including the offset costs established by the SJVAPCD at the time of payment, as well as the specific emission-reduction measures incorporated into the proposed project, as identified in the AIA to be prepared for the proposed project. As is set forth in ISR Rule 9510 subsection 6.3, mitigation required by the rule may be met through a "combination of on-site emission reduction measures or off-site fees." No additional mitigation measures other than those described above are feasible. As Table 3.3-10 indicates, the mitigation listed above would mitigate impacts of operational emissions of regional pollutants of primary concern and lower emissions of PM10 further below the SJVAPCD CEQA threshold of 15 tons per year, while meeting the 50 percent reduction ISR Rule 9510 requirement. However, emissions of NOx and ROG would remain above the SJVAPCD CEQA threshold of 10 tons per year, despite NOx meeting the 33.3 percent reduction required by ISR Rule 9510 (ROG does not have a percentage reduction requirement under ISR 9510). However, while the prior mitigation achieves ISR 9510, it does not reduce it below the 15 tons per year threshold, despite implementation of all feasible mitigation measures.	Significant and Unavoidable Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.3-4. Implementation of the proposed project could expose sensitive receptors to substantial pollutant concentrations (Air Quality Standard of Significance 4).	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.3-5. Implementation of the proposed project could expose sensitive receptors to substantial pollutant concentrations (Air Quality Standard of Significance 4).	Less than Significant Impact	**MM 3.3-5** Per section 2485 of Title 13 the California Code of Regulations, in order to lower DPM health risk related to operational TAC emissions from mobile sources, the project applicant shall ensure that diesel-powered delivery trucks operating at the project site shall not be left idling for longer than five minutes.	Less than Significant Impact
Impact 3.3-6. Implementation of the proposed project could create objectionable odors that affect a substantial number of people (Air Quality Standard of Significance 5).	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.3-7. Cumulative Regional Air Quality Impacts Implementation of the proposed project could result in a cumulatively considerable net increase of the criteria pollutants which the project region is non-attainment under an applicable federal or state ambient air quality standard (Air Quality Standard of Significance 3).	Potentially Significant Impact	**Cumulative Mobile Source Pollutants, Greenhouse Gas,** Actions identified in Mitigation Measure MM 3.3-3 would reduce these impacts to **less than significant** levels. **Emissions of ROG and NOx** Actions identified in Mitigation Measure MM 3.3-3 would reduce these impacts but not to **less than significant** levels. Impact would remain **significant and unavoidable.**	Significant and Unavoidable Cumulative Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.3-8a. *Cumulative Localized Odor Impacts* Project-generated emissions could theoretically contribute, on a cumulative basis, to localized increases in odor concentrations.	Potentially Significant Impact	No major sources of odors were identified in the project vicinity, and emissions of odors attributable to the proposed project would be considered less than significant.	Less than Significant Impact
Impact 3.3-8b *Cumulative Air Impacts* ***Cumulative Localized Stationary Source TAC Impacts*** Project-generated emissions of TACs could contribute, on a cumulative basis, to localized increases in TAC concentrations. ***Cumulative Localized CO Impacts*** Project-generated emissions of CO could contribute, on a cumulative basis, to localized increases in CO pollutant concentrations. ***Cumulative Localized DPM Impacts*** Project-generated emissions of DPM could contribute, on a cumulative basis, to localized increases in DPM pollutant concentrations.	Less than Significant Impact	***Cumulative Localized Stationary Source TAC Impacts*** As previously discussed, sensitive land uses located in the vicinity of the project site consist primarily of residential land uses. The analysis of cumulative conditions assumes buildout and occupancy of the currently undeveloped residential development located approximately 180 feet (55 m) north of the northern boundary of the project site, which is much closer to the project than the existing day care center located approximately 0.29 mile (1,531.2 feet) north of the project site. This residential development is the nearest sensitive receptor for the cumulative scenario. The SJVAPCD considers impacts of local pollutants (CO, TACs) to be cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards (SJVAPCD, 2002; pg.29). Cumulative TACs depend on the future mix of local uses, which are not known. A surrogate approach was used to assess the potential TAC impacts on sensitive receptors. The cumulative TAC scenario represents the likely emissions from other future development projects planned in the area, in addition to the proposed project. Therefore, the cumulative modeling examined the TAC emissions from the likeliest TAC source (fast food restaurants) for each of the proposed developments, at the same ratio as the proposed project. The risk associated with cumulative operational stationary source TACs is 5.60 E-07. ***Cumulative Localized CO Impacts*** As noted in Impact 3.3-5, implementation of the proposed project would not be anticipated to contribute to localized concentrations of mobile source CO under future cumulative conditions.	Less than Significant Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		Cumulative mobile source emissions of TACs (e.g., CO and DPM) will be lessened with the proposed roadway improvements set forth in the traffic study and listed in Mitigation Measures **MM 3.13.1-a, 3.13-1b, 3.13-1c,** and **MM 3.13-2a** through **MM 3.13-2g**. (Omni-Means, 2014; pgs. 38-44; Appendix 3.13). These mitigation measures will decrease CO by improving traffic congestion. By improving roadway LOS above LOS "E" or "F", the cumulative CO emissions will not create a hotspot according to the SJVAPCD GAMAQI (SJVAPCD, 2002; pg. 49). ***Cumulative Localized DPM Impacts*** Before mitigation, DPM is not expected to exceed the 10 in 1 million MEI threshold based upon the Existing Plus Project traffic volumes identified in the traffic study, and the DPM modeling conducted with the same traffic volumes. The risk from cumulative DPM emissions is estimated from the SJVAPCD-provided mall spreadsheet and the surrogate approach explained in Impact 3.3-8b. The DPM risk from truck travel is 7.80 E-07 and truck idling is 1.74 E-07. This modeling represents a "worst case scenario" because intersection improvement mitigation measures were not included in the model. Cumulative impacts would be lessened even further with the proposed project traffic mitigation in Mitigation Measures MM 3.13-1a, MM 3.13-1b, MM 3.13-1c, and MM 3.13-2a through MM 3.13-2g.	
Biological Resources			
Impact 3.4-1. The project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS.	Potentially Significant Impact	**MM 3.4-1a** Prior to the issuance of grading or building permits, the project applicant shall retain a qualified botanist to conduct a pre-construction plant survey of the project site, the potential footprint of the City stormwater basin expansion, and at the off-site source of soil used to fill the on-site emergency stormwater detention basin for the presence of special status plant species according to guidelines listed in the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (DFG, 2009). Survey results shall be submitted to the City, and positive detections submitted to USFWS, and/or DFW as appropriate, for evaluation and comment prior to the onset of construction activities. If no special status	Less than Significant Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		plants are located during the surveys, no further mitigation would be required. If special status plant species are present, the applicant will consult with the City, and with USFWS and/or DFW (as appropriate) to determine appropriate mitigation. If non-listed special status plant species are found (California Native Plant Society 1A, 1B, and 2B), the project applicant shall notify DFW within 24 hours to provide the opportunity to salvage plants, soil, or seed banks for use in rare plant restoration in mitigation areas. **MM 3.4-1b** a) A pre-construction survey by a qualified biologist shall be conducted no more than 30 days prior to the issuance of grading or building permits. If any evidence of occupation of the project site by listed or other special-status plant or animal species is subsequently observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance to comply with applicable regulations. If sufficient avoidance cannot be established, the United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures. The project proponent shall obtain any required permits from the appropriate wildlife agency. Copies of the preconstruction survey and results, as well as any required permits and evidence of compliance with applicable regulations shall be submitted to the City of Delano. The following buffer distances shall be established prior to construction activities: San Joaquin kit fox or American badger potential den: 50 feet San Joaquin kit fox known den: 100 feet San Joaquin kit fox or American badger pupping den: contact the	

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		California Department of Fish and Wildlife and United States Fish and Wildlife Service Burrowing owl burrow outside of breeding season: as recommended by CDFG 2012 Burrowing owl burrow during breeding season: as recommended by CDFG 2012 Swainson's hawk nest during breeding season: ½ mile Other protected raptor nests during the breeding season: as recommended by qualified biologist Other protected nesting migratory bird nests during the breeding season: as recommended by qualified biologist Other special-status wildlife species: as recommended by qualified biologist b) If any evidence of occupation of the project site by listed or other special-status plant or animal species is subsequently observed, a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified Biologist shall be conducted within one week of employment all new construction workers at the project site. The Training Program shall include, but not be limited to, information on the life history of the species observed, as well as other wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Act. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits. **MM 3.4-1c** a) If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation (CDFG, 2012). b) If occupied burrowing owl burrows are observed outside of the breeding season a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (CDFW, 2012) (Table 1). During the breeding season a buffer zone as noted in Table 1 shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. **MM 3.4-1d:** The measures listed below shall be implemented during construction: a) If any San Joaquin kit fox dens are found during preconstruction surveys, the status of the dens shall be evaluated no more than 14 days prior to project ground disturbance. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or other	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand-excavated following United States Fish and Wildlife Service standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance. If kit fox activity is observed at a den, the den status shall change to "known" per United States Fish and Wildlife Service guidelines (1999), and the buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from the United States Fish and Wildlife Service and California Department of Fish and Wildlife. b) To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site during construction, the perimeter security fence shall leave a 4- to 5-inch opening between the fence mesh and the ground or the fence shall be raised 4 inches above the ground. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence. c) All pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the United States Fish and Wildlife Service has been consulted. If necessary, under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped. d) To prevent inadvertent entrapment of San Joaquin kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If listed species are trapped, the United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted. e) All vertical tubes used in project construction, such as chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds. **MM 3.4-1e:** The measures below shall be implemented throughout construction of the project. a) Project-related vehicles shall observe a 15 mile-per-hour speed limit in all project areas, except on county roads and State and federal highways. Construction after sundown shall be prohibited. Off-road traffic outside of designated project areas shall be prohibited. b) All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from construction or project site. c) No pets shall be allowed in project areas. d) The use of herbicides for vegetation control in project areas shall be restricted. No rodenticides shall be used on the property. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and federal and State legislation as well as additional project-related restrictions deemed necessary by the California Department of Fish and Wildlife and/or the United States Fish and Wildlife Service.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		e) No plants or wildlife shall be collected, taken, or removed from the construction areas or areas of off-site improvements, except as necessary for project-related vegetation removal or wildlife relocation. Salvage of native vegetation to be removed from construction areas is encouraged, but shall only be performed by qualified biologists and with written approval from the California Department of Fish and Wildlife. f) If San Joaquin kit fox known or pupping dens are observed in project areas, the project proponent shall contact the United States Fish and Wildlife Service and California Department of Fish and Wildlife to discuss appropriate actions. **MM 3.4-1f:** A pre-construction survey by a qualified biologist for nesting birds shall be required if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds (February 1–August 31), to reduce potential impacts to nesting birds and raptors. The survey shall be conducted within 30 days of ground disturbance activities. **MM 3.4-1g:** During construction of the project, if Tipton kangaroo rats, San Joaquin kit foxes, or blunt-nosed leopard lizards are found within the project area, temporary fencing shall be installed around the ground disturbance zone perimeter to prevent individuals from entering the construction zone. If the above species are found within the disturbance zone, work in the vicinity of the animal will cease until a qualified biologist is on site to determine the appropriate measure to be taken. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the sensitive species is observed leaving the site, work in the area can resume. A report shall be prepared by the biologist to document the activities and a copy of the report shall be submitted to wildlife and resource agency representatives and the City.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.4-2. The project could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.	Potentially Significant Impact	No drainages, stream courses, and/or other natural water features were identified during the field survey for areas affected by the proposed project. As such, no wetland or riparian habitat or other sensitive natural communities occur on-site. Accordingly, the proposed project would not have a substantial adverse effect on any riparian or other sensitive natural community. However, implementation of Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce potential impacts to **less than significant** levels.	Less than Significant Impact
Impact 3.4-3. The project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.	Potentially Significant Impact	The project site has not been identified as lying within a major terrestrial wildlife movement corridor nor does it concentrate wildlife movement through a corridor linking large areas of undeveloped open space on a local or regional level. Accordingly, the proposed project would not have a substantial adverse effect on any riparian or other sensitive natural community. However, implementation of Mitigation Measures **MM 3.4-1b** through **MM 3.4-1g** would reduce potential impacts to **less than significant** levels. Implementation of Mitigation Measure **MM 3.4-1f** would require pre-construction survey by a qualified biologist for nesting birds shall be required if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds (February 1–August 31), to reduce potential impacts to nesting birds and raptors to a **less than significant** level.	Less than Significant Impact
Impact 3.4-4. Implementation of the proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Potentially Significant Impact	The City of Delano recognizes various sensitive species that may potentially occur within or near its General Plan area (City of Delano, 2005). However, the project site will not conflict with any local policies or ordinances protecting biological resources. Nonetheless, proposed Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce impacts to biological resources to **less than significant** levels.	Less than Significant Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
Impact 3.4-5. The project could conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Potentially Significant Impact	The project site is not located within an adopted local, regional, or state habitat conservation plan boundary. Therefore, the proposed project is not in conflict with an adopted Habitat Conservation Plan and no impact is anticipated with development of the proposed project. Nonetheless, proposed Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce impacts to biological resources to **less than significant** levels.	Less than Significant Impact
Impact 3.4. Cumulative Impacts to Special Status Species, Critical Habitats, and Wildlife Movement The project could, in addition to anticipated cumulative development in the project vicinity, disturb special status species and associated wildlife movement throughout the local area.	Potentially Significant Cumulative Impact	As presented in the impact discussions above, implementation of the proposed project could theoretically result in a loss of foraging habitat and contribute to biological resource impacts, including potential disturbance of special status species. Anticipated development and urban expansion of the area may further contribute to these impacts and is considered a potentially significant cumulative impact to biological resources. However, based on the analysis presented, implementation of Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce the proposed project's incremental contribution to cumulative biological resources. Appropriate performance measures are incorporated within these mitigation measures to ensure that the proposed project would not contribute to the potential loss and/or restriction of biological resources in the region.	Less than Significant Cumulative Impact
Cultural Resources			
Impact 3.5-1. The project could cause a substantial adverse change in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5. Site preparation and grading could disrupt	Potentially Significant Impact	**MM 3.5-1**: Should any cultural, historic, or archaeological resources be uncovered in the course of site preparation, clearing, or grading activities, all operations within 50 feet of the discovery shall be halted until such time as a City-approved qualified professional archaeologist can be consulted to evaluate the find and recommend appropriate action. Project personnel shall not collect or remove any material suspected to have cultural, historic, or archaeological value. The archaeologist shall evaluate the resource(s) and assess the significance of the find based on the requirements of CEQA	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
previously undiscovered archaeological and cultural resources of importance under CEQA and/or eligible for listing on the CRHR		Guidelines section 15064.5's criteria for historical or archaeological resources and make recommendations. The identified resource shall be avoided by project activities during evaluation. If the resource does not meet the section 15064.5 criteria and is not considered significant by the City under CEQA Guidelines section 15064.5 (a)(4), avoidance is not necessary. If the resource meets the section 15064.5 criteria or is considered significant by the City under CEQA Guidelines section 15064.5 (a)(4), it shall be avoided or any unavoidable adverse effects must be mitigated. Mitigation actions may range from documentation of the find to emergency protection of the find and its removal from the site depending on the specific values identified by the archeologist. Upon completion of the archaeologist's evaluation, a report shall be prepared documenting the methods and results, as well as recommendations. The recommendations of the archaeologist shall be incorporated into construction plans. The report shall be submitted to the City and the Southern San Joaquin Valley Information Center.	
Impact 3.5-2. The project could cause a substantial adverse change in the significance of an historical resource pursuant to CEQA Guidelines section 15064.5.	Potentially Significant Impact	Impacts would be mitigated to **less than significant** through the implementation of Mitigation Measure **MM 3.5-1.**	Less than Significant Impact
Impact 3.5-3 The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant Impact	**MM 3.5-3:** If animal or plant fossils as well as unique geologic resources are encountered during construction subsurface earthwork activities, all work within 50 feet of the discovery shall stop until a city-approved qualified paleontologist has determined the significance of the find and provided recommendations. Project personnel shall not collect or remove any paleontological material. If the paleontological finds are found to be significant, the area shall be avoided by project activities. The recommendations of the paleontologist shall be incorporated into construction plans.	Less than Significant Impact

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EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		If unique geologic resources are unearthed during construction earthwork activities, all work within 50 feet of the discovery shall stop until a city-approved qualified geologist has determined the significance of the find and provided recommendations. Project personnel shall not collect or remove any geological material. If the geological find is found to be significant, the area shall be avoided by project activities. Mitigation actions may range from documentation of the find to emergency protection of the find and its removal from the site depending on the specific values identified by the paleontologist and/or geologist. Upon completion of the paleontologist's and/or geologist's evaluations, a report shall be prepared documenting the methods and results of the evaluation(s), as well as recommendations. The recommendations of the paleontologist and/or geologist shall be incorporated into construction plans. The report(s) shall be submitted to the City and the Los Angeles Museum of Natural History.	
Impact 3.5-4 The project could disturb human remains, including those interred outside of formal cemeteries.	Potentially Significant Impact	**MM 3.5-4:** In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of Kern County has determined whether the remains are subject to the coroner's authority. This is in accordance with section 7050.5 of the California Health and Safety Code. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of identification. Pursuant to section 5097.98 of the Public Resource Code, the Native American Heritage Commission will identify persons "most likely descended from the deceased" to inspect the site and provide recommendations for the proper treatment of the remains and any associated grave goods.	Less than Significant Impact
Impact 3.5 Cumulative Cultural Resources Impacts Though not likely, construction activities	Potentially Significant	With implementation of Mitigation Measures **MM 3.5-1** and **MM 3.5-4**, impacts on archaeological resources and buried human remains, including those interred outside of formal cemeteries, resulting from the project would be less	Less than Significant Impact

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
associated with the proposed project could contribute to the cumulative loss of archaeological and paleontological resources and result in adverse cumulative impacts.	Impact	than significant. With respect to paleontological resources or unique geologic features, implementation of Mitigation Measure **MM 3.5-3** would reduce the impact from the project to a level less than significant. Similar mitigation would also be imposed on other projects in the City of Delano to reduce each individual project's impact on cultural and paleontological resources.	
Geology and Soils			
Impact 3.6-1 The project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure, including liquefaction.	Potentially Significant Impact	**MM 3.6-1a** Prior to the issuance of grading permits, a final Geotechnical Investigation by a qualified engineer shall be prepared for review and approval by the City. Geotechnical mitigation measures shall be incorporated in the design plans. **MM 3.6-1b** Prior to the issuance of building permits and subject to review and approval by the City, construction at the project site and engineering and improvement plans shall be designed in accordance with City standards, the requirements of the 2010 edition or later of the California Building Standards Code. The geotechnical investigations prepared by BSK recommend actions that apply these City and state standards to construction at the site. (BSK, 2013; pgs. 9 to 16).	Less than Significant Impact
Impact 3.6-2 The project could result in substantial soil erosion or the loss of topsoil.	Potentially Significant Impact	**MM 3.6-2** Prior to the issuance of grading permits and subject to review and approval by the City of Delano, a qualified engineer shall determine the design and suitable fill for the temporary storm water detention basin on the site.	Less than Significant Impact
Impact 3.6-3 The project could be located on a geologic unit or soil	Potentially Significant	**MM 3.6-3** Prior to the issuance of building permits and subject to review and approval by the City of Delano, construction at the project site and engineering	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
that is unstable, or would become unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.	Impact	and improvement plans shall be designed in accordance with City of Delano standards and the requirements of the California Building Standards Code (2013).	
Impact 3.6-4 The project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	Potentially Significant Impact	Implementation of Mitigation Measure **MM 3.6-3** would ensure that potential impacts from soil compressibility and collapse would be reduced to a **less than significant** level.	Less than Significant Impact
Impact 3.6-5 Based on the result of the corrosivity testing performed during the BSK geotechnical investigation, soils would be considered moderately corrosive to buried metal objects and could result in damage to buried utilities..	Potentially Significant Impact	**MM 3.6-5** Subject to review and approval by the City, buried metal conduits, ferrous metal pipes, and exposed steel shall have a protective coating in accordance with the manufacturer's specification.	Less than Significant Impact
Impact 3.6 Cumulative Geology and Soils Impacts The proposed project, combined with other similar projects in the area, may result in a cumulative impact to the geological conditions of the project area.	Potentially Significant Cumulative Impact	With implementation of Mitigation Measure **MM 3.6-1a** through **MM 3.6-5**, the proposed project would not contribute to any cumulative impacts for geologic, seismic hazards or related events. Moreover, any potential geologic impacts would be site specific and are generally not affected by cumulative development in the region. The proposed project will not combine with past, present, and reasonably foreseeable future projects in the area to form a new impact greater or more significant than the project impact alone. As currently designed, and with the identified mitigation measures incorporated, the proposed project would not contribute to a cumulative impact related to geology and soils, including seismic hazards.	Less than Significant Cumulative Impact

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
Hazards and Hazardous Materials			
Impact 3.7-1 Development of the proposed project could expose people, property or the environment to risks associated with asbestos or lead-based paint associated with building materials from the historical residence in the event these hazards were present.	Potentially Significant Impact	**MM 3.7-1** Prior to the issuance of grading or building permits, the project applicant shall properly remove building debris from the previous residence. In the event that suspect asbestos-containing materials or other potentially hazardous materials are uncovered during project construction, work at the project site shall immediately halt and a qualified hazardous materials professional shall be contacted and brought to the project site to make a proper assessment of the suspect materials. All potentially friable asbestos-containing materials shall be removed in accordance with federal, state, and local laws and the National Emissions Standards for Hazardous Air Pollutants guidelines prior to building demolition or renovation that may disturb such materials.	Less than Significant Impact
Impact 3.7-2. The project has the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during operation or construction.	Potentially Significant Impact	**MM 3.7-2** Prior to the issuance of grading or building permits, the project applicant shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The hazardous materials business plan shall delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. The hazardous materials business plan shall also include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the sites. A copy of the approved hazardous materials business plan shall be submitted to the City, as well as provide a copy to all contractors working on the project and ensure that one copy is available at the project site at all times.	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.7-3. The proposed project is located within Zone C of the Kern County Airport Land Use Compatibility Plan (ALUCP) area, and so the project must be analyzed to determine whether its development could result in a safety or noise hazard for people residing or working in the project area.	No Impact	No significant impact has been identified; therefore, no mitigation is proposed.	No Impact
Impact 3.7-4. Construction of project elements, especially utility pipelines and roads, may interfere temporarily with traffic flow and roadway use. This could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan by interfering with emergency vehicle access and evacuation routes.	No Impact	No significant impact has been identified; therefore, no mitigation is proposed.	No Impact
Impact 3.7-5. A small but significant risk of Valley Fever infection exists for construction personnel working on the project in the peak summer and fall months.	Potentially Significant Impact	**MM 3.7-5a Engineering and Work Practice Controls:** In order to minimize worker exposure to dust containing the Valley Fever fungus, the following actions will be taken by the project applicant: 1. When digging a trench or performing other soil-disturbing tasks, workers will be positioned upwind when possible. 2. When possible, vehicles will have enclosed, air-conditioned cabs and workers will be advised to keep the windows closed.	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		3. Overwatering the site for dust control could create an increased threat, and so wetting must be applied in a controlled, strategic manner. **MM 3.7-5b Administrative Controls and Hazard Awareness:** To increase hazard awareness and knowledge of safe work practices so that workers and supervisors may employ safer work practices, the project applicant will ensure that the following actions are taken. 1. Workers and supervisors will be trained on: a. Distribution of endemic areas b. Symptoms and signs of Valley Fever c. The need to report symptoms to supervisors d. The need to obtain medical evaluation e. People at highest risk of serious disease f. Effective practices, such as avoiding dust and working upwind of dust g. Effective controls, including proper use of equipment such as respirators h. The need to shower and wash hair as soon as possible after work to limit exposure and transport of fungal spores. 2. The following CDPH materials on Valley Fever will be distributed to workers and supervisors. a. For supervisors:	

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		i. CDPH pamphlet, "Preventing Work-Related Coccidioidomycosis (Valley Fever)," available at: http://www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf. b. For workers: i. CDPH Valley Fever Fact Sheet in English, available at: http://www.cdph.ca.gov/HealthInfo/discond/Pages/Coccidioidomycosis.aspx ii. CDPH Valley Fever Fact Sheet in Spanish, available at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/fiebredelvalle12.pdf iii. CDPH Valley Fever Fact Sheet in Tagalog, available at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/fiebredelvalle12.pdf (CDPH, 2013b; CDPH, 2012b; and CDPH, 2012c) **MM 3.7-5c Personal Protective Equipment:** To ensure that workers have appropriate protection from dust, the project applicant will ensure that the following actions are taken. 1. When digging or working near earth-moving trucks or equipment, the contractors shall make available NIOSH-approved masks rated at N95 or above. 2. If respirators are used, a comprehensive respirator program will be implemented, including medical clearance, training, fit testing, and procedures for cleaning and maintaining respirators. Such training may be combined with that listed in **MM 3.7-4b** above.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		3. Workers will be made aware of the potential threat of the spores and that work clothes can transport them. A changing area will be made available. **MM 3.7-5d Limiting Spore Transport/Clean-up Controls:** At the end of the work day, workers will be required to remove their work clothes at the work site. Work boots will be stored on site if possible; otherwise a boot wash will be provided for workers to use before leaving the project site. Equipment will be washed before being moved off-site. **MM 3.7-5e Case Reporting Protocols:** In order to ensure appropriate diagnosis, treatment, and reporting of potential Valley Fever cases, the following actions will be taken by the project applicant's contractor. 1. When two or more workers report symptoms that suggest Valley Fever, workers should be sent to a single medical provider or occupational medicine clinic for coordinated medical care, if possible. The purpose of this requirement is to facilitate better communication between the medical provider, public health agencies, and employer. 2. An "Employer's Report of Occupational Injury or Illness" (Form 5020) shall be completed for each occupational Valley Fever illness which results in "lost time" or medical treatment beyond first aid. 3. Valley Fever cases will be listed on the Cal/OSHA Form 300, "Log of Work-Related Injuries and Illnesses". 4. In compliance with section 330 of Title 8 of the California Code of Regulations, serious worker illnesses or death connected with Valley Fever shall be reported to the local Cal/OSHA district office, as well as the City of Delano Community Development Department at 1005 Eleventh Avenue, Delano, California 93215.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		Implementation of the above mitigation measures will reduce impacts from Valley Fever fungus exposure during construction to a **less than significant** level.	
Impact 3.7-6. Areas of standing water, due to temporary construction ponds, pooling of water during construction or during irrigation of landscaping, or due to stormwater management, could inadvertently create mosquito breeding areas. These breeding areas could in turn create the potential for a small increase in the risk of mosquito-borne illness.	Potentially Significant Impact	**MM 3.7-6a** During construction and operations of the project, Universally Applicable Mosquito Control BMPs shall be implemented to the extent feasible: 1. Examine outdoor areas and drain temporary and unnecessary water that may stand longer than 96 hours. 2. Dispose of unwanted or unused artificial containers. 3. Properly dispose of old tires. 4. If possible, drill drainage holes, cover, or invert any container or object that holds standing water that must remain outdoors. Be sure to check for containers or trash in places that may be hard to see, such as under bushes or buildings. 5. Clean clogged rain gutters and storm drains. Keep outdoor drains flowing freely and clear of leaves, vegetation, and other debris. 6. Aerate ornamental ponds to avoid letting water stagnate. 7. Change water in birdbaths and fountains at least once per week. 8. Ensure rain and/or irrigation water does not stand in plant containers, trash cans, or other containers on commercial properties. 9. Maintain irrigation systems to avoid excess water use and runoff into storm drains. 10. Minimize sites mosquitoes can use for refuge (harborage) by thinning	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		branches, trimming and pruning ornamental shrubs and bushes, and keeping grass mowed short. 11. Contact the Delano Mosquito Abatement District to evaluate the project site for mosquito breeding areas and work cooperatively to prevent a mosquito problem on the site. (CDPH, 2012a; pgs. 4 to 5; and DMAD, 2013c.) **MM 3.7-6b** The project applicant shall implement the following to manage the landscaped areas at the project site: 1. Avoid over-irrigating to prevent excess pooling and runoff. 2. Routinely inspect, maintain, and repair irrigation system components. 3. All underground drain pipes shall be laid to grade to avoid low areas that may hold water for longer than 96 hours. 4. Back-fill tire ruts or other low areas that hold water for more than 96 hours. 5. Improve drainage channels and grading to minimize potential for standing water. 6. Keep drainage ditches free of excessive vegetation and debris to provide rapid drainage. 7. Check and repair leaky outdoor faucets. 8. Report any evidence of standing water to responsible maintenance personnel. 9. Use waterfalls, fountains, aerators and/or mosquitofish in ponds and ornamental water features. Land owners must consult with	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		the local mosquito control agencies or California Fish and Wildlife regarding proper use of mosquito fish. 10. Prevent mosquito breeding in rain barrels by properly screening all openings, preventing mosquito access to the stored water. 11. For ponds and ornamental water features where mosquitofish cannot be used, landowners should use one of several readily available larval mosquito control products to treat water when they see immature mosquitoes. (CDPH, 2012a; pgs. 5 to 6.) **MM 3.7-6c** Mosquito Control Measures for temporary, permanent stormwater control basins or other open water control areas shall be implemented on the site during construction and operations. These shall include, but are not limited to: **1. General Stormwater Management Mosquito Control BMPs** a. Manage sprinkler and irrigation systems to minimize runoff entering stormwater infrastructure. b. Avoid intentionally running water into stormwater systems by not washing sidewalks and driveways, washing cars on streets or driveways, etc. c. Inspect facilities weekly during warm weather for the presence of standing water or immature mosquitoes. d. Remove emergent vegetation and debris from gutters and channels that accumulate water. e. Consider mosquito production during the design, construction, and maintenance of stormwater infrastructure.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		f. Design and maintain systems to fully discharge captured water in 96 hours or less. g. Include access for maintenance in system design. h. Design systems with permanent water sources such as wetlands, ponds, sumps, and basins to minimize mosquito habitat and plan for routine larval mosquito inspection and control activities with the assistance of a local mosquito control program. **2. Stormwater Conveyance** a. Provide proper grades along conveyance structures to ensure that water flows freely. b. Inspect on a routine basis to ensure the grade remains as designed and to remove accumulations of sediment, trash, and debris. c. Keep inlets free of accumulations of sediment, trash, and debris to prevent standing water from backing up on roadways and gutters. d. Design outfalls to prevent scour depressions that can hold standing water. **3. Stormwater Storage and Infiltration Systems (Aboveground)** a. Design structures so that they do not hold standing water for more than 96 hours to prevent mosquito development. Features to prevent or reduce the possibility of clogged discharge orifices (e.g., debris screens) shall be incorporated into the design. The use of weep holes is not permitted due to rapid clogging.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		b. Provide a uniform grade between the inlets and outlets to ensure that all water is discharged in 96 hours or less. Routine inspection and maintenance are crucial to ensuring the grade remains as designed. c. Avoid the use of electric pumps. They are subject to failure and often require permanent-water sumps. Structures that do not require pumping should be favored over those that have this requirement. d. Avoid the use of loose rock rip-rap that may hold standing water. e. Design distribution pumping and containment basins with adequate slopes to drain fully. The design slope should take into consideration buildup of sediment between maintenance periods. **4. Stormwater Structures with Permanent-Water Sumps or Basins (Belowground)** a. Where possible, seal access holes (e.g., pickholes in manhole covers) to below ground structures designed to retain water in sumps or basins to minimize entry of adult mosquitoes. If using covers or screens, maximum allowable gaps of 1/16 inch (2 mm) will exclude entry of adult mosquitoes. Inspect barriers frequently and replace when needed. b. If the sump or basin is completely sealed against mosquitoes, with the exception of the inlet and outlet, the inlet and outlet shall be completely submerged to reduce the available surface area of water for mosquitoes to lay eggs (female mosquitoes can fly through pipes).	

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		c. Where possible, design below ground sumps with the equipment necessary to allow for easy dewatering of the unit. d. Contact the local mosquito control program for advice with problem systems. **5. Stormwater Treatment Ponds and Constructed Treatment Wetlands** a. Whenever possible, stock stormwater ponds and constructed wetlands with mosquito-eating fish available from local mosquito control programs. b. Design and maintain accessible shorelines to allow for periodic maintenance and/or control of emergent and shoreline vegetation, and routine monitoring and control of mosquitoes. Emergent plant density should be routinely managed so mosquito predators can move throughout the vegetated areas and are not excluded from pond edges. c. Whenever possible, design and maintain deep zones in excess of four feet (1.2 meters) to limit the spread of invasive emergent vegetation such as cattails. The edges below the water surface shall be as steep as practicable and uniform to discourage dense plant growth that may provide immature mosquitoes with refuge from predators and increased nutrient availability. d. Use concrete or liners in shallow areas to discourage plant growth where vegetation is not necessary. e. Whenever possible, provide a means for easy dewatering if needed.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		f. Manage the spread and density of floating and submerged vegetation that encourages mosquito production (i.e., water hyacinth, water primrose, parrot's feather, duckweed, and filamentous algal mats). g. If possible, compartmentalize managed treatment wetlands so the maximum width of ponds does not exceed two times the effective distance (40 feet [12 meters]) of land-based application technologies for mosquito control agents. **6. General Access Requirements for Stormwater Treatment Structures** a. All structures shall be easily and safely accessible, without the need for special requirements (e.g., Occupational Safety and Health Administration - OSHA requirements for "confined space"). This will allow for monitoring and, if necessary, abatement of mosquitoes. b. If utilizing covers, the design should include spring-loaded or lightweight access hatches that can be easily opened. c. Provide all-weather road access (with provisions for turning a full-size work vehicle) along at least one side of large aboveground structures that are less than seven meters wide, or both sides if shore-to-shore distance is greater than seven meters. Note: Mosquito larvicides are applied with hand held equipment at small sites and with backpack or truck mounted high-pressure sprayers at large sites. The effective swath width of most backpack or truck-mounted larvicide sprayers is approximately 20-25 feet (6-7 meters) on a windless day.	

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		d. Build access roads as close to the shoreline as possible to allow for maintenance and vector control crews to periodically maintain, control and remove emergent vegetation and conduct routine mosquito monitoring and abatement. Remove vegetation and/or other obstacles between the access road and the structure that might obstruct the path of larvicides to the water. e. Control vegetation (by removal, thinning, or mowing) periodically to prevent barriers to access. (CDPH, 2012a; pgs. 4 to 5 and 16 to 17.)	
Impact 3.7 Cumulative Risk of Exposure to Hazardous Waste or Materials Implementation of the proposed project in addition to cumulative development associated with build out of the General Plan may result in cumulative hazardous risk impacts.	Potentially Significant Cumulative Impact	Implementation of Mitigation Measures **MM 3.7-1 and 3.7-2**, the proposed project would not contribute to an increase in the potential impacts related to the creation of a hazard through upset or accident conditions involving the release of hazardous materials. Additionally, implementation of Mitigation Measures **MM 3.7-5** through **3.7-6** would reduce the likelihood of attracting vectors such as flies and other insects to the project site, and therefore reduce the potential cumulative increase of disease vectors to less than significant levels.	Less than Significant Cumulative Impact
Hydrology and Water Quality			
Impact 3.8-1. The project could violate any water quality standards or waste discharge requirements.	Potentially Significant Impact	**MM 3.8-1a** The proposed project shall include the following post-construction BMPs in order to reduce non-point source pollutant loads: 1. The project applicant shall comply with all applicable federal, state, and local laws and regulations during the operational phase of the	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		proposed project regarding non-point source discharges and obtain all necessary permits or approvals that may be required. 2. Impervious surfaces such as roads, parking lots, and driveways shall be cleaned on a monthly basis during both the "wet" and "dry" seasons to limit the accumulation of "first flush" contaminants. 3. Storm drain inlets shall be labeled with the phrase "No dumping," or a similar phrase, to discourage illegal discharges of pollutants to the storm drainage system. 4. Common landscaped areas shall be subject to a program of efficient irrigation and proper maintenance including minimizing use of fertilizers, herbicides, and pesticides. 5. The project applicant shall establish a trash management and litter control program to mitigate the impacts of gross pollutants on stormwater quality. This program shall include litter patrol, emptying trash receptacles in common areas, and reporting and investigating trash disposal violations. **MM 3.8-1b** Prior to construction activities the project applicant shall submit to the City of Delano an approved copy of the following: a) Storm Water Pollution Prevention Plan (SWPPP); b) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES); and, c) Waste Discharge Requirements (WDRs) from the Central Valley Regional Water Quality Control Board to include the expansion area. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include but are not limited to the following: 1. Stockpiling and disposing of demolition debris, concrete, and soil properly.	

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		2. Protecting existing storm drain inlets and stabilizing disturbed areas. 3. Implementing erosion controls. 4. Properly managing construction materials. 5. Managing waste, aggressively controlling litter, and implementing sediment controls. **MM 3.8-1c** In the event the City institutes construction plan review procedures pursuant to SWRCB Order No. 2013-001-DWQ, sections E.12.c and E.12.e, before the project has been granted all discretionary permits, or before the project has a vesting tentative map and has not requested and received an extension of previously granted approvals, the project applicant will comply with the City LID standards established under SWRCB Order No. 2013-0001-DWQ, section E.12.e.(i) and (ii).	
Impact 3.8-2 The project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.8-3 The proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would	Potentially Significant Impact	Implementation of Mitigation Measure **MM 3.6-2, MM 3.14-2a, MM 3.14-2b,** and **MM 3.14-2c** will reduce project impacts to less than significant levels. The City uses a storm basin design specification contained in the Kern County Hydrology Manual. This criterion requires one acre-foot of detention for every eight acres of developed commercial land (Appendix 3.8, Cornerstone	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
result in substantial erosion or siltation on-site or off-site.		Engineering, 2013, pg. 86;). According to calculations performed by Cornerstone Engineering, the City's existing stormwater basin would need to be expanded by an additional 7.7 acre-feet of basin capacity in order to accommodate stormwater flows generated by the proposed project (Appendix 3.8, Cornerstone Engineering, 2013; pg. 86). Excavated soil from this stormwater basin expansion will be moved to adjacent parcels owned by the project proponent. All stormwater drainage plans and design calculations will be subject to review and approval by the City. A temporary stormwater detention basin of approximately 25,300 cubic yards presently exists on the site. The basin is used to accommodate stormwater flow generated during the construction phase of development for the Delano Marketplace project. The basin will be filled to grade with suitable fill soil prior to grading of the Grapevine project site as described in Mitigation Measure **MM 3.6-2.** Mitigation Measure **MM 3.14-2c** requires that the project applicant will fill in the existing stormwater drainage connection on the project site. Additionally, the project will be disconnected from the temporary basin and a new connection to the City's existing off-site detention basin will be established. The design features and implementation of **MM 3.6-2, 3.8-1a, MM 3.8-1b, MM 3.8-1c, MM 3.14-2a, MM 3.14-2b,** and **MM 3.14-2c** will ensure that development of the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner which could result in substantial erosion, siltation, or flooding on- or off-site, or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems.	
Impact 3.8-4. The proposed project could 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	Potentially Significant Impact	Development of the proposed project would involve construction activities on the entire 44.64-acre site, such as site clearing, mass grading, excavation, and trenching, which can adversely affect water quality by increasing soil erosion rates in the area of the proposed project. The exposure of raw soil to the natural elements (e.g., wind, rain) during grading operations may impact surface runoff by increasing the amount of silt and debris carried by stormwater runoff. The project applicant would be required to request coverage under the	Less than Significant Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
runoff in a manner that would result in flooding on-site or off-site.		NPDES General Permit, Order No. 2009-0009-DWQ, because the proposed project would result in one or more acres of land disturbance. As noted above, to conform to the requirements of the NPDES General Permit, a SWPPP would need to be prepared. The SWPPP would specify BMPs to prevent construction pollutants, including eroded soils (such as topsoil), from moving off-site. Implementation of the permit and BMP requirements would mitigate the potential for erosion of soils or siltation during construction activities. Implementation of Mitigation Measures **MM 3.8-1** and **MM 3.8-2** would reduce construction-related impacts to water quality to a **less than significant** level.	
Impact 3.8-5. The proposed project could create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant Impact	As noted in Section 3.14 Utilities and Service Systems, accommodation of storm water drainage from the proposed project will require extension of an existing 60-inch line, which will empty into the existing City storm water detention basin located at the southwest corner of the intersection of South Albany and Woollomes Avenue, as required by **MM 3.14-2a**. City Standard 48-2.01(b) requires that detention basin capacity be raised a minimum of one acre-foot for each eight acres of commercial development (City of Delano, 1995; pg. 4-8 to 4-9). The proposed project would be required to expand the City's existing storm water basin to provide 7.7 acre-feet of additional basin capacity in order to accommodate design storm water flows generated by the proposed project (Cornerstone Engineering, 2013; pg. 86), as required by **MM 3.14-2b**. A temporary storm water detention basin of approximately 25,300 cubic yards currently exists on the site of the proposed project. The basin is used to accommodate storm water flow generated during the construction phase of development for the existing Delano Marketplace project. The basin will be filled to grade with suitable fill soil prior to grading of the site as described in Mitigation Measure **MM 3.6-2c** (Section 3.6, Geology and Soils). In order to avoid the receipt of further storm water flows from the existing commercial site,	Less than Significant Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		this storm water connection must be replaced by another storm water connection (**MM 3.14-2c**). As noted above, impacts related to stormwater drainage, as well as construction-related erosion and sedimentation would be further reduced with implementation of **MM 3.8-1a** and **MM 3.1-1b**, which call for an approved SWPPP and best management practices (BMPs) required by the City.	
Impact 3.8-6. The project would otherwise substantially degrade water quality.	Potentially Significant Impact	As noted in Section 3.7 Hazards and Hazardous Materials, the proposed project would be subject to all requirements related to an approved Hazardous Materials Business Plan (HMBP) by the Kern County Environmental Health Services Division/Hazardous Materials (**MM 3.7-2**). The hazardous materials business plan will identify hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill. ; Adherence to the existing HMBP would reduce the potential for any significant hazards to the public or the environment through an accidental spill of hazardous materials to less than significant. Further, the project operator would be required to prepare and submit a drainage plan to the City that would include post-construction structural and non-structural BMPs. The proposed project will comply with all applicable water quality standards and waste discharge requirements. Implementation of existing local, State, and federal regulations, BMPs, City of Delano regulations, as well as Mitigation Measures **MM 3.7-2**, **MM 3.8-1a**, **MM 3.8-1b**, and **MM 3.8-1c** would reduce impacts to water quality to less than significant levels.	Less than Significant Impact
Impact 3.8-7. The project would be placed within a 100-year flood hazard area structures that would impede or redirect flood flows	Potentially Significant Impact	**MM 3.8-7a** Prior to the issuance of grading or building permits, an Engineering Study by a qualified engineer to determine the Base Flood Elevation of the project site shall be performed. The study shall be approved by FEMA and a copy of the approval provided to the City of Delano.	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		MM 3.8-7b Prior to recordation of a final map, or as otherwise determined by the City, the project applicant is required to obtain a LOMR from FEMA for project site areas currently zoned within Zone A. The LOMR shall identify the area of the proposed development that has been removed from the "Zone A" FEMA designation and shall be submitted to the City.	
Impact 3.8-8 The project could expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.	No Impact	The project site is located approximately 50 miles west of Lake Isabella Dam and would not be subject to significant inundation should Lake Isabella Dam fail (Kern County, 2013b; and Kern County, 2008). Therefore the proposed project would have **no impact** with respect to the exposure of people or structures as a result of a failure of a dam**.**	No Impact
Impact 3.8 The proposed project, in combination with future development in the area, could incrementally contribute to a cumulative effect with regard to drainage and water quality.	Potentially Significant Cumulative Impact	Each of the cumulative projects may include designs for stormwater drainage systems to capture and discharge waters from project sites, as required by the City of Delano. Thus, some of the cumulative projects in the area would transmit stormwater into retention facilities that would be developed as part of the respective projects, which would then percolate water back into groundwater aquifers. Development of the project site would contribute to cumulative local and regional drainage flows and surface water quality impacts when combined with future growth and development in the project vicinity. However, the City requires that new development mitigate storm drainage impacts through the construction or expansion of detention basins with adequate capacity to contain projected flows generated by each development. To this end, the project applicant will be required to expand the City's stormwater detention basin to accommodate project stormwater drainage system from the project as specified in **MM 3.14-2a**, **MM 3.14-2b** and **MM 3.14-2c** in Section 3.14, Utilities and Service Systems.	Less than Significant Cumulative Impact

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		Additionally, these cumulative projects may alter drainage conditions and increase the amount of urban pollutants, which could ultimately affect surface water and groundwater. Stormwater pollutants may include grease, oil, rubber, silt, pesticides, fertilizers, and/or general debris. As part of new development projects, these types of uses would be subject to the requirements of the CWA, which are implemented by Kern County statewide NPDES requirements, as well as the City of Delano Grading Code and floodplain management requirements. Water quality standards are achieved through the implementation of BMPs during design, construction, and post-construction operations. Similar to other projects, the proposed project would be subject to these requirements. **MM 3.8-1** and **MM 3.8-2** would reduce cumulative impacts of the project to a less than significant level. The proposed project will be subject to requirements of the RWQCB regarding short-term and long-term water quality impacts. Short-term construction impacts to water quality will also be mitigated to a less than significant level by **MM 3.8-1b**. Once the project is operational, compliance with **MM 3.8-1a** and **MM 3.8-1b** will ensure that non-point source pollutant loads from project runoff are mitigated to a less than significant level. **MM 3.8-7a and MM 3.8-7b** will ensure that the proposed project does not result in any development in a FEMA Special Flood Hazard Zone. The application of these standards, practices, and implementation of Mitigation Measures **MM 3.6-1b**, **MM 3.7-2, MM 3.8-1** through **MM 3.8-7b**, as well as **MM 3.14-2a** through **MM 3.14-2c** to the proposed project would reduce the project's incremental contribution to a less than significant level.	
Land Use Planning			
Impact 3.9-1. The proposed project is consistent with the provisions of the City of Delano General Plan and the City of Delano Zoning Ordinance.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
Impact 3.9-2. The Delano Municipal Airport is located approximately one-half (0.61) mile east of the project site, and the proposed project is located within the "Airport Influence Area" of the Delano Municipal Airport, as determined by the Kern County Airport Land Use Compatibility Plan and the Delano Municipal Airport Master Plan.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.9-3. The project site is not subject to any habitat conservation plan or natural community conservation plan.	No Impact	No significant impact has been identified; therefore, no mitigation is proposed.	No Impact
Impact 3.9. Cumulative Land Use Planning The proposed project is consistent with land use as outlined in City of Delano land use plans, policies, and ordinances.	No Cumulative Impact	No significant impact has been identified; therefore, no mitigation is proposed.	No Cumulative Impact
Noise			
Impact 3.10-1. Implementation of the proposed project could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
ordinance, or applicable standards of other agencies.			
Impact 3.10-2. Implementation of the proposed project could result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.10-3. Implementation of the proposed project could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.10-4. Implementation of the proposed project could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	Potentially Significant Impact	**MM 3.10-4a** During construction, the project applicant shall limit construction activities to the least noise-sensitive daytime hours of 7 a.m. to 10 p.m. Construction activities shall not be allowed on Sundays and legal holidays. These limitations shall be specified in all construction contracts and specifications entered into by the project applicant. **MM 3.10-4b** During construction, the project applicant shall ensure that all construction vehicles or equipment, fixed or mobile, are equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' recommendations. Implementation of the above mitigation measures would limit construction activities to the less noise-sensitive periods of the day and would ensure that equipment is operated in accordance with manufacturers' recommendations to reduce noise generated by individual equipment. Implementation of these mitigation measures would ensure that construction activities would not significantly affect sensitive receptors in the vicinity of the project site.	Less than Significant Impact

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Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
Impact 3.10-5. For a project located within the Kern County Airport Land Use Compatibility Plan (ALUCP), would the project expose people residing or working in the project area to excessive noise levels?	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.10 Cumulative Noise Levels Predicted noise levels at residential dwellings located along primarily affected roadways would not exceed the transportation noise source standard of 65 L_{dn} dBA for the City's land use compatibility standards (Table 3.10-2), and operations will not exceed the land use compatibility guidelines Conditionally Acceptable level of 60-70 dBA (Table 3.10-1) at nearby residential dwellings.	Less than Significant Cumulative Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Cumulative Impact
Population and Housing			
Impact 3.11-1. The proposed project could induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or	No Impact	No significant impact has been identified; therefore, no mitigation is proposed.	No Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
indirectly (e.g., through extension of roads or other infrastructure).			
Impact 3.11. Cumulative Population and Housing Impacts The proposed project, combined with other similar projects in the area, is unlikely to result in a cumulative impact due to the limited growth-inducing impacts of the project.	Less than Significant Cumulative Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Cumulative Impact
Public Services			
Impact 3.12-1. The proposed project could theoretically result in the need for new or physically altered governmental facilities related to fire protection.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.12-2. The proposed project could theoretically result in the need for new or physically altered governmental facilities related to police protection.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.12 Cumulative Public Services and Facilities Impacts The proposed project, in addition to anticipated cumulative development in the project vicinity, may result in the need for increased public services and facilities.	Less than Significant Cumulative Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Cumulative Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Transportation/Traffic			
Impact 3.13-1a. ***LOS Impacts at Woollomes Ave/Home Depot West.*** The Woollomes Avenue/Home Depot East intersection would operate at an unacceptable LOS F during PM Peak Hour and Saturday Peak Hour.	Potentially Significant Impact	**MM 3.13-1a** In order to achieve and maintain a LOS no worse than D, the project applicant will change the north-south Home Depot driveway from a full access configuration to right-turn access only for outbound movements (i.e., from a full exit to a right-turn only exit) (see Figure 3.13-17). The left turn and through southbound traffic will use the adjacent signalized intersection (Home Depot West).	Less than Significant Impact
Impact 3.13-1b. ***Woollomes Avenue/ SR 99 Southbound Ramps*****.** The Woollomes Avenue/SR 99 southbound ramps would operate at an acceptable LOS D during Existing Plus Project conditions but they are projected to not accommodate the 95th percentile queue for southbound right turn movement. (In other words, the number of cars lining up is expected to exceed the storage capacity of the road section.)	Potentially Significant Impact	**MM 3.13-1b** In order to achieve and maintain accommodation of the 95th percentile queue, the existing southbound shared through and left turn lane shall be converted to a shared right, through, and left lane. Furthermore, 50 feet of storage for the westbound left turn pocket will be added.	Less than Significant Impact
Impact 3.13-1c. ***Woollomes Avenue/ SR 99 Northbound Ramps*****.** The Woollomes Avenue/SR 99 northbound ramps would operate at an acceptable LOS D during Existing Plus Project conditions, but they are projected to not accommodate the 95th	Potentially Significant Impact	**MM 3.13-1c.** In order to achieve and maintain accommodation of the 95th percentile queue, the existing eastbound through lane shall be converted to a shared through and left lane. The eastbound signal phasing shall to be changed to a split phase. Furthermore, 50 feet of storage for the eastbound left turn pocket will be reduced. An additional northbound SR 99 on-ramp lane will be constructed to provide two receiving lanes for the eastbound left turn traffic.	Significant and Unavoidable Impact

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Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
percentile queue for eastbound left turn movement. (In other words, the number of cars lining up is expected to exceed the storage capacity of the road section.)			
Impact 3.13-2. Intersection LOS under Cumulative Plus Project Conditions Implementation of the proposed project combined with cumulative conditions could result in long-term traffic conditions conflicting with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.	Potentially Significant Impact	**MM 3.13-2a.** ***Woollomes Avenue/Stradley Avenue*** In order to achieve and maintain a LOS no worse than D, an additional westbound right lane will be constructed (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because the westbound approach to this intersection is not part of the City. **MM 3.13-2b.** ***Woollomes Avenue/Belmont Street*** In order to achieve and maintain a LOS no worse than D, this intersection will be signalized and the eastbound and westbound approaches will be widened to two through lanes in each direction, with a dedicated eastbound left turn pocket (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because this portion of Woollomes is not part of the City. **MM 3.13-2c.** ***Woollomes Avenue/Project Driveway*** In order to achieve and maintain an LOS no worse than D, the eastbound and westbound approaches will be widened to two through lanes in each direction and have a dedicated eastbound left turn pocket (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because this portion of Woollomes is not part of the City. **MM 3.13-2d.** ***Woollomes Avenue/Dover Parkway*** In order achieve and maintain an LOS no worse than D, the eastbound and westbound approaches of this intersection will be widened to include dual left turn lanes, dedicated right turn lanes, and three through lanes. The northbound and southbound	Less than Significant Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		approaches will be widened to include dual left turn lanes, two through lanes, and dedicated right turn lanes (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because the eastbound approach of this intersection is not part of the City. **MM 3.13-2e.** ***Woollomes Avenue/Home Depot West*** In order to achieve and maintain an LOS no worse than D, the eastbound and westbound approaches of the intersection will be widened to include dual left turn lanes, dedicated right turn lanes, and three through lanes (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. **MM 3.13-2f.** ***Woollomes Avenue/Home Depot East*** In order to achieve and maintain an LOS no worse than D, eastbound and westbound left turns will be prohibited at this intersection and redirected to the next downstream signalized intersection. Also, a westbound through lane will be constructed (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. **MM 3.13-2g.** ***Woollomes Avenue/Lexington Street*** In order to achieve and maintain an LOS no worse than D, a second eastbound lane will be constructed from the SR 99 northbound ramps to Lexington Street. This lane will become a dedicated left turn lane at the intersection (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement.	
Impact 3.13-3. Conflict with an Applicable Congestion Management Program The project could conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand	Potentially Significant Impact	**MM 3.13-3** In order to reduce congestion from impacts during construction, adequate temporary access lanes will be provided around the construction site and will remain open.	Less than Significant Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
measures, or other standards established by the county congestion management agency for designated roads or highway.			
Impact 3.13-4. Changes in Air Traffic Patterns that Result in Substantial Safety Risks The proposed project will not result in a change to air traffic patterns and therefore will not result in substantial safety risks.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.13-5. Substantial Increase in Hazards Due to Design Features or Incompatible Uses The proposed project will not substantially increase hazards due to a design feature, does not have any unusual or inherently unsafe roadway designs, and does not place traffic in dangerous flow patterns or create abrupt changes.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.13-6. Result in Inadequate Emergency Access The proposed project does not have any restrictions to emergency vehicle sizes or access routes that could result in inadequate emergency access.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
Impact 3.13-7. Conflict with Public Policy Regarding Public Transit, Bicycle, or Pedestrian Facilities The proposed project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Potentially Significant Impact	**MM 3.13-7a** Subject to the review and approval by the City, bicycle facilities shall be incorporated into the proposed project and shown on final improvement plans to include: • Class II bicycle lanes along in the project street frontages • Bicycle racks and/or lockers to accommodate bicycle travel by customers and employees Bicycle parking facilities will be located in high visibility areas in order to encourage bicycle travel and discourage theft and vandalism **MM 3.13-7b** Subject to review and approval by the City, pedestrian crosswalks and traffic signals will be provided at all legs of the Woollomes Avenue proposed site access intersections. These improvements will be incorporated into the final implementation plans prior to approval by the City.	Less than Significant Impact
Utilities			
Impact 3.14-1. The proposed project could require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact
Impact 3.14-2. The project would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which	Potentially Significant Impact	**MM 3.14-2a** Prior to issuance of grading permits and subject to review and approval by the City, an extension to an existing 60-inch line shall be constructed to connect with the existing City storm water detention basin. **MM 3.14-2b** Prior to issuance of grading permits and subject to review and	Less than Significant Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
could cause significant environmental effects.		approval by the City, the project applicant shall expand the City's existing off-site storm water basin by a minimum of 7.7 acre-feet to accommodate storm water runoff generated by the proposed project; this is in addition to the expansion necessitated by the Delano Marketplace project. The applicant shall perform the necessary capacity expansion prior to approval of a grading permit for the proposed project. The storm water drainage plans and design calculations shall be subject to review and approval by the City. **MM 3.14-2c** Prior to issuance of a grading permit, and subject to review and approval by the City, the project applicant shall fill the existing emergency storm water basin located on the project site. The project applicant shall also disconnect the existing emergency storm water basin from the Delano Marketplace project, and then establish a new connection to the City's existing off-site detention basin.	
Impact 3.14-3. The project could have sufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements could be needed.	Potentially Significant Impact	**MM 3.14-3a**: Prior to issuance of the Certificate of Occupation, a will-serve letter for water provision from the City shall be obtained by the applicant. **MM 3.14-3b** The project applicant shall implement water conservation methods as required by the City. These methods include, but are not limited to, the following: 1. Outdoor watering may not occur on Mondays. 2. During construction and operation of the project, water will not be used in a manner which allows water to run off the property or area to which it is being applied. This is specifically in reference to, but not limited to, the irrigation of turf, ground cover, trees, or other forms of landscaping that result in water flowing into gutters, drains, ditches, or other non-target areas of the irrigation system. 3. The washing of building exteriors may only be performed with a hose with a positive stop device and a bucket. 4. Driveways, sidewalks, parking lots, patios, or other hard surfaces of	Less than Significant Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		the project will not be washed. These areas will be swept in lieu of using any water. 5. Lawns, ground cover, trees, and shrubbery will not be watered between the hours of eleven a.m. and six p.m. from May 1 to September 30 or during periods of high winds exceeding twenty miles per hour. Drip, bubbler, and soaker hose irrigation systems will be excepted from these requirements. 6. All leaks or malfunctioning plumbing will be repaired within twenty-four hours. 7. Ornamental fountains that do not recycle the water will not be operated. 8. Irrigation systems will not be operated in such a manner that water is applied to more than an incidental amount of driveway, sidewalk, patio, parking lot, or other hard surface or area, including bare ground not sustaining plant material that would require water. 9. Water will not be allowed to gather into a pool or puddle where it serves no useful purpose but may act as a harbor or breeding place for mosquitoes. (City of Delano, 2008; sections 13.04.110 and 13.04.120)	
Impact 3.14-4. The project could result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than Significant Impact	No significant impact has been identified; therefore, no mitigation is proposed.	Less than Significant Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.14-5. The proposed project will be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Potentially Significant Impact	**MM 3.14-5a** Prior to the issuance of building permits, the project applicant shall submit a waste management plan for C&D waste to the City documenting that all future commercial businesses at the project will have contracted franchise hauler agreements to maintain a recycling program that appropriately segregates recyclable materials, compostable materials, and trash in compliance with state mandatory commercial recycling requirements (AB 341). The franchise hauler will meet the requirements of Kern County ordinance G-8337 (Kern County, 2013; pgs. 4 to 5; and KCWMD, 2013b). **MM 3.14-5b** Prior to the issuance of building permits, the project applicant shall submit a site plan illustrating required recycling storage area(s) to the City for approval. The site plan should show fenced storage areas for recyclable materials that are clearly identified for recycling, as required by the City. As requested by KCWMD, a site plan showing the recycling storage area will be submitted to the City Community Development Department prior to construction of the project (KCWMD, 2013f; pg. 2). **MM 3.14-5c** Prior to the issuance of a Certificate of Occupancy, the project applicant shall provide refuse and source-separated consolidation containers located both inside and outside the shopping center, in order to comply with AB 341. Consolidation containers located inside the shopping center will be designed to promote the separation of solid waste and recyclable material. Design features for consolidation containers located outside the shopping center will include adequate storage for refuse and source-separated materials, and will be designed to provide safe access for employees and/or customers to use the containers (KCWMD, 2013f; pg. 2). The consolidation containers shall meet the requirements of all applicable City or Kern County ordinances and regulations. **MM 3.14-5d** In addition to consulting the hazardous waste disposal program resources listed in MM 3.7-2 (see Section 3.7, Hazards and Hazardous Materials), the project applicant will provide documentation to the City that the solid waste segregation programs of all commercial tenants provide for	Less than Significant Impact

TABLE S-1 EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS			
Potential Project Impact	**Level of Significance w/o Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
		collection of universal waste or other hazardous waste, which is prohibited from disposal at solid waste facilities.	
Impact 3.14. Cumulative Utilities Impacts The proposed project's contribution to an increased need for utilities and service systems is considered in the context of other past, present, and reasonably foreseeable future projects in the area.	Less than Cumulative Impact	Significant cumulative impacts would occur if the other projects identified would overburden utilities and service systems or if agencies would be unable to provide adequate services, thereby resulting in significant combined impacts related to the need for development of new facilities. Regarding stormwater drainage impacts of the proposed project, all proposed projects in the area would be required to would comply with City standards, ordinance, and codes, including Title 17, Buildings and Construction, of the City Zoning Ordinance, and obtain grading and building permits issued by the City of Delano. Further, grading activities of any project would be conducted in a manner that complies with these requirements along with the requirements of the State of California as mandated by the Construction General Permit. Mitigation Measures **MM 3.14-1** through **MM 3.14-3**, **MM 3.6-2** (related to the removal of the existing retention basin), as well as **MM 3.8-1** that requires an approved SWPPP, would reduce cumulative impacts related to stormwater. As noted above, adequate water supplies are available to serve the proposed project. The proposed project would be required to pay water and sewer impact fees to cover its share of the cumulative impact upon municipal utility systems. Mitigation measures aimed at water conservation will ensure that the project's incremental contribution to cumulative impacts remains less than significant, including **MM 3.14-3b**. Additionally, the proposed project is not expected to result in significant impacts to any Kern County landfills, including the Shafter-Wasco Sanitary Landfill. The Shafter-Wasco Sanitary Landfill has adequate capacity to serve the proposed project. The generation of waste from cumulative projects, including residential and commercial developments, as well as other projects, could result in a cumulative impact. To ensure that the proposed project reduces the amount of waste sent to landfills, Mitigation Measures **MM 3.14-5a**	Less than Significant Impact

TABLE S-1
EXECUTIVE SUMMARY OF PROJECT AND CUMULATIVE IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		through **MM 3.14-5d** are proposed to require project-generated debris and waste to be recycled to the extent feasible during construction. All handling and disposal of solid waste and recyclable materials would occur in compliance with applicable state and local regulations. Similarly, other planned projects would be expected to comply with state and local waste reduction policies. Thus, the proposed project would not be expected to combine with impacts from past, present, or reasonably foreseeable projects and result in a cumulative impact on area landfills. Because the project will result in a need for an expanded storm water detention facility, the project will be required to implement its fair share of mitigation measures designed to alleviate its incremental contribution to the impact. Under Mitigation Measures **MM 3.14-2b** and **MM 3.14-2c**, the project would expand the City's existing off-site storm water basin to accommodate storm water runoff from the project.	

1.0 INTRODUCTION

This Draft Environmental Impact Report (DEIR) has been prepared by the City of Delano (City) as lead agency in accordance with the California Environmental Quality Act (CEQA) and its implementing regulations, the CEQA Guidelines. The purpose of the DEIR is to evaluate the potential environmental effects associated with the development of the Delano Grapevine project (hereinafter "project" or "proposed project"), a 328,500-square-foot community shopping center located at the northwest corner of Woollomes Avenue and Dover Parkway, near the intersection of State Route 99 and Woollomes Avenue in the southwest portion of the City. This section summarizes the purpose and intended uses of this DEIR, the environmental procedures that are to be followed according to state and local law, and the DEIR's scope and organization.

1.1 BACKGROUND AND PURPOSE

The City has prepared this DEIR to provide the public, responsible agencies, trustee agencies, and decision-makers with information about the potential environmental effects of the proposed project. As described in CEQA Guidelines section 15121(a), an Environmental Impact Report (EIR) is an informational document aimed at informing public agency decisionmakers and the general public of potential significant environmental effects of a project and identifies mitigation measures and alternatives to the project that could reduce or avoid those impacts. Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development where feasible (CEQA Guidelines section 15091).

The project applicant, YK America (hereinafter "project applicant") has submitted applications for conditional use permits, architecture and site plan review, and a tentative parcel map to establish a development plan for a 328,500-square-foot shopping center on a 44.64-acre site located at the northwest corner of Woollomes Avenue and Dover Parkway, approximately 1,600 feet west of the intersection of State Route 99 and Woollomes Avenue. The proposed shopping center would include a 12-screen theater; a lifestyle component to include retail shops and restaurants (sit-down and fast-food); mid-size retailers between 10,000 to 25,000 square feet and outparcels for fast food; with proposed building sizes ranging from 2,500 to 10,000 square feet. Section 2.7, Requested Actions and Required Approvals, in this DEIR identifies the requested actions and required approvals for the proposed project.

CEQA requires the preparation of an EIR prior to approval of any "project" that may have a significant effect on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has potential to result in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines section (§) 153789(a)). The City has determined the Delano Grapevine Shopping Center is a "project" within the definition of CEQA and has the potential to result in significant environmental effects.

1.2 TYPE OF DOCUMENT

CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This DEIR has been prepared as a "Project" EIR pursuant to CEQA Guidelines section 15161. A Project EIR is the most common type of EIR and evaluates the environmental impacts of a specific development project. This DEIR examines all phases of the project, including planning, construction, and operation.

1.3 INTENDED USES OF THIS EIR

This DEIR has been prepared in accordance with CEQA and is consistent with the current CEQA Guidelines. This document will be used by the City, as the CEQA lead agency, and any other responsible or reviewing agency to identify and evaluate significant environmental issues at the project site. This analysis is based on the potential effects of the proposed project, as measured against the existing conditions of the site and its surroundings. Section 2.0, Project Description, contains a detailed Project Description. Actions that would be taken regarding the project evaluated in this DEIR are listed under subheading 2.7, Requested Actions and Required Approvals.

1.4 ENVIRONMENTAL REVIEW PROCESS

CEQA and the City encourage public participation in the planning and environmental review processes. Opportunities have been provided for the public to present comments and concerns regarding the project and the DEIR document through the Notice of Preparation, public meeting, and a 45-day CEQA public review of this DEIR. After close of the public comment period on the DEIR, the City will prepare a Final EIR (FEIR) that responds to all comments submitted during the comment period and also provides any revisions to the DEIR. The review and certification process for the EIR involves the following procedural steps.

1.4.1 NOTICE OF PREPARATION

In accordance with section 15063 of the CEQA Guidelines, the City determined that an EIR would clearly be necessary for the project. The City prepared an Initial Study (IS) in conjunction with the Notice of Preparation (NOP) in order to focus the analysis in the EIR (City of Delano, 2013).

The NOP was prepared in March 2013 and was circulated for public comment from March 29 through April 29, 2013, in accordance with section 15082(a) of the CEQA Guidelines. The NOP and the associated IS were made available to the public, to local, state, and federal agencies, and to other interested parties to solicit comments on the proposed project. Comments received from local government encompassed issues including water, wastewater, stormwater, air quality, solid waste generation and recycling, roadway structural capacity, bus and police services, and additional actions necessary to implement the project.

The NOP public comment process also provided an opportunity for the City and the project applicant to address questions and observations from public commenters on topics including the project's size

compared to other regional projects, the community need to keep sales local, community desire for a nearby movie theater, and potential impacts upon the project and the local soccer field by the closed McFarland-Delano Sanitary Landfill located approximately 0.27 mile from the proposed project site (see Section 3.8, Hazards and Hazardous Materials, for landfill discussion). The NOP and NOP comments are contained in Appendix 1.0.

Comments from City and Kern County departments provided additional detail on current and projected infrastructure to support utility, waste disposal, public services, and roadway connections to the project. Concerns raised and information provided in response to the NOP was considered during preparation of the DEIR.

Table 1.0 Summary of NOP Comments

Commenter	Summary of Comment	Date Received
General Public	Would like a mix of restaurants.	04/25/2013
General Public	Wanted project movie theater to reduce driving out of town.	04/25/2013
San Joaquin Valley Air Pollution Control District	Air District is at various nonattainment levels for federal and state ozone and particulate matter standards. The EIR should discuss potential, identify and quantify existing, construction, and post-project emissions, (including nuisance odors), including net increase of any criteria pollutant or precursor for which San Joaquin Basin is in non-attainment. Modeling should include all phases of the project and define sensitive receptors. Project may require specific air permits.	04/11/2013
Kern County Development Service Agency, Roads Department	Anticipates significant impact to Woollomes Avenue. Study should include a comparative project/no project analysis to determine necessary improvements to mitigate impacts. City should annex this portion of road because it is the only segment of Woollomes not part of the City.	04/18/2013
Delano City staff member, Noemi Zamudio	City plans to add a bus stop at the project.	04/24/2013
Delano Police Chief, Mark DeRosia	No unexpected law enforcement impacts.	04/24/2013
Kern County Waste Management	Shafter-Wasco Recycling and Sanitary Landfill is likely Solid Waste disposal facility. Compliance with construction disposal requires documentation. Various recycling requirements may be applicable.	04/26/2013

Kern County Superintendent of Schools Mgr., Mary Baker	No significant effect as long as statutory school facilities fees and no additional mitigation is required.	04/28/2013
City of Delano Public Works/Engineering	Capacity exists for drinking and waste water. New connections will be required for all services. Stormwater capacity needed. FEMA floodplain study needed. Mitigation expected for traffic, water and wastewater; water supply; wastewater treatment capacity. Subdivision Agreement, Building Permits, and Development Impact Fees are additional actions required to implement the project	04/29/2013

Scoping Meeting

Pursuant to Section 15206 of the State CEQA Guidelines, a lead agency is required to conduct at least one scoping meeting for all projects of statewide, regional, or areawide significance. The scoping meeting is intended for jurisdictional agencies and interested persons or groups to provide comments regarding (but not limited to) the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed. The City determined that although the project did not meet the mandatory criteria under Section 15206, it would provide an opportunity for the community and agencies to ask questions. The City of Delano hosted a scoping meeting on April 25, 2013, in the City of Delano at the Delano Civic Center.

Effects Found Not to Be Significant

The NOP/IS identified the following topics as having less than significant impacts upon the environment:

- Mineral Resources
- Recreation

(City of Delano, 2013; pg. 7)

Mineral Resources will not be significantly impacted because the project is situated in a rural area on land historically used for agriculture rather than mining. According to the City General Plan, there are no significant mineral resources or mining operations within the City or its Sphere of Influence (City of Delano, 2005; page 4-4). The Kern County General Plan recommends the use of the "California Geological Survey's latest maps to locate mineral deposits until the regional and Statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act" (Kern County, 2009; pg. 59). The California Geological Survey confirms that no significant mineral resources exist at the site (California Geological Survey, 2009). Therefore, the project would not impact important mineral resources, nor would it construct facilities over a documented resource area, preventing future resource excavation.

Recreation will not be significantly impacted because the current site uses do not include recreation, and the proposed project does not include residential housing. As a result, there would not be an increase in the use of existing parks or recreational facilities. The project does not create parks or open space but would be open to the public and proposes to provide some recreational facilities, including a 12-screen movie theater. Because no environmental impacts associated with recreation are expected to occur, no further analysis is warranted in the EIR.

Within the topical subsections of the NOP/IS, certain subtopics were identified as having less than significant impacts upon the environment. These subtopics are listed within each topical section of the DEIR, beginning with Section 3.1, Aesthetic and Visual Resources. A list of all effects found not to be significant is in Section 6, Other Sections Required by CEQA, in subsection 6.4, Effects Found Not to Be Significant.

1.4.2 DRAFT EIR

This DEIR was prepared and distributed by the City in March 2014. As required by sections 15122 through 15132 of the CEQA Guidelines, the DEIR contains a description of the proposed project; description of the environmental setting; analysis of project's environmental impacts, growth-inducing impacts, and cumulative impacts; mitigation measures for impacts found to be potentially significant; analysis of project alternatives; and identification of effects found not to be significant and significant irreversible environmental changes. The environmental issues addressed in the DEIR were identified through the preparation of environmental documentation and supporting technical reports developed for the project, public agency responses to the NOP, and comments received.

Upon completion of the DEIR, the City will file a Notice of Completion (NOC) with the State Office of Planning and Research, in accordance with section 15085 of the CEQA Guidelines. This begins a 45-day public review period for the DEIR (Public Resources Code, section 21161).

1.4.3 PUBLIC NOTICE/PUBLIC REVIEW

The City will provide public notice of the availability (NOA) of the DEIR for public review in accordance with Public Resources Code section 21092 and CEQA Guidelines section 15087(a) to all those who submitted comments on the NOP, to all organizations and members of the public who were on the City's distribution list for the DEIR, and to any additional persons or organizations that have requested information about the EIR. The review period for the DEIR will be *45 days*. **The City has no requirement to respond to comments received after this review period.**

All comments or questions regarding the DEIR should be addressed to:

Jerome Keene, Interim Community Development Director
City of Delano
1015 11th Avenue
Delano, CA 93215
Phone: (661) 720-2236
Fax: (661) 721-3298
Email: cddadmin@CityofDelano.org

1.4.4 RESPONSE TO COMMENTS/FINAL EIR

Following the close of the public review and comment period for the DEIR, the City will consider all comments received on the DEIR and prepare responses and the FEIR. The FEIR will consist of the DEIR, comments received, response to comments on the DEIR, and any changes to the DEIR.

1.4.5 CERTIFICATION OF THE EIR

Approval of a project may not occur until the City certifies that the FEIR has been completed in accordance with CEQA, which the City Council has reviewed and considered the information contained in the FEIR, and that the FEIR reflects the City's independent judgment and analysis (CEQA Guidelines section 15090). CEQA standards for adequacy require that the FEIR: 1) show a good faith effort at full disclosure of environmental information, and 2) contain sufficient analysis "to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences" (CEQA Guidelines section 15151).

1.4.6 PROJECT CONSIDERATION

Upon review and consideration of the FEIR, the City may act upon the project (CEQA Guidelines section 15090). A decision to approve the project would be accompanied by written Findings in accordance with CEQA Guidelines section 15091 and, if applicable, section 15093 (Statement of Overriding Considerations).

Mitigation Monitoring

The City must also adopt a Mitigation Monitoring and Reporting Program (MMRP) for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment (Public Resources Code section 21081.6(a)). This program will be designed to ensure that these measures are carried out during project implementation. The specific reporting or monitoring program required by CEQA is not required to be included in the DEIR. Throughout the DEIR, however, mitigation measures have been clearly identified and presented in language that will facilitate establishment of a monitoring and reporting program. Any mitigation measures adopted by the City as part of the certified FEIR will be included in the MMRP to ensure and verify compliance with mitigation requirements.

1.5 IMPACT TERMINOLOGY

This DEIR uses the following terminology to describe environmental effects of the proposed project:

Standards of Significance. A set of criteria used by the lead agency to determine at what level, or "threshold," an impact would be considered significant. Significance criteria used in this DEIR include the CEQA Guidelines and Statutes; factual or scientific information; regulatory performance standards of local, state, and federal agencies; and policies of the City's General Plan.

Less Than Significant Impact. A less than significant impact would cause no substantial change in the environment and no mitigation is required.

Potentially Significant Impact. A potentially significant impact may cause a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects using specified standards of significance. Mitigation measures and/or project alternatives are identified to reduce project effects to the environment.

Significant Unavoidable Impact. A significant and unavoidable impact would result in a substantial change in the environment for which no feasible mitigation is available to reduce the impact to a less than significant level, although mitigation may be available to lessen the degree of the impact.

Cumulative Impact. Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

1.6 REFERENCES

California Geological Survey, 2009. Updated Mineral Land Classification Map for Portland Cement Concrete-Grade Aggregate in the Bakersfield Production-Consumption Region, Kern County, California.

City of Delano, 2013. Notice of Preparation of a Draft Environmental Impact Report, March 27, 2013.

City of Delano, 2005. General Plan Update, adopted December 5, 2005; (http://www.cityofdelano.org/DocumentCenter/View/99) web accessed March 18, 2014.

Kern County, 2009. Kern County General Plan Land Use, Open Space, and Conservation Element as amended September 22, 2009; (http://www.co.kern.ca.us/planning/pdfs/kcgp/KCGPChp1LandUse.pdf) web accessed September 9, 2013.

OPR, 2013. Governor's Office of Planning and Research, State of California. Guidelines for Implementation of the California Environmental Quality Act, as amended.

2.0 PROJECT DESCRIPTION

2.1 OVERVIEW OF THE PROJECT

The project applicant, YK America (hereinafter "project applicant") has applied to the City of Delano (City) to develop a 328,500-square-foot community shopping center on an approximately 44.64-acre site located east of Albany Street, west of Dover Parkway, south of Morse Boulevard, and north of Woollomes Avenue, west of the intersection of State Route 99 and Woollomes Avenue. The project's location is shown in Figure 2-1, Project Vicinity, and an aerial photograph is provided in Figure 2-2, Site Area.

The proposed project would include a 12-screen theater; a lifestyle component to include retail shops and restaurants (sit-down and fast-food); mid-size retailers between 10,000 to 25,000 square feet and outparcels for fast food; and drive-through and sit-down restaurants, with proposed building sizes ranging from 2,500 to 10,000 square feet. The site plan for the proposed project is shown in Figure 2-3, Site Plan.

The height of the majority of the buildings at the project site would range between 20 and 40 feet with some buildings reaching a height of 50 feet for an architectural feature. On-site illuminated signs of up to 80 feet in height will also be used to publicize the proposed shopping center.

The project applicant is requesting approval of a Conditional Use Permit (CUP No. 2014-02) to allow for the construction and operation of a movie theater, as well as a Subdivision Parcel Map (No. 2014-01) and a Site Plan Review (SPR No. 2014-01) for the project.

2.2 REGIONAL LOCATION

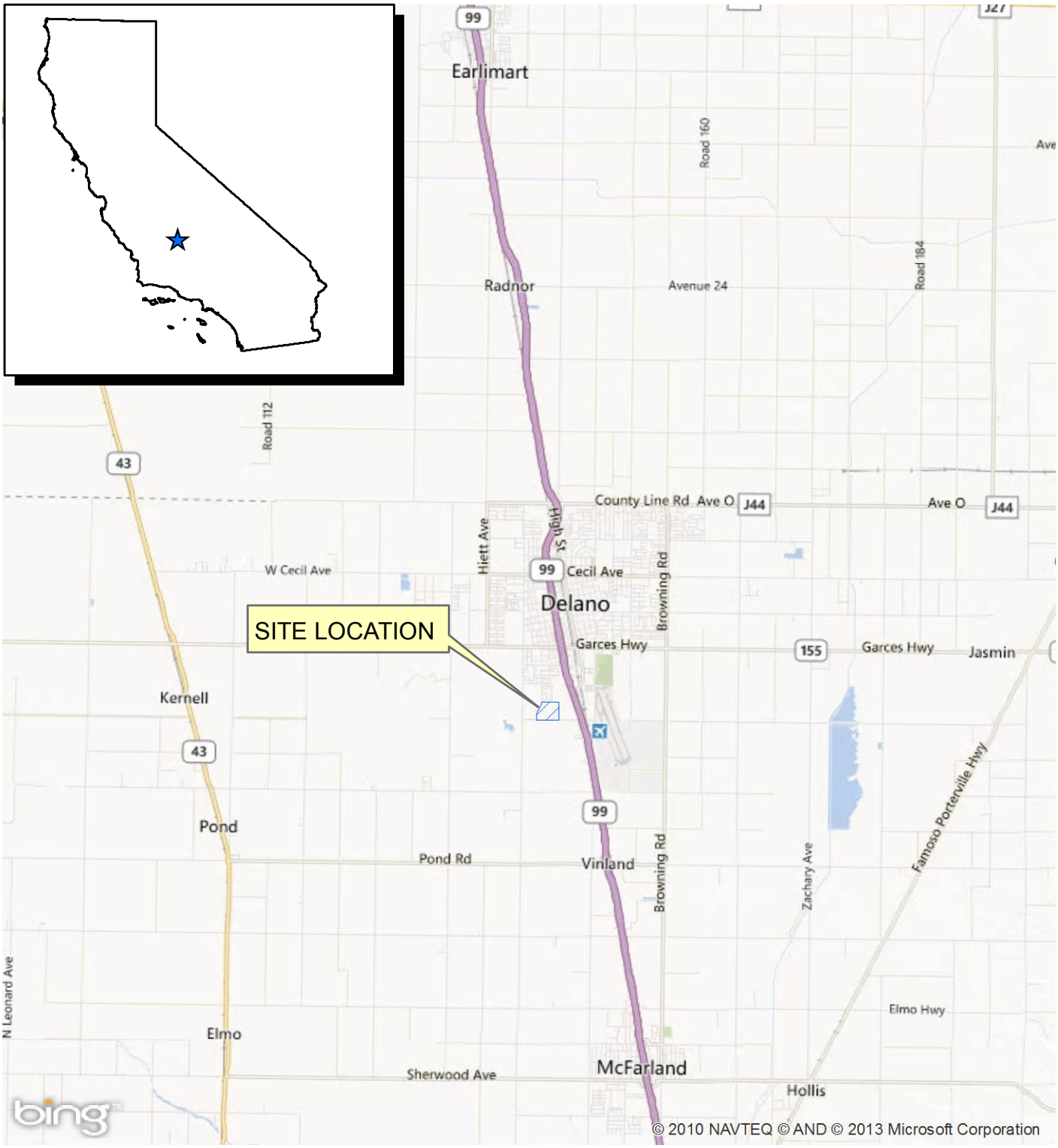
The project site is located in the City, in northern Kern County, California. Delano is located along State Route 99, approximately 30 miles northwest of the City of Bakersfield and approximately 30 miles south of the City of Tulare. Located in the southern portion of California's agriculturally rich San Joaquin Valley, the City is 10 miles from the western foothills of the Sierra Nevada Mountains and approximately 25 miles from the Coast Range to the west. The Delano Municipal Airport is approximately one-half (0.61) mile east of the project site.

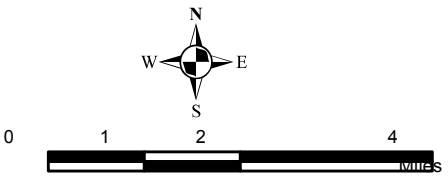
2.3 PROJECT SITE AND IMMEDIATE VICINITY

The project site is approximately 44.64 acres in area and is comprised of one parcel, identified as Assessor's Parcel Number (APN) 521-010-21, located east of Albany Street, west of Dover Parkway, north of Woollomes Avenue, and south of Morse Boulevard. The project site is relatively level with an elevation of approximately 300 feet above mean sea level and slopes gently in the southwest direction. A detailed description of the site conditions, including figures, is provided in Section 3.1, Aesthetics. Existing use at the project site consists of undeveloped agricultural land without any structures. A temporary stormwater detention basin with a volume of approximately 25,300 cubic yards exists on the

site that has been used to accommodate stormwater flow generated during the construction phase of development for the Delano Marketplace project across the street from the project to the southeast.

The project site has a land use designation of “Commercial” on the Land Use Element Map of the City’s General Plan. The site is currently zoned as “Community Retail Commercial” (CRC) and “General Commercial” (GC) per the City of Delano Zoning Map.

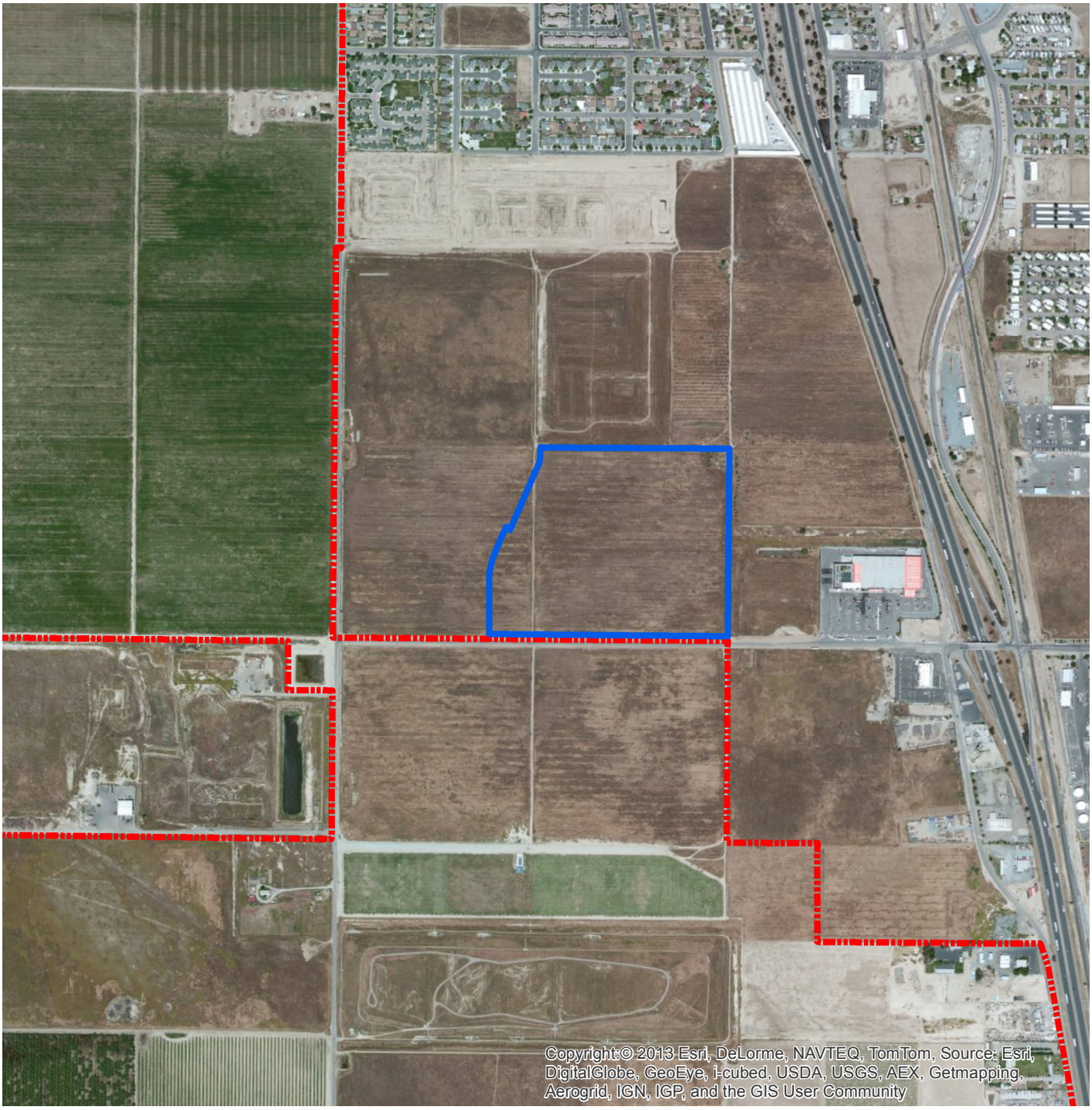




The Grapevine Project
NW Corner of Woollomes and S. Dover
Delano, California

FIGURE 2-1
PROJECT VICINITY
BSK Project E1300901S

Document Path: T:\GIS-Files\Project-Files\E1300901S - Grapevine Delano\Figure 1 Vicinity.mxd



N
W E
S

0 500 1,000 2,000
Feet

Legend

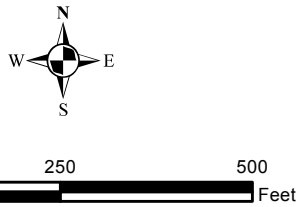
Site Area

Delano City Limits

The Grapevine Project
NW Corner of Woollomes and S. Dover
Delano, California

FIGURE 2-2
SITE AREA
BSK Project E1300901S

Document Path: T:\GIS-Files\Project-Files\E1300901S - Grapevine Delano\Figure 2-2 site area.mxd



Document Path: T:\GIS-Files\Project-Files\E1300901S - Grapevine Delano\Figure 3 site plan.mxd

The Grapevine Project
NW Corner of Woollomes and S. Dover
Delano, California

FIGURE 2-3
SITE PLAN
BSK Project E1300901S

Surrounding Land Uses

The Grapevine Project will be located on Woollomes Avenue, near State Route 99. The project site is located on the southwestern edge of Delano's City limits, where it is clustered with other commercial centers that share public infrastructure. To the north are Tracts 6326 and 6327 consisting of 261 approved, but undeveloped single family residential lots. To the south is fallow agricultural land, outside the existing City limits in unincorporated Kern County that is designated as "Commercial" in the City General Plan (City of Delano, 2011a). Across Woollomes Avenue to the southeast is the Delano Marketplace, a regional shopping center that is currently under construction, located at the southwest corner of the intersection of Woollomes Avenue and State Route 99. The adjacent property to the east includes vacant land and a Home Depot store. These adjacent properties to the east are designated as "Commercial" in the General Plan (City of Delano, 2011a). The area bordering the project site on the west is fallow agricultural land. The land to the west is designated as "Medium Residential" in the General Plan (City of Delano, 2011a). Surrounding land uses are shown in the aerial photograph in Figure 2-2, Site Area.

2.4 PROJECT OBJECTIVES

Consistent with CEQA Guidelines section 15124(b), a clear statement of the project's objectives shall be discussed. The project will serve the following objectives:

- To develop a retail project on the subject property that is consistent with the City's General Plan
- To provide commercial development that can be adequately served by public services and utilities in a feasible manner
- To substantially reduce sales dollar leakage out of the City
- To provide a commercial retail shopping center on a large, undeveloped lot in close proximity to an existing highway, near other commercial services and residential areas, in order to minimize vehicle travel distances and to utilize existing infrastructure to the fullest extent possible
- To provide a retail development that meets the current unmet demand for goods and services from consumers residing in the trade area for the City and from future residential developments
- To provide a commercial retail shopping center that serves both the local and regional market area to attract new customers and retailers into the City
- To provide a commercial development that results in a net fiscal benefit to the City by generating new sales tax revenue from Delano residents, and by increasing property tax revenues
- To provide a commercial development that can capture existing "pass-by" trips on State Route 99, thereby bringing new revenue to the City
- To provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services at neighboring cities
- To provide for a multi-screen movie theater entertainment venue in combination with a shopping experience with the goal of reducing vehicle trips

- To provide a commercial development that creates new jobs for City residents

These project objectives are important to evaluate the feasibility and comparative benefits of the various project alternatives in Section 4.0 of this DEIR.

2.5 PROJECT CHARACTERISTICS

The project applicant submitted to the City an application for an approximately 328,500-square-foot shopping center.

TABLE 2-1
THE GRAPEVINE PROJECT DATA

						Parking (Stalls)	
	Pad	**Lot (SF)**	**Building (SF)**	**Retail (SF)**	**Food (SF)**	**Provided**	**Required**
Outparcel	1	70,304	8,000	0	8,000	101	96
	2	26,270	2,500	0	2,500	31	25
	3	31,360	2,500	0	2,500	30	25
	4	43,773	6,500	3,950	2,550	45	45
	5	52,340	6,500	3,950	2,550	47	45
	6	46,785	5,500	5,500	0	36	28
	7	57,153	8,000	0	8,000	76	96
	8	26,306	2,500	0	2,500	31	25
	9	25,048	2,500	0	2,500	30	25
	Shops C	60,338	11,000	7,563	3,437	70	72
	Subtotal	**439,677**	**55,500**	**20,963**	**34,537**	**497**	**482**
Lifestyle	Shops D	396,564	14,000	10,760	3,240	502	86
	Shops E		14,000	10,760	3,240		86
	Shops F		17,000	10,160	6,840		133
	Shops G		17,000	10,160	6,840		133
	Subtotal	**396,564**	**62,000**	**41,840**	**20,160**	**502**	**438**
Anchor 1		324,673	42,000	42,000	0	695	735
	Subtotal	**325,968**	**42,000**	**42,000**	**0**	**695**	**735**
Anchor 2		453,715	41,000	41,000	0	561	205
Major	1		30,000	30,000	0		150
	2		10,000	10,000	0		50
	3		18,000	18,000	0		90
	4		15,000	15,000	0		75
	Shops A		12,000	12,000	0		60
	5	100,074	23,000	23,000	0	132	115
	6	97,192	10,000	10,000	0	125	50
	Shops B		10,000	10,000	0		50
	Subtotal	**649,686**	**169,000**	**169,000**	**0**	**818**	**845**
Total		**1,811,895**	**328,500**	**273,803**	**54,697**	**2,512**	**2,500**
		(41.6 AC)					

Operations

Employees: The proposed project would provide approximately 617 full-time-equivalent jobs.

Hours of Operation: Normal operation would be 6:00 a.m. to 10:00 p.m., Mondays through Saturdays, and approximately 7:00 a.m. to 8:00 p.m. on Sundays. A select few users would operate 24 hours a day. A majority of the retail stores and restaurants would not open earlier than 6:00 a.m. and would close no later than 11:00 p.m. The largest user, the movie theater complex, will primarily operate during non-peak hours, thereby reducing impacts to circulation facilities and public utilities during peak user periods.

Deliveries: Deliveries to the retail stores and restaurants are anticipated to occur during normal store operation hours.

Security: The project applicant would maintain on-site security personnel during all hours of operation in order to respond to support law enforcement. The use of on-site security personnel would prevent crime and respond to incidents, such as lost vehicles and minor crimes.

Landscaping

The proposed project would include a variety of trees and groundcover. Screening trees and shrubs would be located along all exterior site boundaries and shade trees are included in the parking areas. As shown in the Figure 2-4, 3-D Site Figure, the main entrance to the project site along Woollomes Avenue would include a monument sign with palm tree groupings and perennials; other entrances would also include perennial plantings. Garbage enclosures would be screened by shrubs and vines.

Grapevine Shopping Center
NW Corner of Woollomes and S. Dover
Delano, California

FIGURE 2-4
3-D Site Figure
BSK Project E1300901S

Document Path: T:\GIS-Files\Project-Files\Geotech\G1311311F Dry Creek Elem\Figure2-4 3-D View.mxd

2.5.1 INFRASTRUCTURE COMPONENTS AND OFF-SITE IMPROVEMENTS

Site Access and On-Site Circulation

The proposed project will be served via four streets: Woollomes Avenue to the south, Dover Parkway to the east, Morse Boulevard to the north, and Albany Street to the west. Various levels of street improvements will be made to facilitate traffic circulation for this development: several short street sections would be constructed along the project perimeter on Morse Boulevard, Belmont Street, and Dover Parkway. The purpose of the road construction would be to provide ingress and egress from the project site. Dover Parkway is not yet paved and would be an extension of an existing road to the north, Dover Place. Morse Boulevard is not yet paved, but other portions of this street were dedicated to the City in 2009 as described in a tract map for a nearby housing project (Kern County, 2006; pgs. 1 and 3). Belmont Street, on the eastern boundary of the site, would be built as part of the project.

Parking: The proposed project includes approximately 2,512 parking spaces, which is consistent with City parking standards. Section 3.13, Transportation/Traffic, discusses the configuration analysis in more detail.

Utilities

The proposed project will connect to the existing sanitary sewer and domestic water mains in the vicinity of the project site.

Water: The City of Delano Public Works Department would install 12-inch water mains to provide water service by connecting to an existing 12-inch water main on Albany Street; additional water service infrastructure improvements will be constructed on-site. All water line installations shall be constructed in accordance with the City of Delano Subdivision Standards and to the satisfaction of the City Engineer.

Wastewater: Sanitary sewer service to the project site is to be provided through installation of a 12-inch sewer main on Dover Parkway that would connect to an existing 18-inch sewer line running along Woollomes Avenue. Wastewater improvements shall be constructed in accordance with City of Delano Subdivision Standards and to the satisfaction of the City Engineer.

Stormwater: Storm drainage from the proposed project will be directed to a new extension of an existing 60-inch line, which empties into an existing unlined stormwater detention basin with a capacity of approximately 100 acre-feet owned by the City, located at the southwest corner of the intersection of South Albany and Woollomes Avenue. This City stormwater basin will be expanded to accommodate stormwater storage generated by the project.

According to calculations performed by Cornerstone, the proposed project would be required to expand the City's existing stormwater basin to provide 7.7 acre-feet of additional basin capacity in order to accommodate stormwater flows generated by the proposed project (Cornerstone Engineering, 2013; (Appendix 3.8, Table 1)).

Site Preparation and Demolition

There are no structures or trees of significant size on the project site. Existing vegetation would be removed prior to grading. The temporary stormwater detention basin on the site will be filled, which will require approximately 30,000 cubic yards of fill soil (the additional soil is required for compaction).

Project Phasing

Construction of the parking lot, infrastructure, and the two large anchor stores would be completed within six to eight months of commencement of construction. Each of the remaining retail and restaurant pads would be rough graded and construction would occur based on market demand.

2.5.2 INITIATIVE TO PROMOTE LOCAL EMPLOYMENT

As noted in the list of Project Objectives, one objective of the project is to provide a commercial development that creates new jobs for City residents. To further that objective and to help encourage that jobs created by the project are filled by local residents, the City and the project applicant will host multiple career days during the project construction period to match applicants to specific job opportunities. These may be extended beyond the project construction period. Prior to the events, the City, project applicant, and commercial tenants of the project will coordinate to develop and conduct a leadership and worker skills building training program to foster awareness of basic employment skills to ensure successful recruitment and retention of the local labor force.

2.6 REQUESTED ACTIONS AND REQUIRED APPROVALS

This DEIR provides the environmental information and analysis and primary CEQA documentation necessary for the City to adequately consider the effects of the requested development proposal. The City, as lead agency, has approval authority and responsibility for considering the environmental effects of the proposed project.

As mandated by CEQA Guidelines section 15124(d), this section contains a list of the approvals for which the EIR will be used and a list of agencies that are expected to use the EIR in their decision-making to grant permits and approvals. These lists include information that is presently known to the lead agency.

2.6.1 LOCAL AGENCIES

The City, as Lead Agency under CEQA, has approval authority and responsibility for considering the environmental effects of the proposed project. Actions that may be taken to complete environmental review and approve the project include, but are not limited to, the following:

- Certification of this EIR, adoption of Findings of Fact and, if necessary, a Statement of Overriding Considerations
- Adoption of a Mitigation Monitoring and Reporting Program (MMRP)
- Approval of Conditional Use Permit(s) CUP NO. 2014-02
- Subdivision Parcel Map No. 2014-01

- Subdivision Agreement
- Site Plan Review SPR No. 2014-01
- Tentative Parcel Map
- Master Site Plan
- Architectural and Site Approval
- Master Sign Program
- Consistency Assessment
- Encroachment Permit for all work in the City/County rights-of-way
- Airport Compatibility Review
- Grading and Building Permits
- Development Impact Fees
- Any additional variances
- Any related subsequent actions to implement the project

2.6.2 REGIONAL AGENCIES

Central Valley Regional Water Quality Control Board (Responsible Agency)

- NPDES general construction stormwater permit (requires applicant to develop and implement a Stormwater Pollution Prevention Plan (SWPPP))

San Joaquin Valley Air Pollution Control District (Responsible Agency)

- Compliance with Air Impact Assessment/Indirect Source Review (Rule 9510)

2.6.3 STATE AGENCIES

California Department of Transportation (Responsible Agency)

- Encroachment Permit for all work in a state road right-of-way

2.7 REFERENCES

Cornerstone Engineering, 2013. Hydrology Study for Delano Grapevine Site, July 12, 2013, revised October 30, 2013. See Appendix 3.8, Table 1.

City of Delano, 2013. Notice of Preparation of a Draft Environmental Impact Report, March 27, 2013.

City of Delano, 2011a. City of Delano Official General Plan Map, August 2011; (http://www.cityofdelano.org/DocumentCenter/View/1084) web accessed November 12, 2013.

City of Delano, 2011b. City of Delano Official Zoning Map, August 2011; (http://www.cityofdelano.org/DocumentCenter/View/1083) web accessed November 7, 2013.

City of Delano, 2007. Zoning Ordinance, adopted July 7, 2007.

City of Delano, 2005. General Plan Update, adopted December 5, 2005; (http://www.cityofdelano.org/DocumentCenter/View/99) web accessed March 18, 2014.

Governor's Office of Planning and Research, State of California. Guidelines for Implementation of the California Environmental Quality Act, as amended. 2013.

Kern County, 2006. Tract Map 6327, Phase A, recorded February 14, 2006; (available at http://esps.kerndsa.com/maps/tract-maps) web accessed Nov. 1, 2013.

3.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

3.1 AESTHETICS

This section of the DEIR describes the existing aesthetic and visual setting of the project site and its environs as well as the potential aesthetic and visual impacts that the proposed project could generate at the site and the surrounding area.

The primary visual and aesthetic concerns associated with the proposed project are the general changes in the visual character of the area from fallow agricultural land to a regional shopping center. Views from Woollomes Avenue and other roads in the vicinity are addressed in this analysis. Visual impacts were evaluated using a combination of site reconnaissance, photo documentation, aerial photographs, site plan, elevations, schematic building designs, and review of existing policies in the City of Delano General Plan (City of Delano, 2005).

3.1.1 EXISTING SETTING

Local Setting

The City of Delano (City) is a low-to-medium density residential community with a grid street network, surrounded by agricultural fields and bisected by State Route 99 (SR 99). Heavy industrial and heavy to light industrial and commercial uses line the highway through the City. The central downtown district of the City lies to the east of SR 99, while newer commercial development is concentrated west of the highway. A number of elementary schools and the Delano Campus of Bakersfield Community College are located within the city limits, as are public facilities related to fire and police protection. The communities of Earlimart, Wasco, and McFarland are located within 15 miles of Delano. Delano is a regional commercial and service destination. Due to the surrounding productive farmland and gentle topography, agriculture is a significant economic activity in the Delano region, and the area can be characterized as an agricultural-based community.

Visual Character of the Project Site and Immediate Vicinity

The approximately 44.64-acre project site is located in the southern part of the City, near the Woollomes Avenue interchange with SR 99. It lies immediately north of Woollomes Avenue, west of SR 99, and east of Albany Street (Stradley Avenue). The future alignment of Morse Avenue is north of the site. The project site is relatively level and slopes gently downward to the southwest, towards Woollomes Avenue. Historically used for agricultural uses, the site currently is predominately covered by ruderal vegetation growth, and a relict foundation of an old farmhouse remains in the northeast corner of the site.

Residential uses interspersed with light industrial (storage units), public facilities (schools and cemeteries), and vacant land are located to the north of the project site. Building pads for future residential development have been constructed immediately to the north of the site. Actively farmed and fallow agricultural lands surround the site to the west, south, and east. A home improvement store is located approximately 600 feet to the east of the site, with additional commercial development under construction immediately to the southeast of the site. The Delano Municipal Airport, a General Aviation airport primarily serving small, personal use aircraft and helicopters, is located approximately one-half (0.61) mile east of the project site.

The project site has a land use designation of Commercial on the Land Use Element Map of the City General Plan and is zoned as Community Retail Commercial (CRC) and General Commercial (GC) on the City of Delano Zoning Map.

Views from the site reflect Delano's role as a hub of agriculture and local industry with developing commercial resources. The approach to the project site from SR 99 is a heavy industrial, high-density corridor to the east of the highway, including a tank farm. The western side of the highway features medium-intensity commercial uses, including agricultural chemical facilities, storage, and new retail development.

There are no structures on the project site. Photographs of the project site are provided in Figure 3.1-1 Site Photographs. Generic views of the existing site are described below.

Northern site view: The large flat vacant parcel directly north of the site dominates this view, with residences and businesses appearing in the further distance.

Southern site view: Woollomes Avenue lies directly to the south. The horizon is less visible from this direction due to the Walmart Shopping Center and closed municipal landfill directly across Woollomes. The landfill appears as a grassy hillock and is located approximately 0.27 mile south of the project site.

Eastern site view: The neighboring Home Depot and SR 99 dominate this view. Hazy atmospheric conditions typically obscure the Sierra Nevada mountain range on the horizon, as was noted during site reconnaissance. On rare days, the foothills are visible. The Delano Municipal Airport is not visible, nor was air traffic heard or seen during reconnaissance visits.

Western site view: This angle allows the most distant views, with level farm fields extending far into the distance and the Voice of America radio towers plainly visible.

Plate 1: Taken from southern end of site, looking east.

Plate 2: Taken from eastern end of site, looking northeast.

	FIGURE 3.1-1 SITE PHOTOGRAPHS **GRAPEVINE SHOPPING CENTER** DELANO, CALIFORNIA	FIGURE 1 of 3
		PROJECT: E1300901S

Plate 3: Taken from northern end of site, looking southwest.

Plate 4: Example of mounds present at site.

	FIGURE 3.1-1 SITE PHOTOGRAPHS **GRAPEVINE SHOPPING CENTER** DELANO, CALIFORNIA	FIGURE 2 of 3
		PROJECT: E1300901S

Plate 5: Debris pile at northwest corner of site.

Plate 6: Area of former residence at northeast corner of site, looking southwest.

	FIGURE 3.1-1 SITE PHOTOGRAPHS **GRAPEVINE SHOPPING CENTER** DELANO, CALIFORNIA	FIGURE 3 of 3
		PROJECT: E1300901S

The project site is most visible along Woollomes Avenue and the home improvement store to the east, though due to the flat nature of the area, the project site is also somewhat visible from the residential uses along Diaz Street. Views from SR 99 are limited to motorists and obstructed by the existing development at the Woollomes Avenue/SR 99 interchange. Views of SR 99 are limited by commercial uses located between the highway and Dover Parkway.

Scenic Vistas

A scenic vista is a view of significant regional features possessing visual and aesthetic qualities of value to the community. Important visual features may include beaches, waterways, fields, or mountains that comprise an overall visual essence of a region. The term "vista" generally implies a clear, expansive view, usually from an elevated point or open area. The City of Delano General Plan does not identify any specific scenic vistas within the city limits.

The project site does not possess any unique visual qualities or characteristics.

Light and Glare

Generally, concerns over light and glare relate to the aesthetics of an area when a new light source is introduced in a relatively undeveloped or rural area. In other instances, new light sources can become a nuisance to adjacent land uses and possibly cause a hazardous condition for traffic. Since the project site is currently vacant, there are no existing sources of light and glare at the site itself. Nearby sources of light and glare are possible from the surrounding residential and commercial development to the north, east and southeast of the site and from the headlights of passing vehicles on SR 99, Albany Avenue, and Woollomes Avenue.

3.1.2 REGULATORY SETTING

State Regulations

California Scenic Highway Program

The State Legislature created the California Scenic Highway Program in 1963. Its purpose is to preserve and protect scenic highway corridors from changes which would diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. Cities and counties can nominate eligible scenic highways for official designation by identifying and defining the scenic corridor of the highway. The municipality must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. There are no designated scenic highways or eligible highways in the City or surrounding area. (California Department of Transportation, 2013).

Local Regulations

City of Delano General Plan

Aesthetics and design issues are addressed in the Community Design Element of the City of Delano General Plan (City of Delano, 2005; pgs. 6-1 to 6-5). The Community Design Element states that its purpose "is to guide Delano as it seeks to maintain its desirable rural characteristics while gaining those benefits found in urbanized communities." Section 6.5, Gateways/Streetscape Design and Section 6.7, Commercial and Industrial Development, contain objectives and policies regarding aesthetic impacts that are relevant to the proposed project. Although there are no designated scenic corridors identified in Delano, Woollomes Avenue has been designated by the City as a "gateway street" in the Circulation Element of the General Plan (City of Delano 2005; pgs. 3-6). The City General Plan objectives, policies, and standards for commercial development within "gateways," and other design considerations, are presented below:

Objective: Improve the appearance of City streets and reduce visual clutter along the City's main thoroughfares/corridors.

Policy 1 Promote a city-wide street tree planting program which enhances the appearance of the street and is scaled in relationship to the function of the roadway. Tree wells shall be located and designed to ensure adequate sight distance for traffic and pedestrian safety.

Policy 2 The undergrounding of utilities along the City's main corridors is a priority. In developing areas, new development projects shall place all new utility lines underground. The City will also explore a range of options for undergrounding utilities in existing developed areas.

Policy 3 Preserve and protect views of the Sierras/foothills from the City's major roadways. Local streets should also be oriented to maximize such views.

Policy 4 Ensure all signs are compatible with the overall streetscape design including the redesign/removal of signs, which are disruptive elements.

Policy 6 Establish coordinated, distinctive, and high quality signage, accent plantings and paving materials for entries into the City. Locations for these treatments include Fremont, High Street, Ellington, Garces, Cecil, Browning County Line Road, Albany Street, and Glenwood. As primary entrances to the City, these streets should reflect higher standards of development. Standards should contain provisions for minimum building setbacks, landscaping, sidewalk pattern, and street furniture, with distinctions made between upgrade of existing uses and new development. Proper orientation, design, and architectural features shall be regulated through zoning and the site plan review process.

(City of Delano 2005; Section 6.5 - Gateways/Streetscape Design, pg. 6-3).

Objective: Ensure that all commercial development is attractive and of high-quality design, to enhance the image of the City.

Policy 1 Establish site plan review procedures for all commercial and industrial development, including provisions for building setbacks, lot coverage, parking, access and circulation, outdoor lighting, signage, and landscaping.

Policy 5 Buildings on a site should be linked visually through architectural style, colors and materials, signage, landscaping, design details such as lighting fixtures, and the use of arcades, trellises or other open structures.

Policy 6 The height and scale of new development should be compatible with that of surrounding buildings where an established pattern or character is apparent. New development should provide a transition from the height of adjacent structures to the maximum height of new development.

Policy 7 Tall dominating structures should be broken up by creating horizontal emphasis through the use of trim, awnings, eaves or other ornamentation, and by using a combination of complementary colors.

Policy 8 All roof equipment shall be screened from line of sight from the ground level. Screening should be an integral part of the roof design and not appear as a "tacked on" afterthought. For flat roofs, a screen enclosure behind the parapet wall may be used if it is made to appear as an integral part of the structure's design. Ground or interior-mounted mechanical equipment (with appropriate screening) is encouraged as an alternative to roof-mounting.

Policy 9 Structures in pedestrian-oriented areas should provide continuous storefronts at the ground level front elevation.

Policy 10 Entries should be protected from the elements and should create a focus or sense of entry for the building. Wall recesses, roof overhangs, canopies, arches, signs, and other similar architectural features should be integral elements of building design calling attention to the importance of the entry.

Policy 12 Buildings shall be designed with a precise concept for adequate signage. Signs shall be integrated into the design of buildings and should complement the architecture. All signage shall be compatible with the building and site design relative to colors, materials and placement, and shall respect established architectural and/or historical character.

Policy 13 Monument-type signs are preferred over tall pole signs for business identification, wherever possible. Where several tenants occupy the same site, individual wall mounted signs are appropriate in combination with a monument sign identifying the development. Custom signs, which are unique and creative, are encouraged, provided that the style of the sign complements the style and design of the building. Historic signs that are in themselves architectural features shall be retained.

Policy 14 The planting of street trees is encouraged for all existing and new commercial and industrial development.

Policy 15 Buildings, landscaping, parking and other development features should be arranged in a manner that is compatible with the size, scale, and appearance of nearby development.

Policy 16 Landscaped areas should be clustered on a site to maximize their effect on the public view.

Policy 17 Landscaping should be used to define areas such as entrances to buildings and parking lots, define edges of various land uses, provide transition between neighboring properties (buffering), and provide screening for outdoor storage, loading and equipment areas.

Policy 18 Landscaping should be in scale with adjacent buildings and be of appropriate size at maturity to accomplish its intended purpose.

Policy 19 Areas of a site that are not utilized for parking, circulation, storage or other uses, shall be landscaped.

Policy 20 Parking should be screened and is to be visually subordinate to the buildings on a site. Parking lots shall not overwhelm views of a site and shall incorporate landscaping for all areas not used for vehicle storage, access or circulation.

Policy 21 Site planning should emphasize a strong relationship to the adjoining street(s) and encourage pedestrian circulation and access. Pedestrian access shall be separate from vehicular access, where feasible.

Policy 22 Site plans shall provide safe and well-defined pedestrian connections from buildings to parking areas, from buildings to the adjoining street(s), and among buildings on the same site. Pedestrian connections between commercial development and surrounding residential neighborhoods should also be provided.

Policy 23 Buildings, sidewalks, and parking lots should be located to minimize conflicts between pedestrian and vehicular circulation on a site.

Policy 24 Loading and trash facilities shall be located where they may be adequately screened from view (generally at the rear of the structures, away from the street).

Policy 25 Long expanses of fence should be offset and architecturally designed to prevent monotony. Landscaped pockets and limited openings should be provided along said walls.

(City of Delano 2005; Section 6.7 - Commercial and Industrial Development, pg. 6-5).

City of Delano Zoning Ordinance

The City of Delano Zoning Ordinance focuses on implementing the City's General Plan by guiding and regulating development (City of Delano, 2007). The following standards and requirements in the Zoning Ordinance describe standard conditions of design review for non-residential construction.

Section 20.2.80 – Design Review

5) Design Criteria (Non-Residential)

a. The design and layout of a proposed development shall be consistent with the General Plan, the provisions of this Title, City Design Guidelines, and any adopted architectural criteria for specialized areas such as designated historic districts, theme areas, specific plans, or planned developments.

b. New, renovated, or remodeled development shall demonstrate that the following general design criteria have been integrated into the design and layout of the proposed development.

(1) Establish an architectural and siting design theme that is compatible with surrounding existing and planned development that includes the following elements.

(a) A relationship to prominent design features existing in the immediate area (i.e., trees, land form, key elements of adjacent development, etc.);

(b) A relationship to existing structures and neighborhood character. This includes prohibiting any device being or resembling security bars, gates, or other similar security devices from being placed over or on windows or doors on the exterior of any building, or the interior of any building if visible from a public street or public right-of-way; excepting doors and windows on the ground level portion of the rear of a building facing an alley;

(c) A relationship to the natural environment (i.e., washes, native vegetation, and community landscaping);

(2) Design the development to create pleasing transitions to surrounding development by incorporating the following elements.

(a) The bulk of new structure(s) relates to the prevailing or planned scale of adjacent development;

(b) Setbacks from streets and adjacent properties relate to the scale of the structure and the function of the street and encourage pedestrian scale and uses; and

(c) Tall structures are made less imposing by physically stepping them back from the street;

(3) Respect the identified views and view corridors of existing developments to the greatest extent possible. Where applicable, view corridors oriented toward existing or proposed community amenities, such as parks, open space, or natural features, are to be enhanced.

(4) Create subtle variations in architectural and landscape components that provide visual interest, but do not create abrupt changes or cause discord in the overall character of the neighborhood.

(5) Provide appropriate transitions between different projects by providing buffer areas, landscaping, and other similar treatments (e.g., hedges, walls, fences, berms, or landscaped open space).

(6) Provide a harmonious appearance of the development with the surrounding environment and existing developments based on the compatibility of individual structures rather than one specific style of architecture.

(7) Avoid uninterrupted fences and walls, unless they are needed for specific screening, safety, or sound attenuation purpose. Where needed, fences or walls shall be required to:

(a) Relate to both the site being developed and surrounding developments, open spaces, streets, and pedestrian ways;

(b) Respect existing view corridors to the greatest extent possible; and

(c) Incorporate landscape elements or changes in materials, color, or texture in order to discourage graffiti, and prevent undue glare, heat, reflection, or aesthetic inconsistencies;

(8) Incorporate the following lighting concerns into development proposals.

(a) Lighting fixtures are to be attractively designed to complement the overall design theme of the project;

(b) Lighting shall create a festive atmosphere within commercial areas by outlining buildings, trees, or other architectural features to encourage nighttime use of those areas by pedestrians; and

(c) On-site lighting shall create a safe environment, adhering to established crime prevention standards, but shall not result in nuisance levels of light or glare on adjacent properties.

(9) Architectural plans for development shall be required to incorporate the following building elevation and screening criteria:

(a) All exterior wall elevations of buildings and screen walls shall have architectural treatments that enhance the appearance of the building or wall;

(b) Compatible materials and consistent style shall be evident within a development in all exterior elevations; and

(c) Within multifamily, commercial, office, and mixed use business park developments, trash enclosures, loading areas, mechanical equipment, and outdoor storage areas shall be screened from view from public streets, and from other public views, as appropriate.

(City of Delano, 2007; pgs. 2-19 to 2-21)

Under the City of Delano Zoning Ordinance, the Planning Commission reviews applications for design review "for projects that otherwise require approval by the Planning Commission" (section 20.2.80). The Planning Commission is authorized to approve or deny design review applications and to impose reasonable conditions upon such approval. Conditions may include, but are not limited to, requirements for open space; screening and buffering of adjacent properties; fences and walls; landscaping; installation and maintenance of landscaping and erosion control measures; vehicular

ingress and egress; traffic circulation; signs; grading requirements; establishment of development schedules or time limits for performance or completion of improvements; and such other conditions as the Planning Commission may deem necessary.

3.1.3 IMPACTS AND MITIGATION MEASURES

Methodology

The analysis of potential aesthetic and visual impacts is based upon a field review of the project site and surrounding areas, review of background documents from the City, including the City of Delano General Plan and City of Delano Zoning Ordinance, and photographs of the project site. The aesthetic analysis also utilized the proposed site plan, landscaping plan, conceptual building renderings and elevations provided by the project applicant to assess potential visual impacts of the proposed project.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines Appendix G (OPR, 2013). For the purposes of this DEIR, a significant impact will occur if the project will result in one or more of the following:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources including, but not limited to, trees, rock outcroppings and historic buildings within a scenic highway.
3. Substantially degrade the visual character or quality of the site and its surroundings.
4. Generate a new source of light and/or glare which would adversely affect day or nighttime views in adjacent areas.

Effects Found Not to Be Significant

As discussed in the Notice of Preparation (NOP), it was determined the project will have no impacts in this area: whether the project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. For additional discussion, see Section 6.2, Effects Not Found to Be Significant.

Potential Environmental Impacts

Impact 3.1-1 Implementation of the proposed project could have a substantial adverse effect on a scenic vista.

A scenic vista is generally described as a clear, expansive view of significant regional features possessing visual and aesthetic qualities of value to the community. The City General Plan does not identify any scenic vistas located within the city limits (City of Delano, 2005). Since there are no scenic vistas located either on the project site or surrounding the project site, there is no scenic vista that could be degraded.

Additionally, land uses surrounding the project site are either disturbed vacant land or fallow agricultural land, with the closest existing residential uses located approximately 1900 feet to the north of the site. Significant scenic views to and from the proposed project site are limited due to the lack of topography and significant visual features in the area. The proposed project would be most visible from the commercial development to the east and southeast of the site and from vehicles traveling along Woollomes Avenue, Albany Avenue, and SR 99.

The proposed project will expand the continuing pattern of urban, commercial development found on adjacent properties to the north and east as provided in Delano's General Plan (City of Delano, 2005; pgs. 2-1 and 2-3, Figure 2-1). Compliance with existing General Plan and Zoning Ordinance guidelines will ensure that the proposed project will be attractive and of high-quality design to further enhance the image of the City. Thus, even if a scenic vista existed, the proposed project would not have any negative impact. Therefore, this impact is considered **less than significant** and no mitigation is required.

Impact 3.1-2 The proposed project could substantially degrade the visual character or quality of the site and its surroundings.

The proposed project would alter the existing aesthetic character of the project site from bare land to a regional shopping center. The proposed project would involve the construction of an approximately 328,500-square-foot shopping center including a 12-screen theater; a lifestyle component to include retail shops and restaurants; mid-size retailers between 10,000 to 25,000 square feet and outparcels for fast food; and drive-through and sit-down restaurants, with proposed building sizes ranging from 2,500 to 10,000 square feet; and 2,072 parking spaces. The site plan is shown in Figure 2-3. Landscaping is shown in Figure 2-4, 3-D Site Figure. The height of the majority of the buildings at the project site would fall between 20 and 40 feet with some buildings reaching a height of 50 feet for an architectural feature. Illuminated signs of up to 80 feet in height would also be used to publicize the proposed shopping center.

Temporary structures associated with construction and development such as fences, contractor's trailers, security trailers, portable toilets, dumpsters, and other construction equipment would exist during site preparation and construction. Short-term aesthetic impacts are not expected to be significant.

Although the appearance of the project site will be altered, the change does not constitute a negative aesthetic impact or "sense of loss" of the existing visual character of the site in accordance with CEQA, and will not result in significant inconsistency with the visual character of the surrounding area. The rural character of the site would change, but this character is currently non-cohesive and does not contain any significant features that define the community. The project site has been designated by the City of Delano General Plan (City of Delano, 2005; pg. 2-3, Figure 2-1) for commercial uses. Therefore, development of the proposed project would be consistent with the use planned for the project site by the City. The proposed project would be consistent in continuing the pattern of commercial development established by the Home Depot store located to the east and the Delano Marketplace project across Woollomes Avenue to the south. Additionally, as part of the City's standard project

approval, the proposed project will be subject to various requirements found in the City of Delano Zoning Ordinance regarding site plan and design review. These standards relate to such features as building placement, setbacks, access driveways, screening elements, signage, undergrounding of utilities, landscaping and lighting, and architectural elements. Revisions to the proposed project stipulated by the site and design review process will be incorporated into the final development plan as conditions of approval (COAs).

The proposed project's adherence to the City's standards and development guidelines will ensure that the proposed development will be consistent with the surrounding commercial development. Therefore, the change in visual character would be considered a **less than significant impact**. No mitigation is required.

Impact 3.1-3 The proposed project could generate a new source of light and/or glare which would adversely affect day or nighttime views in adjacent areas.

The proposed project would result in the installation of new sources of daytime glare and nighttime light in the area. Current daytime glare and nighttime light sources include the existing Home Depot store to the east and the Delano Marketplace shopping center across Woollomes Avenue to the south. These sources generate light and glare from objects including reflective surfaces from windows and car windshields, signage, street and parking lot lighting, storefront lights, security lighting, and light generated by vehicles accessing the site. Also, the proposed project has the potential to increase vehicular traffic and nighttime use of auto headlights along SR 99 and local roadways as visitors access the site, particularly the movie theater. These light sources would result in a greater overall level of light at night, thus potentially reducing night sky visibility. The nearest existing sensitive receptors include residential dwelling units that are located approximately 1900 feet to the north of the project site.

Mitigation Measure **MM 3.10-1** (see Section 3.10, Noise) would limit construction activities to the daytime hours of 7 a.m. to 10 p.m. This will effectively eliminate nighttime light and glare impacts during construction. No additional mitigation is necessary.

With respect to light impacts during operation of the proposed project, section 20.12.80 of the City of Delano Zoning Ordinance requires exterior lighting to project downward and not create illumination that exceeds one-half foot candles on any adjacent property, whether or not the illumination is from a direct or indirect light source. The project will comply with this ordinance, thereby mitigating lighting impacts. Additionally, the development standards and requirements during the site plan and design review process that will be required of the proposed project will alleviate the impacts from reflective surfaces and the introduction of light sources in the area. The site plan and design review process described above, as well as compliance with the City's ordinance, will ensure that the project's potential lighting impacts will be **less than significant**.

3.1.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

The proposed project, combined with other similar projects in the area, may result in a cumulative aesthetic impact to the existing visual character of the project area.

However, the proposed project would extend the existing development of commercial land uses in the area. While this alters the area's visual character, this change would not constitute any degradation of visual quality – particularly where the City's General Plan and Zoning Ordinance contain specific development standards to ensure that new commercial development is attractive and of high-quality design (City of Delano, 2005; pg. 6-5). Mitigation Measure **MM 3.10-1** (see Section 3.10, Noise) has also been proposed that will reduce the proposed project's incremental contribution to nighttime lighting impacts to less than significant levels. Therefore, compliance with the City's existing design review process and proposed Mitigation Measure **MM 3.10-1** will ensure that the proposed project will not have a cumulatively considerable aesthetic impact in combination with other closely related past, present, and reasonably foreseeable probable future projects in the area. With implementation of Mitigation Measure **MM 3.10-1**, the cumulative visual impact is considered to be **less than significant**

3.1.5 REFERENCES

California Department of Transportation, 2013. California Scenic Highway Mapping System; (www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm) web accessed June 2013.

California Polytechnic State University, San Luis Obispo, Community Planning Laboratory, 2009. Delano Strategic Plan, May 21, 2009; (http://planning.calpoly.edu/projects/documents/delano-09/delano_strategic_plan_draft_05.21.09.pdf) web accessed June 2013.

City of Delano, 2013. Notice of Preparation of a Draft Environmental Impact Report, March 27, 2013.

City of Delano. 2007. Zoning Ordinance, adopted July 7, 2007.

City of Delano, 2005. General Plan Update, adopted December 5, 2005; (http://www.cityofdelano.org/DocumentCenter/View/99) web accessed March 18, 2014.

OPR, 2013. Governor's Office of Planning and Research, State of California, 2013. Guidelines for Implementation of the California Environmental Quality Act , as amended.

3.2 AGRICULTURAL RESOURCES

This section of the DEIR describes the agricultural resources of the project site and discusses potential impacts focusing on the conversion of farmland, issues relating to the Williamson Act, and other changes that could result in conversion of adjacent farmland. This examination is based on a number of sources including the City of Delano General Plan (City of Delano, 2005), the Kern County Important Farmland Map (California Department of Conservation, 2010) and the Soil Survey of Kern County, Northwestern Part (USDA NCRS, 1988).

3.2.1 EXISTING SETTING

Regional Setting

The City of Delano (City) is located in the southern portion of California's agriculturally rich San Joaquin Valley, ten miles from the western foothills of the Sierra Nevada Mountains to the east, and approximately twenty-five miles from the Coast Ranges to the west. With productive soils and gentle topography, agriculture is a significant economic activity in the Delano region (City of Delano, 2005; pg. 4-2). The City states in its General Plan that "Delano has approximately 5,000 acres of prime agricultural soil" (City of Delano, 2005; pg. 2-2). The fertile soils of the area produce orchard and field harvests of grapes, plums, almonds, and alfalfa, among other crops (City of Delano, 2005; pg. 4-12).

Project Site Characteristics

The approximately 44.64-acre project site is comprised primarily of undeveloped, former agricultural land. Available aerial photographs indicate that farming took place on the property from 1946 to approximately 1994 (EDR, 2013). The site is defined as "developed land" in the 2005 General Plan map, Vacant and Agricultural Land (City of Delano, 2005; pg. 2-4, Fig. 2-2). At the time of the site reconnaissance conducted by BSK on March 4, 2013, the parcel was undeveloped land with no structures or cultivated crops.

The project site is designated as Commercial in the City General Plan (City of Delano, 2005; pgs. 2 to 10). The majority of the project site is zoned CRC (Community Retail Commercial) with a small western portion zoned as GC (General Commercial) (City of Delano, 2005; pgs. 2 to 3). According to the City of Delano Zoning Ordinance, agricultural uses are permitted subject to approval of a Conditional Use Permit application in the General Commercial zone district (City of Delano, 2008; section 20.5.30, Table 5.A).

The project site is relatively level with an elevation of approximately 300 feet above mean sea level and slopes gently to the southwest. According to the Soil Survey for Kern County, Western Part (USDA NCRS 1988; pg. 87-88, 124-125, and 543), the project site is comprised primarily of Kimberlina fine sandy loam with 0 to 2 percent slopes, and Wasco sandy loam on the northeastern and southeastern corners of the site. Kimberlina fine sandy loam is a deep, well-drained soil found on alluvial fans and plains, formed in alluvium derived dominantly from granitic and sedimentary rock. Permeability of Kimberlina soil is moderate. Available water capacity is high, runoff is slow and the hazard of water erosion is slight.

Wasco sandy loam is a deep, well-drained soil found on recent alluvial fans and flood plains, formed in alluvium derived dominantly from granitic rock. Permeability of Wasco sandy loam soil is moderately rapid. Available water capacity is moderate, runoff is slow and the hazard of water erosion is slight.

Surrounding Land Uses

The Grapevine Project will be located on Woollomes Avenue, near State Route 99 (SR 99). The project site is located on the southwestern edge of Delano's City limits. It is clustered with other commercial centers that share public infrastructure. To the north are Tracts 6326 and 6327 consisting of 261 approved, but undeveloped single family residential lots. To the south is fallow agricultural land, outside the existing City limits in unincorporated Kern County that is designated as Commercial in the City General Plan (City of Delano, 2011a). Across Woollomes Avenue to the southeast is the Delano Marketplace, a regional shopping center that is currently under construction, located at the southwest corner of the intersection of Woollomes Avenue and SR 99. The adjacent property to the east includes vacant land and a Home Depot store. These adjacent properties to the east are designated as Commercial in the General Plan (City of Delano, 2011a). The area bordering the project site on the west is fallow agricultural land. The land to the west is designated as Medium Residential in the General Plan (City of Delano, 2011a).

Farmland Classifications

Land Capability Classification

The Land Capability Classification (LCC) system is used by the US Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), to determine a soil's agricultural productivity. The LCC indicates the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). The "prime" soil classification indicates the absence of soil limitations, which if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production. Specific subclasses are also utilized to further characterize soils. A general description of soil classification, as defined by the NRCS, is provided below in Table 3.2-1, Natural Resources Conservation Service (NRCS) Land Capability Classification.

The NCRS identifies soils at the project site as being in Class VII for nonirrigated agriculture and Class I and II for irrigated agriculture (USDA NCRS, 2013a; pg. 1; and USDA NCRS 2013b; pg. 1). Simply put, these classifications indicate the soils at the site are unsuited for cultivation if not irrigated, but have few to moderate limitations if irrigated.

TABLE 3.2-1 NATURAL RESOURCES CONSERVATION SERVICE (NRCS) LAND CAPABILITY CLASSIFICATION	
Class	**Definition**
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants, or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove soils that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat, or water supply, or to aesthetic purposes.

Source: USDA, Natural Resources Conservation Service

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 by the State Department of Conservation (DOC) to continue the Important Farmland mapping efforts begun in 1975 by the NRCS. The intent of the NRCS was to produce agricultural resource maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the NRCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland Maps are derived from the NRCS soil survey maps using the LIM criteria.

Since 1980, the State of California has assisted the NRCS with completing its mapping in the state. The FMMP was created in the DOC to continue the mapping activity with a greater level of detail. The DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California utilize the NRCS and Storie Index Rating systems, but also consider physical conditions such as a dependable water supply for agricultural production, soil temperature range, the depth of the ground water table, flooding potential, rock fragment content, and rooting depth.

Important Farmland Maps for California are compiled using the modified LIM criteria, as described above, and current land use information. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The Kern County Important Farmland 2010 map lists six agriculture-related categories (Table 3.2-2; and DOC, 2010). The proposed project site is classified as "Grazing Land" which is defined as "land on which the existing vegetation is suited for the grazing of livestock" (DOC, 2010).

TABLE 3.2-2 AGRICULTURAL LANDS IN KERN COUNTY LISTED IN THE CALIFORNIA DEPARTMENT OF CONSERVATION FARMLAND MAPPING AND MONITORING PROGRAM (2006-2010)			
Classification	**Acreage**		
	2006	**2008**	**2010**
Prime Farmland	640,039	626,217	608,789
Farmland of Statewide Importance	214,847	216,348	213,465
Unique Farmland	107,295	96,656	91,830
Grazing Land	1,792,928	1,807,069	1,827,391
Confined Animal Agriculture	7,434	7,550	7,549
Semi-Agricultural and Rural Commercial Land	10,331	11,634	11,629

3.2.2 REGULATORY SETTING

State Regulations

Williamson Act

The California Land Conservation Act, otherwise known as the Williamson Act, was enacted by the state legislature in 1965 as a means of preserving California's prime agricultural lands from urbanization. “Prime Farmland” under the Williamson Act includes land that qualifies as Class I and II under the NRCS classification of land. The Williamson Act involves voluntary contracts between landowners and a city or county in which landowners agree to retain their lands in agriculture or other open space uses for a minimum of ten years. In return for entering into this contract, the landowners receive property tax relief on the lands under contract. This relief is provided through the assessment of the lands based upon their income-producing value rather than their market value, which may be considerably higher. The contracts have a ten-year term and are automatically renewed each year on a common anniversary date of January 1st unless they are cancelled or notice of non-renewal is given. If either party to a contract gives notice of non-renewal, the non-renewal process begins on the following anniversary with nine years remaining. During the remaining term of the contract after notice of non-renewal has been given, the property taxes increase gradually according to a formula that eventually brings them up to the same level as that assessed on non-Williamson Act lands.

Currently, approximately 70 percent of the state’s Prime agricultural land is protected under this Act. Within Kern County, approximately 1,713,804 acres are currently under Williamson Act contracts. According to the Kern County Williamson Act Lands Map, the project site is not subject to a Williamson Act Land Use contract (DOC, 2014).

Local Regulations

City of Delano General Plan

The City General Plan identifies agricultural land use soils among "natural features and environmental resources to conserve" (City of Delano, 2005; pg. 2-2). The General Plan includes a number of objectives and policies to protect its agricultural land use soils.

Section 2.9, Land Use Element, Residential Land Use, presents land use designations aimed at preserving agricultural lands:

Policy 1 The following residential density designations shall be used:

a. Agricultural/Urban Reserve and Agriculture Preservation Area. In order to maintain the integrity of farm activities, an Agriculture Preservation Area is designated along the interior of the Delano Sphere of Influence as depicted on the General Plan map. Activities within this area are limited to those uses permitted by the exclusive agricultural zone districts of Kern County. (City of Delano, 2005; pg. 2-14)

Agricultural preservation and conversion issues are addressed in the Open Space and Conservation Element of the City of Delano General Plan, which contains the following objectives and policies regarding consideration of agricultural impacts:

Objective: To preserve prime farmland and farmland of statewide importance until logical and timely urban growth is appropriate.

Objective: To establish logical growth patterns as a means of protecting agriculture.

Policy 2 New residential development shall be encouraged as infill parcels and within areas adjacent or in close proximity to existing development where infrastructure and services can be easily extended. This measure is intended to reduce the unnecessary removal of finite natural resources, such as prime soil, to reduce the cost of community services provided to residents, and to eliminate "leap frog" development.

Policy 3 Extension of urban improvements and services, including water, sewer lines and storm drain facilities, into agricultural areas shall be managed as a means to direct the location and timing of new urban development.

Policy 4 The City shall give preference to new development projects that are proposed for non-prime agricultural soils.

Policy 5 To protect human health from potential impacts due to agricultural spraying, dust, and traffic congestion, the City will encourage lower density developments adjacent to land planned for long-term agricultural uses.

Policy 6 Maintain an appropriate minimum parcel size for agricultural and urban reserve designated parcels to encourage viable agricultural operation and to prevent parcelization into rural residential or "ranchette" developments. (City of Delano, 2005; pgs. 4-17 to 4-18.)

3.2.3 IMPACTS AND MITIGATION MEASURES

Methodology

Evaluation of potential agricultural impacts is based on a site reconnaissance, the City of Delano General Plan (City of Delano, 2005), the City of Delano Zoning Ordinance, the Kern County Important Farmland Map (DOC, 2010), the Soil Survey for Kern County, Western Part (USDA NCRS, 1988; pg. 87-88, 124-125, and 543) and the applicant's project description and application materials.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines Appendix G (OPR, 2013). For the purposes of this EIR, impacts are considered significant if the following would result from implementation of the proposed project:

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use.
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract.
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
4. Result in the loss of forest land or conversion of forest land to non-forest use.
5. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use.

Effects Found Not to Be Significant

As analyzed in the Notice of Preparation, several potential effects related to Agricultural Resources were found not to be significant because the project will have **no impacts** in these areas. These no impact areas are:

- Conflict with existing agricultural zoning or Williamson Act contracts
- Conflict with existing zoning for forest or timberland
- Result in the loss of forest land or conversion of forest land to non-forest use

(City of Delano, 2013; pg. 10.)

For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.2-1 The project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use.

The proposed project is not designated as Prime, Unique or Farmland or Statewide Importance by the FMMP. The property is designated as "Grazing Land" in the Important Farmlands Map of Kern County. Therefore, implementation of the proposed project would convert approximately 44.64 acres of grazing land to non-agricultural.

The Soil Survey for Kern County, Western Part, indicates that the project site is comprised primarily of Kimberlina fine sandy loam with 0 to 2 percent slopes and small areas of Wasco sandy loam on the northeastern and southeastern corners of the site (USDA NCRS, 1988; pg. 87-88, 124-125, and 542-543). The Important Farmlands Map of Kern County (DOC, 2010) classifies the proposed project site as "Grazing" land. Kimberlina fine sandy loam with 0 to 2 percent slopes and Wasco sandy loam are identified as potentially prime farmland; however, urban or built-up areas are not considered prime farmland (USDA NCRS, 1988; pg. 542). Thus, the project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Further, the site's commercial zoning indicates any future agricultural use is unlikely. Moreover, non-agricultural uses are already in operation and/or under construction in the northern, eastern, and southeastern vicinity of the project site. The proposed project would also be consistent with the City's General Plan policy of directing new development projects for non-prime agricultural soils (City of Delano, 2005, pg. 4-17). Therefore, conversion of the project site to commercial uses would result in a **less than significant** impact to Prime agricultural land.

Impact 3.2-2 The project could involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use.

The project site is surrounded by predominantly non-agricultural uses. The project site is located within City limits and has been designated as "developed land" on the General Plan map of "Vacant and Agricultural Land" in the City (City of Delano, 2005; pg. 2-4, Fig. 2-2.). Further, the project site has a land use designation in the City's General Plan of "Commercial" (City of Delano, 2005; pg. 2-10). The majority of the project site is zoned "CRC" (Community Retail Commercial) with a small portion zoned as "GC" (General Commercial) along the western property line (City of Delano, 2005; pg. 2-3). According to the City's Zoning Ordinance, agricultural uses are only permitted subject to approval of a Conditional Use Permit (CUP) application in the General Commercial zone district (City of Delano, 2008; section 20.5.30, Table 5.A). Therefore, it is unlikely that the implementation of the proposed commercial development would, due to its location or nature, result in conversion of farmland to non-agricultural use. Impacts are considered **less than significant**.

3.2.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

The proposed project would convert approximately 44.64 acres of land designated as "Grazing Land" in the Important Farmlands Map of Kern County.

However, the project is located within City limits, is designated as developed land in the City General Plan, and the majority of the project site is zoned "CRC" (Community Retail Commercial) with a small portion zoned as "GC" (General Commercial) along the western property line. As such, implementation of this project to urban uses would not contribute to the cumulative loss of agricultural land in the region.

As established above, the proposed project would not result in the conversion of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Important Farmlands Map of Kern County (DOC, 2010) classifies the proposed project site as lower quality "Grazing" land.

Moreover, the City's General Plan policies are designed to protect its best farmlands from development through a number of objectives and policies, including:

- Creation of an Agricultural/Urban Reserve and Agriculture Preservation Area land use designation to maintain the integrity of farm activities (City of Delano, 2005; pgs. 2-14)
- Encouraging new development on infill parcels and areas near existing development to protect prime soil and eliminate "leap frog" development (City of Delano, 2005; pg. 4-17)
- Giving preference to new development projects that are proposed for non-prime agricultural soils (City of Delano, 2005; pg. 4-17)

Thus, General Plan policies protect Prime Farmland in the City in part by focusing new development in areas such as the project site. The project site is not located within an area identified by the City as fit for agricultural preservation. Rather, the site has already been designated as "developed" in the map of vacant and agricultural lands in the City (City of Delano, 2005; pg. 2-4, Fig. 2-2). Further, the project site is located close to a major highway and has been identified by the City as particularly fit for urban, commercial uses in the General Plan (City of Delano, 2005, pgs. 2-3 and 2-10). In addition, the City has identified agricultural land in the vicinity of the proposed project for planned urban, commercial uses. Commercial uses are already in operation and/or under construction in the eastern and southeastern vicinity of the project site. Nearby land to the southeast has been designated as "Industrial" by the City's General Plan; adjacent properties to the south and east are designated "Commercial;" and adjacent properties to the west and north are designated as residential (City of Delano, 2005; pgs. 2-3 and 2-10). Development of the project would help the City attain its aim of channeling development near existing development and infrastructure and away from designated agricultural reserve and preservation areas.

Therefore, the proposed project would not contribute incrementally to the conversion of Prime agricultural land to urban uses. The proposed project's contribution to the cumulative loss of agricultural land in the region would be **less than significant**.

3.2.5 REFERENCES

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3.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

This section describes the existing regional and local air quality conditions and provides an analysis of potential air quality and greenhouse gas emission impacts to the project site and the surrounding community from the project construction and operations. Mitigation measures are provided as necessary to avoid or reduce significant adverse air quality and greenhouse gas emission impacts. Description and analysis are based on information contained in the air quality modeling data prepared by BSK Associates and documents prepared by the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and the San Joaquin Valley Air Pollution Control District (SJVAPCD), among other resources. Air quality modeling results are included in Appendix 3.3.

3.3.1 EXISTING SETTING

Regional and Local Conditions

The project site is located in the San Joaquin Valley Air Basin (SJVAB), which is under the jurisdiction of the SJVAPCD. Existing air quality conditions in the SJVAB and the factors affecting air quality in the basin are discussed below. Air pollution in an area is determined by factors such as topography, meteorology, and climate, coupled with atmospheric conditions and the potential presence of seasonal inversions. Factors affecting air pollution in the SJVAB are discussed below.

Topography

The SJVAB occupies the southern two-thirds of the Central Valley and includes the western portion of Kern County. The basin is mostly flat, less than 1,000 feet in elevation, and surrounded on three sides by the Sierra Nevada, Tehachapi, and Coast Range mountains. This bowl-shaped feature forms a natural barrier to the dispersion (spreading over an area) of air contaminants (CARB, 2009b; pg. 4-30).

Meteorology and Climate

The climate of the SJVAB is strongly influenced by the presence of mountain ranges. The mountains create a partial rain shadow over the valley and block the free circulation of air, trapping stable air in the valley for extended periods. The climate is semi-arid, and is characterized by long, hot, dry summers and cool, wet, and foggy winters. Based on historical data obtained from the meteorological station located in Bakersfield, ambient temperatures range from an average minimum of 39° F in January, to an average maximum of 98° F in July. The average monthly precipitation is approximately 6.24 inches per year, with January and February averaging 1.35 inches; and a daily average wind speed of 5.9 mph. The airflow patterns are characterized by one of four directions depending on the seasons. For example, during the summer winds are predominantly northwestern “upvalley,” while winters typically feature a

prevailing stagnant condition that leads to high incidence of valley fog (WRCC, 2009; pg. 1-3; WRCC, 2013; and CARB, 1994; pg. 12).

Atmospheric Stability and Inversions

Stability describes the relative resistance of the atmosphere to vertical motion, which in turn mixes the air. The stability of the atmosphere is dependent on the vertical distribution of temperature with height. Unstable conditions often occur during daytime hours when solar heating warms the lower atmospheric layers while the upper layers remain cold. In contrast, an inversion is a layer of warmer air over a layer of cooler air. Inversions influence the mixing depth of the atmosphere, which is the vertical depth available for diluting air pollution near the ground. The SJVAB experiences both surface-based and elevated inversions. The shallow surface-based inversions can be present in the morning, but are often broken by daytime heating of the air layers near the ground. The deep, elevated inversions occur less frequently than the surface-based inversions but generally result in more severe air stagnation. The surface-based inversions occur more frequently in the fall, and the stronger elevated inversions usually occur during December and January. These naturally occurring conditions can make local air quality significantly worse than they would be without the inversions and the stagnation created by the regional weather and topography.

Criteria Pollutants

The CAA, discussed below, requires national ambient air quality standards to be established by the EPA for six common air pollutants known as the criteria pollutants. These are common air pollutants, found all over the U.S., known to cause environmental and health impacts. These include carbon monoxide, sulfur dioxide, nitrogen oxides, ground-level ozone, lead, and particle pollution identified as particulate matter (PM_{10} and $PM_{2.5}$). The EPA regulates these pollutants by developing human health-based and/or environmentally-based standards setting permissible levels. “Primary standards” protect human health, and “secondary standards” protect the public welfare by preventing environmental and property impacts such as decreased visibility and damage to animals, crops, vegetation, and buildings (EPA, 2013a).

A summary of common sources, and associated effects of criteria pollutants are summarized in Table 3.3-1, Criteria Air Pollutants.

Carbon Monoxide

Carbon monoxide (CO) is a common colorless, odorless gas produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, or biomass). CO is a “primary pollutant,” which means that it is emitted directly into the air (unlike secondary pollutants such as ozone that are formed by the reactions of other pollutants). CO levels tend to be highest during the winter months when meteorological conditions favor the accumulation of the pollutants as relatively low inversion levels trap pollutants near the ground and concentrate the CO. Because CO is somewhat soluble in water, normal winter conditions of rainfall and fog can suppress CO conditions. CO is essentially inert but can have significant effects on human health. When it enters the body via the lungs it can reduce the oxygen-carrying capacity of the blood by binding to hemoglobin. Effects on humans range from slight

headaches, to chest pain, nausea and death. Since most of the CO sources are the indirect result of urban development, most emissions and unhealthy CO levels originate from mobile sources in major urban areas (EPA, 2013c; pg. 1-4).

TABLE 3.3-1
CRITERIA AIR POLLUTANTS SUMMARY OF COMMON SOURCES AND EFFECTS

Pollutant	Description	Sources	Health Effects	Welfare Effects
Carbon Monoxide (CO)	Colorless, odorless gas	Motor vehicle exhaust; indoor sources include kerosene wood-burning stoves	Headaches, reduced mental alertness, heart attack, cardio-vascular diseases, impaired fetal development, death	Contributes to the formation of smog
Sulfur Dioxide (SO_2)	Colorless gas that dissolves in water vapor to form acid, and interacts with other gases and particulates in the air	Fossil fuels, coal-fired power plants, petroleum refineries, manufacture of sulfuric acid, and smelting of ores containing sulfur	Eye irritation, wheezing, chest tightness, shortness of breath, asthma symptoms, lung damage	Contributes to the formation of acid rain, visibility impairment, plant and water damage, aesthetic damage
Nitrogen Oxides ***Nitrogen dioxide (NO_2)***	Reddish brown, highly reactive gas known as oxides of nitrogen	Motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels	Worsens respiratory disease; causes lung infections, bronchitis, and emphysema; aggravates heart disease	Contributes to the formation of ground level ozone and fine particle pollution (smog), acid rain, water quality deterioration, global warming, and visibility impairment
Ozone (O_3)	Gaseous pollutant when it is formed in the troposphere	Primarily vehicle exhaust. Formed from the combination of reactive organic gases and oxides of nitrogen in the presence of sunlight	Chest pain, coughing, throat irritation, congestion; worsens bronchitis and asthma, reduces lung function, and inflames the linings of the lung	Plant and ecosystem damage
Lead (Pb)	A naturally-occurring metallic element used in manufactured products	Historically used in motor vehicle and aircraft fuels, metal refineries, smelters, battery manufacturing, mining, and iron and steel production	Impacts the nervous system, kidney and brain function, immune system, reproductive and development systems; causes high blood pressure, lowered IQ	Accumulates in soils and sediment, affects animals, plants, and aquatic ecosystems
Particulate Matter (PM)	Complex mixture of very small particles and liquid droplets including acids, organic chemicals, metals and soil particles	Diesel engines, power plants, industry, windblown dust, wood stoves	Eye irritation, asthma, bronchitis, lung damage, cancer, heavy metal poisoning, cardiovascular effects	Visibility impairment, atmospheric deposition, aesthetic damage, impaired plant photosynthesis

Sources: EPA, 2013b; and CAPCOA, 2013.

Ozone

Ozone is found at both the earth's upper atmosphere (stratosphere) and at ground level (troposphere). Ground level ozone, referred to as "bad ozone," is a photochemical pollutant. Ground level ozone is not emitted directly into the atmosphere, but is created by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NO_X) in the presence of sunlight. The major sources of NOx and VOCs are emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents. Ozone at ground level contributes to the formation of smog. Ozone is a regional pollutant and can be transported long distances by wind. Conditions typically conducive to the formation of ozone — extended periods of daylight (solar radiation) and hot temperatures — are prevalent during the summer. As a result, summertime finds ozone in the greatest quantities. However, smog can occur throughout the year in mountain and southern regions. Health effects of ozone can include the following: respiratory system irritation, reduction of lung capacity, asthma aggravation, inflammation and damage to lung cells, aggravated cardiovascular disease, and permanent lung damage. The greatest health risk is to those who are more active outdoors during smoggy periods, such as children, athletes, and outdoor workers. Ozone also damages natural ecosystems such as forests and damages agricultural crops and materials such as rubber, paint, and plastics.

Oxides of Nitrogen

Nitrogen dioxide (NO_2) is within the group of highly reactive gases known as oxides of nitrogen (NO_x). NO_2 is a brown gas with a strong odor. NO_x are a key component of urban air pollution and can react with moisture, ammonia, and other compounds to form nitric acid and related particles (acid rain). NO_x are emitted from combustion processes including motor vehicles, coal and gas-fired power plants, and industrial boilers (NOAA, 2013). Exposure to NO_2 is known to cause a variety of acute and chronic health effects. At ambient or near-ambient concentrations, NO_2 can cause changes in airway responsiveness and pulmonary function, particularly in people with pre-existing respiratory illnesses, and NO_2 can increase respiratory illness in children (EPA, 1997; pg. 3).

Sulfur Dioxide

Sulfur dioxide (SO_2) (in the group of highly reactive gases known as "oxides of sulfur") is a colorless, pungent gas, with an odor similar to rotten eggs. Sulfuric acid is formed from sulfur dioxide, which is an aerosol particle component that affects acid deposition. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide (SO_3). Human-generated sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to the environment. It can be absorbed in the mucous membranes and can be an irritant to the respiratory tract and nose. Long-term exposure to high levels of sulfur dioxide can aggravate lung and cardiovascular disease, respiratory illness, and changes in the defenses in the lungs. SO_x can react with other compounds in the atmosphere to form small particles. These particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death (EPA, 2013f).

Lead

Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. An aerosol is a collection of solid, liquid, or mixed-phase particles suspended in the air. The exclusion of lead from gasoline helped to decrease emissions of lead in the United States. Today the major sources of lead emissions to the air are lead-ore crushing and smelting, metal processing, battery manufacturing, and piston engine aircraft operating on aviation leaded gasoline. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering. The mechanisms by which lead can be removed from the atmosphere (sinks) include deposition to soils, ice caps, and oceans, and inhalation.

Lead accumulates in bones, soft tissue, and blood, and can affect the kidneys, liver, and nervous system. Serious effects of lead poisoning include behavior disorders, mental retardation, and neurological impairment. Even low levels of lead in fetuses and young children can result in nervous system damage, which can cause learning deficiencies and low IQs. Lead may also contribute to high blood pressure and heart disease (EPA, 2013g).

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter, also known as particulate pollution or PM, is a generic term that defines a broad group of chemically and physically different particles (either liquid droplets or solids) that can exist over a wide range of sizes. Examples of atmospheric particles include those produced from combustion (diesel soot or fly ash), chemical reactions in sunlight (urban haze), sea spray (salt particles), and soil-like particles from re-suspended dust. In discussions of air pollution, particulate matter is divided up into two size categories by the EPA:

- (PM_{10}) – "inhalable coarse particles" larger than 2.5 micrometers but less than 10 micrometers such as particles found near roadways and dusty industries
- ($PM_{2.5}$) – "fine particles" of 2.5 micrometers or smaller commonly found in smoke and haze

Particles larger than 10 micrometers (sand and large dust) are not regulated by EPA. The EPA is concerned about particles less than 10 micrometers in diameter because this size particle passes through the throat and nose and enters the lungs (EPA, 2013h). Particulate matter can be inhaled directly into the lungs, and if the particles are small enough, they can be absorbed into the bloodstream. PM_{10} can generally pass through the nose and throat and enter the lungs, while $PM_{2.5}$ can be inhaled more deeply into the gas exchange tissues of the lungs, where it can be absorbed into the bloodstream and carried to other parts of the body (SJVAPCD, 2012; pg. 1-4). Particulate matter pollution contains microscopic solids and liquids that can cause serious health problems such as coughing, bronchitis, lung disease, respiratory illnesses, increased airway reactivity, exacerbation of asthma, and direct effects on the heart. Small particles can penetrate deeply into the sensitive tissue of the lungs and can cause or worsen respiratory disease, such as emphysema, asthma, and bronchitis, and can also aggravate existing heart disease (EPA, 2013d). The potential health impacts of particle pollution are linked to the size of the particles, with the smaller particles having larger impacts. $PM_{2.5}$, in particular, has been linked to a variety of health problems, including aggravated asthma, increased respiratory symptoms (irritation of

the airways, coughing, difficulty breathing), decreased lung function in children, development of chronic bronchitis, irregular heartbeat, non-fatal heart attacks, increased respiratory and cardiovascular hospitalizations, lung cancer, lower respiratory symptoms, and premature death (SJVAPCD, 2012; pgs. 1-5 and ES-12).

Environmental effects from particulate pollutions cause visibility impairment, environmental damage, and aesthetic damage. Fine particles are the main cause of reduced visibility or haze. Particles carried over long distances can settle on the ground or water, making lakes and streams acidic and affecting the diversity of an ecosystem. In certain scenarios, PM can damage stone or other material such as statues and monuments (EPA, 2013h). Particulate matter originates from a variety of sources including fuel combustion for electrical utilities, industrial processes, construction and demolition, petrochemical production, mills and elevators used in agriculture, erosion from tilled lands, waste disposal, and recycling. Mobile or transportation-related sources include particulate matter from highway vehicles and non-road vehicles and fugitive dust from paved and unpaved roads.

Other Regulated Pollutants

Visibility Reducing Particles

Visibility Reducing Particles are tiny particles suspended in the air that reduce visibility. They can be made up of many different materials such as metals, soot, soil, dust, and salt. Visibility is the distance through the air that can be seen without instrumental assistance. Visibility is affected by air pollution when sunlight is absorbed by tiny particles, which reduces the color and clarity of what we see. In the West, visual range has decreased from 140 miles to 35-90 miles (EPA, 2013i). As a result, the EPA implemented a Regional Haze Rule in 1999 to attempt to protect visibility in 156 national parks and wilderness areas in the United States (EPA, 2012). The rule requires states and federal agencies to develop and implement air quality protection plans.

Vinyl Chloride

Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) and vinyl products, including pipes, wire and cable coatings, and packaging materials. Vinyl chloride is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloroethylene are broken down. This can occur when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites due to microbial breakdown of chlorinated plastics. Acute exposures to high levels of vinyl chloride in air can cause central nervous system effects, such as dizziness, drowsiness, and headaches (EPA, 2013j). Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers. Vinyl chloride is regulated by EPA under the National Emissions Standards for Hazardous Air Pollutants (NESHAP) (EPA, 2013p).

Volatile Organic Compounds

Volatile Organic Compounds (VOCs), are defined as any compound of carbon, (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides/carbonates, and ammonium carbonate), with a chemical composition that causes it to evaporate under normal atmospheric temperature and pressure conditions (EPA, 2013k; pg. 1). Many VOCs form ground-level ozone by "reacting" with sources of oxygen molecules such as nitrogen oxides (NO_x), and carbon monoxide (CO) in the atmosphere in the presence of sunlight. However, only some VOCs are considered "reactive" enough to be of concern. VOCs that do not form ozone under these conditions are exempted from the definition of VOCs used by EPA in its regulation. VOCs are classified into three categories: (VVOC) very volatile organic compounds (e.g., propane and butane); (VOC) volatile organic compounds (e.g., acetone, formaldehyde, and ethanol); and (SVOC) semi-volatile organic compounds (e.g., pesticides and fire retardants) (EPA, 2013k; pg. 1). In general, concentrations of VOC are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, kidneys, and the central nervous system. Some compounds are listed as potential carcinogens (EPA, 2013l).

Valley Fever (Coccidioidomycosis)

Potential health risks presented by the soil-borne fungus *Coccidioides immitis*, which causes Valley Fever, are discussed in Section 3.7, Hazards and Hazardous Materials.

3.3.2 REGULATORY SETTING

Air quality within the SJVAB is regulated by several agencies including the EPA (federal), CARB (state), and the regional agency, SJVAPCD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed by legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

Pollutants subject to federal ambient standards are referred to as criteria pollutants, as discussed above. A key purpose of these air quality standards is to protect members of the population who are most sensitive to the adverse health effects of air pollution ("sensitive receptors") (EPA, 2013a). The term "sensitive receptors" refers to specific population groups and the land uses where they reside for long periods. Commonly identified sensitive population groups are children, asthmatics, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses are residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics. See Appendix 3.3 for California and national ambient air quality standards for criteria pollutants.

Federal Regulations

At the federal level, the EPA implements national air quality programs. The EPA's air quality mandates are drawn primarily from the federal CAA, signed into law in 1970. Congress substantially amended the CAA in 1977 and 1990. The CAA requires the EPA to establish National Ambient Air Quality Standards (NAAQS) and set deadlines for reaching these standards (EPA, 2013a).

Areas with unhealthy levels of criteria pollutants (ozone, particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide) are required under federal law to develop plans, known as State Implementation Plans (SIPs), that describe how an area will attain national ambient standards.

State Regulations

The California Clean Air Act (CCAA), enacted in 1988, requires that all air districts in the state endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for ozone (O_3), CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive three year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA of 1988. CARB monitors air quality in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts. CARB is responsible for establishing CAAQS (which in many cases are more stringent than the NAAQS) and sets emissions standards for new motor vehicles.

Regional Regulations (San Joaquin Valley Air Pollution Control District)

The proposed project is located within the SJVAB. The SJVAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded in this basin and that air quality conditions are maintained. Responsibilities of the SJVAPCD include preparing plans for the attainment of ambient air quality standards, adopting and enforcing air pollution rules, issuing permits for and inspecting stationary air pollution sources, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing state and federal programs and regulations. The SJVAPCD has also adopted various rules and regulations for the control of stationary and area sources of emissions. Provisions applicable to the proposed project are summarized, as follows:

Regulation II (Permits), Rule 2020. Exemptions

This rule identifies emissions units that are not required to obtain an Authority to Construct or a Permit to Operate, such as motor vehicles and most food processing equipment. Commercial charbroilers are not covered by this exemption (see Rule 4692 below).

Regulation II (Permits), Rule 2201. New and Modified Stationary Source Review Rule

This rule provides for review of new and modified stationary sources of air pollution, with the aim of complying with state and federal Ambient Air Quality Standards. Pollutants covered by the rule include VOC, NO_X, SO_X, $PM_{2.5}$, PM_{10}, and CO.

Regulation IV (Prohibitions), Rule 2530. Federally Enforceable Potential to Emit

This rule restricts the potential to emit from a stationary source so that the source may be exempt from the requirements of Rule 2520 – Federally Mandated Operating Permits.

Regulation IV (Prohibitions), Rule 4001. New Source Performance Standards

This rule establishes standards, criteria, and operational/reporting requirements for all new sources of air pollution, as well as modifications of existing sources of air pollution.

Regulation IV (Prohibitions), Rule 4101. Visible Emissions

This rule prohibits the emissions of visible air contaminants into the atmosphere and applies to any source operation which emits or may emit air contaminants.

Regulation IV (Prohibitions), Rule 4102. Nuisance

The purpose of this rule is to protect the health and safety of the public from source operations which emit or may emit air contaminants or other materials. Rule 4102 prohibits emissions of air contaminants or other materials "which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public."

Regulation IV (Prohibitions), Rule 4601. Architectural Coatings

The purpose of Rule 4601 is to limit VOC emissions from architectural coatings and specifies practices for proper storage, cleanup, and labeling requirements. Rule 4601 applies to "any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District" (SJVAPCD, 2009b; pg. 4601-1). Materials covered by the rule include adhesives, architectural coatings, paints, varnishes, sealers, and stains; concrete curing compounds; concrete/masonry sealers; and waterproofing sealers; among other coatings (SJVAPCD, 2009b; pgs. 4601-1 to 4601-15 and Table of Standards, pgs. 4601-20 to 4601-21). Subsections applicable to construction and painting include 5.1 and 5.2 VOC Content Limits, 5.4 Painting Practices, 5.5 Thinning, 5.6 Rust Preventive Coatings, and 5.7, Coatings Not Listed in the Table of Standards (SJVAPCD, 2009b; pgs. 4601-15 to 4601-17).

Regulation IV (Prohibitions), Rule 4641. Cutback, Slow Curve and Emulsified Asphalt, Paving and Maintenance Operations

The purpose of Rule 4641 is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt and maintenance operations and applies to the use of these materials. Specifically, certain types of asphalt cannot be used for penetrating prime coat, dust palliative or other paving: rapid cure and medium cure cutback asphalt, slow cure asphalt that contains more than 0.5% of organic compound which evaporates at 500°F or lower, and emulsified asphalt containing VOC in excess of 3% which evaporates at 500° F or lower.

Regulation IV (Prohibitions), Rule 4653. Adhesives and Sealants

This rule was developed to reduce the VOCs from the application of adhesives, sealant products, and associated solvent cleaning operations, and specifies VOC content limits.

Regulation IV (Prohibitions), Rule 4692 Commercial Charbroiling

This rule, aimed at limiting VOC and PM_{10} emissions, applies to owners and operators of commercial cooking operations that use chain-driven charbroilers to cook meat. This cooking equipment is not subject to the general exemption for food processing equipment (see Rule 2020, above).

Regulation VIII (Fugitive PM_{10} Prohibitions), Rules 8021-8071. Fugitive PM_{10} Prohibitions

The purpose of these rules is to limit airborne particulate emissions associated with construction, demolition, excavation, extraction, and other earthmoving activities, as well as with open disturbed areas of land and emissions associated with paved and unpaved roads. Accordingly, these rules include specific measures to be employed to prevent and reduce fugitive dust emissions from anthropogenic (man-made) sources.

Regulation IX (Mobile and Indirect Sources), Rule 9510. Indirect Source Review

The SJVAPCD's Indirect Source Review (ISR) Rule is the result of state requirements outlined in the California Health and Safety Code, section 40604 and the State Implementation Plan (SIP). The SJVAPCD's SIP commitments were originally contained in the SJVAPCD's 2003 PM_{10} Plan and Extreme Ozone Attainment Demonstration Plan (Plans), which presented the SJVAPCD's strategy to reduce PM_{10} and NO_X in order to reach the ambient air pollution standards on schedule, which had been December 2010. The Plans quantify the reduction from current SJVAPCD rules and proposed rules, as well as state and federal regulations, and then model future emissions to determine if the SJVAPCD may reach attainment for applicable pollutants. The ISR was one of the commitments contained in the 2003 PM_{10} Plan to meet these requirements. The ISR was designed to attain NAAQS for ozone by November 15, 2010.

SJVAPCD's ISR Rule will reduce emissions of NO_X and PM_{10} from new development projects that attract or generate motor vehicle trips. In general, new development contributes to the air-pollution problem in the Valley by increasing the number of vehicles and vehicle miles traveled. Although newer, cleaner technology is reducing per-vehicle pollution, the emissions increase from new development partially offsets emission reductions gained from technology advances. ISR applies to larger development projects that have not yet gained discretionary approval. A discretionary permit is a permit from a public agency, such as a city or county, which requires some amount of deliberation by that agency, including the potential to require modifications or conditions on the project. In accordance with this rule, developers of larger residential, commercial, and industrial projects are required to reduce smog-forming NO_X and PM_{10} emissions from their projects' baselines as follows: 20 percent of construction NO_x exhaust; 45 percent of construction PM_{10} exhaust; 33 percent of operational NO_x over 10 years; 50 percent of operational PM_{10} over 10 years (SJVAPCD, 2005a; pg. 9510-11 and 9510-12). This reduction is intended to be achieved through incorporation of on-site reduction measures. If, after implementation of on-site emissions reduction measures, project emissions still exceed the minimum baseline reductions, the ISR requires a project applicant to pay an off-site fee to the SJVAPCD, which is then used to fund clean-air projects within the air basin.

Applicable SJVAPCD Attainment Plans

The SJVAB is currently designated as extreme nonattainment for the federal 8-hour ozone NAAQS, nonattainment for the $PM_{2.5}$ NAAQS, and attainment for PM_{10} and CO. At the state level air quality standards, the SJVAPCD is designated as nonattainment for the 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards (SJVAPCD, 2009a; pg. 1-1). In an attempt to achieve NAAQS and CAAQS and maintain air quality, the SJVAPCD has completed the following air quality attainment plans and reports:

Ozone

2004 Extreme Ozone Attainment Demonstration Plan and 2013 Plan for the Revoked 1-Hour Ozone Standard. The SJVAPCD initially adopted this plan in 2004 to address EPA's 1-hour ozone standard. Although EPA approved the SJVAPCD's 2004 plan in 2010, EPA withdrew this approval as a result of a court ruling in November 2012. The SJVAPCD adopted a new plan for EPA's revoked 1-hour ozone standard in September 2013 (SJVAPCD, 2013c).

2007 Ozone Plan. The Ozone Plan, approved in April 2007, contains a comprehensive list of regulatory and incentive-based measures to reduce emissions and particulate matter with the goal of addressing EPA's 8-hour standard of 84 parts per billion (ppb), established by EPA in 2007 (SJVAPCD, 2007a). The 2007 Ozone Plan calls for a 75% reduction of ozone-forming oxides of nitrogen emissions (CARB, 2007; pg. ES-2). These NOx reductions are preferred and essential to meeting the new 8-hour ozone and $PM_{2.5}$ standards. The plan calls for new and more stringent rules and regulations for stationary sources, new and more stringent tail-pipe emission standards for mobile sources, emission standards for locomotives, local regulations and voluntary measures to reduce and/or mitigate mobile source emissions, incentive-based measures, and alternative compliance programs.

2009 RACT SIP

The SJVAPCD adopted the Reasonably Available Control Technology (RACT) Demonstration for Ozone State Implementation Plan (SIP) in April 2009. The CAA requires RACT for certain sources in all non-attainment areas. The SJVAPCD is required to assure EPA's Control Techniques Guidance (CTG) is being implemented through district regulations. The 42 CTGs were developed to control major sources of emissions (SJVAPCD, 2009a; pgs. 2-2 to 2-4 and Chapter 3).

Particulate Matter

2007 PM_{10} Attainment Demonstration Plan. In September 2007, the SJVAPCD adopted the 2007 PM_{10} Attainment Plan to assure the continued attainment of EPA's PM_{10} standard. Since EPA determined that the SJVAB has attained the federal PM_{10} standards on October 30, 2006, the Valley is designated as an attainment area (SJVAPCD, 2007b; pg. 3).

2012 PM 2.5 Plan. In December 2012, the SJVAPCD adopted the 2012 $PM_{2.5}$ Plan to address EPA's 24-hour standards of 35 ug/m^3. The plan utilizes the best available information to develop a strategy to demonstrate attainment of the federal standard for fine particulate matter ($PM_{2.5}$). A number of local strategies are included in the plan, including regulations to address stationary

sources, use of a risk-based approach to prioritize measures to expedite attainment standards, incentive measures, technology advances, policy efforts to shape new legislation, and public outreach (SJVAPCD, 2012; pg. ES-2). The plan states that rules and regulations already adopted by the SJVAPCD for other pollutants also serve to control $PM_{2.5}$:

> "…current rules and regulations reflect technologies and methods that are far beyond minimum required control levels. In December 2010, the California Air Resources Board (ARB) determined that, based on the District's State Implementation Plans (SIP) and the evaluation of control feasibility in all rulemaking actions, the District has undertaken all feasible measures to reduce nonattainment air pollutants from sources within the District's jurisdiction and regulatory control. The aggressive regulations already adopted under previous attainment plans also serve as control measures for the 2012 $PM_{2.5}$ Plan. These adopted regulations will dramatically reduce directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors (NOx and SOx) as they are fully implemented over the next few years, greatly contributing to the Valley's progress toward the 2006 PM2.5 standard."
>
> (SJVAPCD, 2012; pg. 5-2.)

Local Regulations

City of Delano General Plan

The City General Plan recapitulates federal, state, and SJVAPCD air quality standards as the bases for developing objectives, policies, and standards, including the objective to protect natural resources of air quality to meet the needs of present and future generations (City of Delano, 2005; pgs. 4-6 to 4-9). The General Plan contains the following objective and policies relevant to air quality and greenhouse gases:

> <u>Open Space and Conservation Element</u>
>
> **4.11 Natural Resources**
>
> Objective A: To protect natural resources including groundwater, soils, and air quality, to meet the needs of present and future generations.
>
> Policy 8 Construction activities shall comply with the PM_{10} control measures as set forth by the San Joaquin Valley Unified Air Pollution Control District's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI).
>
> Policy 9 The San Joaquin Valley Unified Air Pollution Control District's Guide for Assessing and Mitigating Air Quality Impacts will be used to evaluate and mitigate the effects of new developments to the extent feasible.
>
> (City of Delano, 2005; pgs. 4-17 to 4-18.)

City of Delano Municipal Code

The City Municipal Code contains the following provisions related to air quality:

1. No operation or activity shall cause the emission of any smoke, fly ash, dust, fumes, vapors, gases or other forms of air pollution which can cause material damage to health, or property, or which can cause excessive dirt on any other lot. No emission shall be permitted which exceeds the requirements of the San Joaquin Valley Unified Air Pollution Control District and/or the requirements of any Air Quality Plan adopted by the City (City of Delano, 2007; section 20.12.30).
2. No operation or activity shall be permitted which emits odorous gases or other odorous matter in such quantities as to be dangerous, injurious, noxious, or otherwise objectionable to a level that is detectable without the aid of instruments at or beyond the property lot lines (City of Delano, 2007; section 20.12.120).
3. No operation or activity is permitted to emit excessive smoke, fumes, or dust which exceeds the requirements or levels specified by the San Joaquin Valley Unified Air Pollution Control District. (City of Delano, 2007; section 20.12.150).

Toxic Air Contaminants

Toxic air contaminants (TACs) are regulated through implementation of federal and state laws and are air contaminants not included in the CAAQS. Federal law uses the term "hazardous air pollutants" (HAPs) to refer to the same types of compounds considered as TACs under state law. For purposes of this DEIR, the term "TACs" will be used when referring to these pollutants. It is important to note that TACs are not considered criteria pollutants in that the federal CAA and state CCAA do not address them specifically through the setting of NAAQS or CAAQS. However, enforcement of the NAAQS and CAAQS for the control of criteria pollutants, such as ozone and PM, can result in reducing airborne emissions of TACs. For example, controls on volatile organic compound emissions to attain the ozone standard can significantly reduce emissions of TACs from stationary sources.

TACs are usually present in minute quantities in the ambient air. TACs are defined by CARB as air pollutants that "may cause or contribute to an increase in death or in serious illness, or which may pose a present or potential hazard to human health" (CDPH, 2013, pg. 2). There are currently 250 compounds that are characterized as TACs (CDPH, 2013, pg. 4). Similar to the criteria pollutants, TACs are emitted from stationary sources, area-wide sources, and mobile sources. Emissions of selected TACs are reported on a statewide basis and for the ten highest-emitting counties in California. Emissions are also included for the five most populous air basins. Ambient concentrations and related health risks associated with the ten TACs of primary concern within the SJVAB, as defined by CARB, are summarized in Table 3.3-2, Summary of Toxic Air Contaminants within the San Joaquin Valley. It is important to note that the data presented in the table represents average population exposures and may not represent the health risk near local sources; localized impacts may involve exposure to different TACs or to higher or lower concentrations than the average basin-wide concentrations.

TABLE 3.3-2
SUMMARY OF TOXIC AIR CONTAMINANTS WITHIN THE SAN JOAQUIN VALLEY

Toxic Air Contaminant	Annual Average Concentration and Health Risks					
	Conc.[1] Risk[2]	2003	2004	2005	2006	2007
Acetaldehyde	Annual Avg.	1.34	1.14	1.42	1.33	1.15
	Health Risk	7	6	7	6	6
Benzene	Annual Avg.	0.463	0.372	0.374	0.362	0.318
	Health Risk	43	34	35	34	29
1,3-Butadiene	Annual Avg.	0.095	0.08	0.082	0.069	0.065
	Health Risk	36	30	31	26	24
Carbon Tetrachloride	Annual Avg.	0.097	-	-	-	-
	Health Risk	26	-	-	-	-
Chromium, Hexavalent	Annual Avg.	0.078	0.083	0.076	0.05	0.083
	Health Risk	12	13	11	8	12
Para-Dichlorobenzene	Annual Avg.	0.15	0.15	0.15	0.15	-
	Health Risk	10	10	10	10	-
Formaldehyde	Annual Avg.	3.02	2.27	2.52	2.78	2.51
	Health Risk	22	17	19	20	18
Methylene Chloride	Annual Avg.	0.14	0.11	0.12	0.11	0.1
	Health Risk	<1	<1	<1	<1	<1
Perchloroethylene	Annual Avg.	.033	0.027	0.032	0.032	0.026
	Health Risk	1	1	1	1	1
DPM[3]	Annual Avg.	-	-	-	-	-
	Health Risk	-	-	-	-	-
Average Basin Risk	Without DPM	157	111	114	105	90

Source: CARB, 2009c; pg. 5-69
Notes: (-- indicated data not available)
1. Concentrations for Hexavalent Chromium are expressed in ng/m3, and concentrations for DPM are expressed as ug/m3. Concentrations for all other TACs are expressed as parts per billion (ppb).
2. Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.
3. The DPM concentrations are estimates based on receptor modeling techniques, and the estimates are available only for selected year. Because data are not available for all years, DPM is not included in the Average Basin Health Risk number.

The majority of the estimated health risk from TACs can be attributed to a relatively few compounds, with the most important being particulate matter from diesel-fueled engines. Other significant chemicals that potentially affect public health include: acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. Together, these ten compounds pose the greatest known ambient risk based on air quality data, or concentration estimates (in the case of diesel-exhaust PM). Physical properties and related health risks associated with the three most important TACs within the SJVAB, as defined by CARB, are discussed below (CARB, 2013a; pg. 1).

Carbon Monoxide

Carbon Monoxide (CO) is a colorless and odorless gas emitted during a combustion process. The main source of CO in the SJVAPCD occurs from motor vehicles moving along roadways. This emission is exaggerated when cars endure traffic congestion for extended periods of time and CO "hotspots" occur. In the SJVAPCD, the threshold of significance for CO is the state standard of 20 ppm for the 1-hour standard and 9 ppm for the 8-hour standard (SJVAPCD, 2002; pg. 26).

Diesel-Exhaust Particulate Matter

Diesel particulate matter (DPM) is a source of $PM_{2.5}$ because the size of diesel particles are typically *2.5* microns and smaller. In 1998, DPM made up about six percent of the total ambient $PM_{2.5}$ inventory nationwide (EPA, 2002; pg. 1-2). Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic, including 16 that are classified as possibly carcinogenic by the International Agency for Research on Cancer (IARC, 2012). DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (EPA, 2002; pgs. 1-1 and 1-2). Some short-term (acute) effects of diesel exhaust include eye, nose, throat and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the ten TACs. For the SJVAB the estimated health risk from DPM is 390 excess cancer cases per million people in 2000 (CARB, 2009c; pg. 5-67). Approximately 99% of diesel emissions are from mobile sources. The most recent survey indicates approximately 6,073 tons per year of DPM was emitted in the SJVAB (CARB, 2009c; pg. 5-66). In the Kern County portion of SJVAB, it was estimated that 1,640 tons per year (or 6% of the state total) was emitted (CARB, 2009c; pg. 5-43). DPM in the SJVAB poses the greatest cancer risk of all the toxic air pollutants.

Benzene

Benzene is highly carcinogenic and occurs throughout California. CARB identified benzene as a TAC in January 1985 under California's TAC program (Assembly Bill 1807). In addition to being a carcinogen, benzene also has non-cancer health impacts. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness (CARB, 2009c; ch. 5, pg. 186).

The SJVAB accounts for 16% of the statewide total for benzene emissions. The predominant sources of total benzene emissions in the San Joaquin Valley are mobile sources (approximately 67%), with stationary sources accounting for 32%. Mobile sources include on-road gasoline and diesel vehicles accounting for 633 tons per year or 38% percent, and other mobile equipment accounting for 29% of the air basin's benzene emissions. The primary stationary sources of benzene emissions are crude petroleum and natural gas mining, petroleum refining, and electric generation (CARB, 2009c; pg. 5-62).

1,3-Butadiene

In 1992, CARB identified 1,3-butadiene as a TAC; it is also carcinogen. The vapors are mildly irritating to the eyes and mucous membranes and cause neurological effects at very high levels. Most of the emissions of 1,3-butadiene are from incomplete combustion of gasoline and diesel fuels. Mobile sources account for approximately 85 percent of the total statewide emissions. Vehicles that are not equipped with functioning exhaust catalysts emit greater amounts of 1,3-butadiene than vehicles with functioning catalysts. Approximately 53 percent of the statewide 1,3-butadiene emissions can be attributed to mobile sources, with 27 percent attributed to other mobile sources such as recreational boats, off-road recreational vehicles, and aircraft. Area-wide sources such as agricultural waste burning and open burning associated with forest management contribute approximately 15 percent. The primary stationary sources emitting 1,3-butadiene include petroleum refining, manufacturing of synthetics and man-made materials, and oil and gas extraction (CARB, 2009b; pg. 5-14).

Federal and State Regulations and Programs for Controlling TACs

Title III of the CAA

Title III of the CAA requires EPA to promulgate National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for certain categories of sources that emit one or more pollutants identified as HAPs/TACs. Emission standards may differ between “major sources” and “area sources” of TACs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any TAC or more than 25 TPY of any combination of TACs; all other sources are considered area sources. The 1990 amendments to the CAA required the EPA to promulgate vehicle or fuel standards containing reasonable requirements to control toxic emissions, applying at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, section 219 of the CAA also required the use of reformulated gasoline in select U.S. cities to further reduce mobile-source emissions, including toxics.

State and Local TAC Programs

CARB, along with the local air districts, enforces regulations that reduce TACs in the state including regulating motor vehicles, fuels, and consumer products. CARB identifies the TACs, researches prevention or reduction methods, adopts standards for control, and enforces the standards. The local air districts have authority over stationary or industrial sources. SJVAPCD Rule 2010 requires permits for all source operations that may emit TACs. All projects that require air quality permits from the SJVAPCD are evaluated for TAC emissions. CARB identified particulate emissions from diesel-fueled engines (DPM) as a TAC in August 1998. DPM is currently CARB’s primary TAC of concern for mobile sources, in part because, of all controlled TACs, DPM emissions are estimated to be responsible for approximately 70 percent of the total ambient TAC risk (CARB, 2000; pg. 1). In 2000, CARB developed and approved the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* and the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*. CARB continues to require cleaner diesel fuel and cleaner diesel engines and has developed regulations designed to reduce DPM emissions from diesel-fueled engines and vehicles.

The SJVAPCD limits emissions and public exposure to TACs through a number of programs.

The Tanner Toxics Act

Established the California toxic air contaminant control program (AB 1807, Health and Safety Code section 39666 et seq.) to identify and control TACs (CARB, 2010). CARB is required to identify a substance as a TAC and investigate appropriate measures to limit emissions of the TACs referred to as *Air Toxics Control Measures*. These regulatory measures are adopted by the local air districts and may include emission limitations, control technologies, operation and maintenance requirements, closed-system engineering, cost, or substitution of compounds.

Air Toxics "Hot Spots" Information and Assessment Act

Enacted in 1987, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) requires certain facilities to submit information regarding emissions of more than 550 TACs to their local air pollution control districts (CARB, 2010). The act addresses public concerns that emissions from individual facilities might cause local concentration of air toxics "hot spots" at a level where individuals may be exposed to an excess risk of adverse health effects. The program requires facilities to notify all exposed persons if it is determined that there is a significant health risk. The SJVAPCD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Odor

Offensive odors rarely cause physical harm, however they are unpleasant and lead to considerable stress and citizen complaints. SJVAPCD controls odor emissions through local nuisance rules in response to citizen complaints.

3.3.3 CLIMATE CHANGE/GREENHOUSE GAS

The earth's climate has been warming for the past century. Greenhouse gases (GHGs) absorb infrared energy that would otherwise escape from the earth. As the infrared energy is absorbed, the air surrounding the earth is heated. There is evidence that this warming trend is related to the release of certain GHGs into the atmosphere generated through human activity, however U.S. GHG emissions have declined slightly in the past decade (EPA, 2013m; pg. ES-4). Greenhouse gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), and water vapor (H_20 [g]).

In 1988, the United Nations established the Intergovernmental Panel on Climate Change ("IPCC") to evaluate the impacts of global warming and to develop strategies to curtail global climate change. The organization is the leading international body for the assessment of climate changes, and it reviews and assesses current scientific and socio-economic information produced on climate change (IPCC, 2013a). In 1992, the United States joined other countries around the world in signing the United Nations Framework Convention on Climate Change Agreement (UNFCCC) with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The Montreal Protocol was originally signed in 1987 and substantially amended in

1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere – chlorofluorocarbons (CFCs), halogens, carbon tetrachloride, methyl chloroform – were to be phased out by 2000. For the next two decades the atmosphere is projected to warm 0.2 degrees C per decade. Even if concentrations of aerosols and all GHGs are kept at the 2000 levels, a further warming 0.1^0 C is expected per decade (IPCC, 2007; pg. 12).

Federal Greenhouse Gas Regulations

Clean Vehicles

On October 25, 2010, the EPA and the U.S. Department of Transportation (DOT) proposed the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses (EPA, 2010).

Greenhouse Gas Endangerment

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHG under section 202(a) of the CAA: 1) current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations; and 2) the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

New Source Review

The EPA issued a final rule on May 13, 2010 that establishes thresholds for GHG that define when permits are required for new and existing industrial facilities under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule.

State Greenhouse Gas Regulations

Assembly Bill 4420 (AB 4420)

AB 4420, approved in 1988, directed the California Energy Commission to study the implications of global warming on California's environment, economy, and water supply. The Energy Commission was directed to prepare and maintain the state's inventory of GHG emissions. The bill directed CARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles, which were approved in September, 2004.

Assembly Bill 1493 (AB 1493)

California Assembly Bill 1493 Vehicular Emissions: Greenhouse Gases, signed into law on July 22, 2002, required that CARB develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emitted by passenger vehicles and light-duty trucks. In response, CARB adopted landmark regulations in 2004 limiting GHG emissions from new vehicles sold in California beginning in the 2009 model year.

Assembly Bill 32 (AB 32)

The most significant legislation has been AB 32, the Global Warming Solutions Act of 2006. AB 32 codifies the state's goal of requiring that the state's global warming emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that have been phased in beginning in 2012. In order to effectively implement the cap, AB 32 directs CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels.

Senate Bill (SB) 97

Passed in August 2007, this bill added section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." The SB 97 CEQA Guidelines amendments were proposed in 2009 and took effect on March 18, 2010. The Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in CEQA documents.

SB 375

Signed into law in September 2008, this law impacts the single largest contributor of GHG emissions, the transportation sector, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies (CARB, 2014). SB 375 amended the CEQA statute to state that CEQA findings determinations for certain residential and mixed-use projects are not required to reference, describe, or discuss (1) growth-inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities' strategy or an alternative planning strategy that CARB accepts as achieving the GHG emission reduction targets.

2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

(Public Resources Code, section 21159.28.)

Local Greenhouse Gas Regulations

Climate Change Action Plan

On August 21, 2008, the SJVAPCD Governing Board approved a proposal, called the Climate Change Action Plan, to begin a public process to bring together stakeholders, land use agencies, environmental groups, and business groups. The process included public workshops to develop comprehensive policies for CEQA guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Governing Board's consideration.

SJVAPCD CEQA Greenhouse Gas Guidance

On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the policy, "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency" (SJVAPCD, 2013e; SJVAPCD, 2009c; SJVAPCD, 2009d; and SJVAPCD. 2009e). The SJVAPCD found that the effects of project-specific emissions are cumulative and, without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that "this cumulative impact is best addressed by requiring all projects subject to CEQA to reduce their GHG emissions through project design elements" (SJVAPCD, 2009c; pg. 3). SJVAPCD staff concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change (SJVAPCD, 2009c; pg. 3).

Despite this SJVAPCD staff finding, the SJVAPCD guidance requires proposed projects that require preparation of an EIR to quantify project-specific GHG emissions (SJVAPCD, 2009c; pg. 3). Projects that implement Best Performance Standards (BPS) or that achieve at least a 29% GHG emission reduction will be determined to have a less than significant individual and cumulative impact for GHG emissions (SJVAPCD, 2009c; pg. 5; and SJVAPCD, 2009d; pg. 9). SJVAPCD's BPSs have not yet fully been established, though they must be designed to result in a 29-percent reduction when compared with the BAU projections identified in CARB's AB 32 Scoping Plan (SJVAPCD, 2009c; pg. 8; SJVAPCD, 2013d). SJVAPCD lists adopted and in-development BPSs on its website (SJVAPCD, 2013d; and SJVAPCD, 2013f).

Types of Greenhouse Gases

Greenhouse gases referenced in AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6). These gases have varying global warming potential. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (IPCC, 2007, as cited in EPA, 2013q).

One teragram of carbon dioxide equivalent (Tg CO_2 Eq.) is essentially the emissions of the gas multiplied by the global warming potential. One teragram is equal to one million metric tons. The carbon dioxide equivalent is a good way to assess emissions because it gives weight to the global warming potential of the gas. A summary of the atmospheric lifetime and global warming potential of selected gases, which range from 1 to 23,900, is summarized in Table 3.3-3, Global Warming Potential Ranges.

TABLE 3.3-3
GLOBAL WARMING POTENTIAL RANGES

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50-200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF_4)	50,000	6,500
PFC: Hexafluoromethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: EPA 2013m, pg. ES-3

Greenhouse Gases in California

California produced 492 million metric tons of CO_2-equivalent GHG Emissions in 2004, including emissions associated with imported electricity: 81% percent were emissions of CO_2 from fossil fuel combustion, 2.8% were from other sources of CO_2, 5.7% percent were from CH_4, 6.8% were from N_20, and 2.9% were from other high GWP (global warming potential) gases (CEC, 2006; pg. 5).

Water Vapor

Water vapor (H_20 [g]) is the most abundant, important, and variable GHG in the atmosphere and, although it is not a pollutant, its importance is in maintaining a climate necessary for life. Changes in its concentration are a result of climate feedbacks related to the warming of the atmosphere and are critically important to projecting future climate change. As atmospheric temperatures rise, more water is evaporated from ground storage, leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, further warming the atmosphere.

Carbon Dioxide

Carbon dioxide (CO_2) is a natural GHG and is emitted from natural and human sources; this is the most important human GHG emission. Human activities are altering the carbon cycle by adding more CO_2 to the atmosphere and influencing the ability of natural sinks, like forests, to remove CO_2 from the atmosphere. For instance, in 2011, CO_2 accounted for 84% of all U.S. GHG emissions from

human activities. The combustion of fossil fuels to generate electricity is the largest single source of CO_2 emissions in the U.S., which accounted for 38% of total U.S. CO_2 emissions and 33% of total U.S. GHG emissions in 2011 (EPA, 2013n). The annual concentration of carbon dioxide in the atmosphere has increased in the last 10 years to 1.9 ppm (1995-2005) from 1.4 ppm beginning in 1995 (IPCC, 2007; pg. 2). Concentrations of CO_2 were 379 ppm in 2005, which is an increase since 1960 (Kern County, 2012; pg. 8).

Methane

Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (ten to twelve years), compared to other GHGs. Over 60% of methane emissions are generated from human activities associated with industry, agriculture and waste management. The greatest sources of methane generation are natural gas (30%) and enteric fermentation (the digestive process of livestock) (23%) (EPA, 2013o). The global atmospheric quantity of methane has increased from pre-industrial values of 715 ppb to 1774 ppb in 2005. The observed increase is due predominantly to agriculture and fossil fuel uses (IPCC, 2007; pg. 3).

Nitrous Oxide (N_2O)

Concentrations of nitrous oxide also rose at the beginning of the industrial revolution. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizers containing nitrogen. Nitrous oxide emissions by source sector include mobile sources, fuel consumption, and industrial processes.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel with sulfur in it is burned. Black carbon (or soot) is emitted during biomass burning and during incomplete combustion of fossil fuels.

Inventory

An analysis of data compiled by the United Nations Framework Convention on Climate Change (UNFCCC), indicates that in 2011, total GHG emissions in the U.S. were 6,665,701 in CO_2 equivalent, excluding emissions/removals from land use, land use change, and forestry (UNFCCC, 2013), which is an increase of 8 percent from 1990 emissions. According to the California Energy Commission, California is a substantial contributor of global GHG as it is the second largest contributor in the U.S. and the sixteenth largest in the world (CEC, 2006). During 1990 to 2003, California's gross state product grew 83 percent while GHG emissions grew 12 percent. While California has a high amount of GHG emissions, it has low emissions per capita. In 2004, California produced 492 MMT CO_2 Eq. (CEC, 2006; pg. 5). The major source of GHG in California is transportation, contributing 40.7 percent of the state's total GHG emissions; electricity generation is the second largest generator, contributing 22.2 percent of the state's GHG emissions (CEC, 2006; pg. 8).

The California Energy Commission estimated that emissions from fuel use in the commercial and residential sectors in California decreased 9.7 percent over the 1990 to 2004 period (CEC, 2006; pg. 10). The decrease in greenhouse gases demonstrates the effectiveness of energy conservation in buildings (Title 24 requirements) and appliances (CEC, 2006; pg. 8). The decrease in GHG attributed to these sources is even more substantial when the population increase in California is considered.

Health Effects

Climate change has an impact on human health through an increased number of heat-related illnesses, extreme weather events, reduced air quality, and climate sensitive diseases. Climate change is expected to create more frequent, more severe, and longer heat waves. Heat-related illnesses including heat stroke and dehydration impact vulnerable populations including children, the elderly, and people with medical conditions. Extreme weather events have a direct effect through injury and illness and an indirect effect by reducing the availability of fresh food and clean water. Warmer temperatures resulting from climate change will likely increase the number of days of poor air quality. Humans exposed to high levels of ozone and fine particulates could experience more lung-related and cardiovascular diseases and premature deaths. Rising temperatures may also increase the spread of food-borne disease such as salmonella and water-borne diseases by causing bacteria to grow more rapidly. Extreme weather events may disrupt sanitation systems and access to clean, potable water. Animal-borne and other related diseases including West Nile virus and Lyme disease will increase as mosquitoes, ticks, and other vectors that favor warm, moist environments become more numerous (EPA, 2013b).

Ambient Air Quality

Air pollutant concentrations are measured at several monitoring stations in Kern County. The Shafter-Walker air quality monitoring station is the closest to the project site with sufficient data to meet EPA and/or CARB criteria for quality assurance. The Shafter-Walker ambient air quality monitoring station monitors ambient concentrations of ozone and nitrogen dioxide, and is considered generally representative of the air quality in the vicinity of the project site. Ambient monitoring data for airborne particulates and carbon monoxide were obtained from the Bakersfield-5558 California Avenue air quality monitoring station. The last four years of available measurement data (i.e., 2009 through 2012) obtained from these monitoring stations is summarized in Table 3.3-4, Summary of Ambient Air Quality Monitoring Data. As depicted, the state (1-hour) and national (8-hour) ozone standards were exceeded several times during the past three years. The state and national standards for suspended PM_{10} and $PM_{2.5}$ were also exceeded during the past three years. With respect to CO and NO_2, neither the state nor the national standards were exceeded.

TABLE 3.3-4
SUMMARY OF AMBIENT AIR QUALITY MONITORING DATA

	2009	2010	2011	2012
Ozone (reported from Shafter-Walker Station)				
State standard: 1-hour/8 hour average, 0.09/0.070 ppm				
National standard: 8-hour average (2008), 0.075 ppm				
Maximum concentration (1-hour/8-hour average)	0.105/0.084	0.106/0.095	0.097/0.087	0.103/0.090
Number of days state 1-hour standard exceeded	2	8	1	5
Number of days state/national 8-hour standard exceeded	31/11	41/22	43/18	64/30
Carbon Monoxide (CO)				
State standard: 1-hour/8-hour average, 20/9 ppm				
National standard: 1-hour/8-hour average, 35/9 ppm				
Maximum concentration (1-hour/8-hour average)	3.3/2.3	3.1/1.8	3.1/2.0	NA
Number of days state 1-hour/8-hour standard exceeded	0/0	0/0	0/0	NA
Number of days national 1-hour/8-hour standard exceeded	0/0	0/0	0/0	NA
Nitrogen Dioxide (NO_2)				
State standard: 1-hour average, 0.25 ppm				
National standard: Annual average, 0.053 ppm				
Maximum concentration (1-hour average)	0.071	0.074	0.063	0.100
Annual average	0.016	0.017	0.015	0.019
Number of days state standard exceeded	0	0	0	0
Suspended Particulate Matter (PM_{10}) from Bakersfield 5558 California Ave. Station				
State standard: 24-hour average, 50 µg/m^3				
National standard: 24-hour average, 150 µg/m^3				
Maximum concentration (state/national)	99.0/94.5	238.0/86.0	154.0/97.4	125.8/99.6
Estimated Days[2] state standard exceeded	83.6	47.1	116.4	89.4
Estimated Days[2] national standard exceeded	0	0	0	0
Suspended Particulate Matter ($PM_{2.5}$) from Bakersfield 5558 California Ave. Station				
No separate state standard				
National standard: 24-hour average, 35 µg/m^3				
Maximum concentration (state/national)	195.5/195.5	112.0/92.2	82.8/80.3	86.5/86.5
Number of days national '06 standard exceeded	45.5	28.7	3	24.4

Source: CARB, 2013 PMN2.5 Trends Summary, Bakersfield 5558 CA Ave. http://www.arb.ca.gov/adam/trends/trendsdisplay.php
Notes: ppm = Parts per million; µg/m^3 = Micrograms per cubic meter; NA = Ambient data not currently available
[1] Ambient concentrations of ozone and nitrogen dioxide obtained from the Shafter-Walker ambient air quality monitoring station. Ambient concentrations of airborne particulate matter and carbon monoxide obtained from the Bakersfield-5558 California Avenue ambient air quality monitoring station.
[2] The "Estimated Days Over the State 24-Hour PM_{10} Standard" is the estimated number of days in the year that the California 24-hour PM_{10} standard would have been exceeded had sampling occurred every day of the year. Sampling typically occurs once every 6 days.

Attainment Status

Under the CCAA, CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The state and national attainment status designations pertaining to the SJVAB are summarized in Table 3.3-5, San Joaquin Valley Air Basin Attainment Status Designations. The SJVAB is currently designated as a nonattainment area with respect to the state's $PM_{2.5}$, PM_{10}, and 8-hour ozone standards, and extreme nonattainment for the 1-hour ozone standard. The SJVAB is also designated extreme nonattainment for the national 8-hour ozone standard and the national $PM_{2.5}$ standard. The SJVAB was recently re-designated attainment for the national PM_{10} standard. However, despite noteworthy air quality improvements over the past decade, the San Joaquin Valley failed to meet the previous federal ozone standard deadline and thus was downgraded from serious nonattainment to severe nonattainment designation by the EPA. This changed in late 2013 and may be subject to future modifications of the classification (SJVAPCD, 2013c).

TABLE 3.3-5
SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS DESIGNATIONS

Pollutant	Designation/Classification	
	Federal Standards[a]	State Standards[b]
Ozone, 1 hour	No Federal Standard/Revoked Extreme[c]	Nonattainment/Severe
Ozone, 8 hour	Nonattainment/Extreme[d]	Nonattainment
PM_{10}	Attainment[e]	Nonattainment
$PM_{2.5}$	Nonattainment[f]	Nonattainment
CO	Unclassified/Attainment	Unclassified/Attainment
Nitrogen dioxide	Unclassified/Attainment	Attainment
Sulfur dioxide	Unclassified/Attainment	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-reducing particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD, 2013a
(http://www.valleyair.org/aqinfo/attainment.htm, http://www.arb.ca.gov/regact/2012/area12/areaattc.pdf)
[a] See 40 CFR Part 81
[b] See CCR Title 17 section 60200-60210
[c] Effective June 15, 2005, EPA revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
[d] Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in 2010 (effective June 4, 2010)(75 Fed. Reg. 24409 (May 5, 2009)).
[e] On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM_{10} National Ambient Air Quality Standard (NAAQS) and approved the PM_{10} Maintenance Plan.
[f] The Valley is designated nonattainment for the 1997 $PM_{2.5}$ NAAQS. EPA designated the Valley as nonattainment for the 2006 $PM_{2.5}$ NAAQS on November 13, 2009 (effective December 14, 2009).

3.3.4 IMPACTS AND MITIGATION MEASURES

Methodology

The analysis of air quality and GHG emissions of the proposed project utilized state and local approved air quality models and guideline tools. Specifically, the California Emissions Estimate Model (CalEEMod) Version 2013.2 was used to analyze the impacts of the proposed project emissions during construction and operations, as recommended by SJVAPCD (SJVAPCD, 2013b; pg. 2). CalEEMod uses widely accepted models for emissions, combined with default data if site specific values are not available. This tool calculates both the daily maximum and annual average for criteria pollutants and GHG (CalEEMod, 2013a; pg. 2).

Certain assumptions were made in the analysis of the proposed project. These include the assumption that in the first year of construction, activities on the project site will consist of project site clearing, grading, detention basin expansion, and the beginning of construction of the proposed project. It is assumed that the following two years will consist of construction of the proposed project. Once construction is completed, architectural coating will occur on the project site. Buildout of the project site is assumed to be approximately 25% in the first year, 47% in the second year, and 28% in the third year.

The Traffic Impact Analysis, conducted by Omni-Means, studied average daily vehicle trips projected to be generated by the project (Appendix 3.13 and Omni-Means, 2014; pg. 15). This traffic study utilized Institute of Transportation Engineers (ITE) Land Use Code 820 (Shopping Center) as the land use for the proposed project trip generation. This methodology was used by the traffic study because it accounts for internal trip capture rates between typical shopping center land uses and encompasses all proposed mixed uses of this site (Omni-Means, 2014; pg. 15). In the CalEEMod analysis, this same code was used to determine trip generation estimates for shopping center uses at the proposed project, along with the additional codes specific to the movie theater and drive-through restaurant land uses according to their square footage (CalEEMod, 2013b; pg. 20). Appendix 3.3 contains the specific methods used including data inputs, model assumptions, outputs, and final calculations in characterizing the project's impacts on air quality.

Standards of Significance

The City's General Plan requires use of the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) to evaluate and mitigate the effects of new development (City of Delano, 2005; pg. 4-19). The following thresholds of significance set forth in the GAMAQI, which are the same as the current CEQA Guidelines Appendix G standards, are used to determine whether implementation of the proposed project would result in significant air quality impacts during construction and/or operation:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or substantially contribute to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of the criteria pollutants which the project region is non-attainment under an applicable federal or state ambient air quality standard.
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors that affect a substantial number of people.

(SJVAPCD, 2002; pg. 21.)

Additionally, Appendix G to the CEQA Guidelines includes two standards of significance related to greenhouse gas. An impact to climate change and greenhouse gas emissions is considered significant if implementation of the proposed project will result in any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Particulate Matter Emissions from Construction

IMPACT 3.3-1 Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan by violating SJVAPCD regulations on particulate matter (Air Quality Standard of Significance 1). Implementation of the proposed project could also violate an air quality standard or contribute substantially to an existing or projected air quality violation, by exacerbating the SJVAB's nonattainment status for $PM_{2.4}$ and PM_{10} (Air Quality Standard of Significance 2). Construction-generated particulate matter emissions are temporary in duration and represent a potentially significant air quality impact. Construction emissions may potentially result in substantial increases in localized PM concentrations, which could lead to adverse health effects, and nuisance concerns such as reduced visibility and soiling of exposed surfaces. (See subsection 3.3.1, Existing Setting, above for detailed discussion of adverse impacts, including health impacts, of PM_{10} and $PM_{2.5}$). Construction activities generate PM during initial site preparation, including grading and excavation activities, as well as vehicle travel on unpaved roadways and surfaces.

The SJVAPCD requires that specific mitigation measures be implemented if the annual construction emissions cannot be reduced or mitigated to below the level of significance of 15 tons per year PM_{10} (SJVAPCD, 2013b, pgs. 1 to 2). Compliance with SJVAPCD Regulation VIII is mandatory for all construction sites, including the proposed project (SJVAPCD, 2002; pg. 65, Table 6-2; and Regulation VIII, Rule 8021). Implementation of all Regulation VIII control measures and preparation of a Regulation VIII dust control plan will reduce PM_{10} impacts (SJVAPCD, 2002; pgs. 23 to 24 and 64; see also SJVAPCD Regulation VIII, Rule 8021, subd. 6.3.1).

The SJVAPCD does not have a separate $PM_{2.5}$ control standard and instead relies upon its PM_{10} rules and regulations, including Regulation VIII and Rule 9510 to control $PM_{2.5}$ (SJVAPCD, 2012; pgs. 5-2 to 5-3 and Table 5-1).

The SJVAPCD states that its "approach to CEQA analyses of construction PM_{10} impacts is to require implementation of effective and comprehensive control measures rather than to require detailed quantification of emissions" (SJVAPCD, 2002; pg. 24). However, lead agencies may elect to quantify PM_{10} emissions (SJVAPCD, 2002; pg. 24). The City has elected to numerically quantify construction-generated PM emissions to provide greater details and additional perspective concerning the proposed project's potential air quality impacts. Construction parameters, including off-road equipment requirements and acreage assumptions, were developed based on SJVAPCD recommendations (CalEEMod, 2013a; pgs. 24 through 27). Daily construction-generated emissions of PM_{10} estimated before control measures are summarized in Table 3.3-6, Construction-Generated PM Emissions.

TABLE 3.3-6
CONSTRUCTION-GENERATED TOTAL PM EMISSIONS
BEFORE COMPLIANCE WITH SJVAPCD PM CONTROL PROVISIONS

Sources	Fugitive PM10 (Tons)	Exhaust PM10 (Tons)	Fugitive PM2.5 (Tons)	Exhaust PM2.5 (Tons)	Total PM (Tons)
2014	0.86	0.38	0.25	0.35	1.84
2015	1.01	0.34	0.27	0.32	1.94
2016	0.45	0.13	0.12	0.12	0.82
Construction Total	**2.32**	**0.85**	**0.64**	**0.79**	**4.60**

Source: BSK Associates, 2014; Appendix 3.3
Note: Table is based on the modeling conducted for construction of the proposed project (including secondary impacts).
Note: Total PM is the aggregate of PM10 and PM2.5.

As Table 3.3-6 indicates, construction-generated emissions of PM_{10} would be below the SJVAPCD level of significance of 15 tons per year PM_{10} (SJVAPCD, 2013b, pgs. 1 to 2). As a result, construction-generated PM_{10} emissions resulting from implementation of the proposed project would be considered a **less than significant** air quality impact.

In addition to setting an annual PM_{10} emission threshold, the SJVAPCD requires the proposed project to reduce its baseline construction-related emissions of PM_{10} emissions by 45 percent under ISR Rule 9510 (SJVAPCD, 2005a; pg. 9510-11).

The project will be required to comply with Regulation VIII requirements and ISR Rule 9510 PM_{10} percentage reduction requirements as a Condition of Approval for the project.

As part of the project's compliance with SJVAPCD PM emission requirements, a Dust Control Plan (DCP) will be prepared and submitted to the SJVAPCD prior to the start of demolition or construction activities. Construction activities will not commence until the SJVAPCD has approved or conditionally approved the DCP. The DCP will comply with SJVAPCD Regulation VIII, Fugitive PM_{10} Prohibitions. Copies of the SJVAPCD-approved DCP will be provided to the City of Delano prior to beginning construction. Dust control measures to be included in the DCP will include the following:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, will be effectively stabilized of dust emissions using water. The project site will be watered a minimum of 4 times per day, excluding days with rain totals greater than 1/4". This measure increases PM_{10} and $PM_{2.5}$ percentage reduction to 74% from 61% per CalEEMod (Western Regional Air Partnerships (WRAP), 2006; Table 3-7, pg. 3-16)
- All on-site unpaved construction roads and off-site unpaved construction access roads will be effectively stabilized of dust emissions using water. All unpaved roads will be watered adequately to maintain a moisture content of approximately 10% to minimize dust, or chemical stabilizer/suppressant will be applied as needed (WRAP, 2006; pg. 3-14)

- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities will be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking
- When materials are transported off-site, all material will be covered, effectively wetted to limit visible dust emissions, or at least 6 inches of freeboard space from the top of the container shall be maintained, and/or completely covered
- All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 18 hours when operations are occurring. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.) Following the addition of materials to, or the removal of materials from, the surfaces of outdoor storage piles, piles will be effectively stabilized of fugitive dust emissions utilizing sufficient water
- On-site vehicle speeds on unpaved roads will be limited to 5 mph
- Best management practices (BMP) and other erosion control measures shall be installed to prevent silt runoff to public roadways from adjacent project areas with a slope greater than 1 percent
- Excavation and grading activities shall be suspended when winds exceed 20 mph
- Visible dust emissions will not exceed 20-percent opacity during periods when soil is being disturbed by equipment or by wind. Visible dust emissions opacity of 20 percent means dust that would obstruct an observer's view of an object by 20 percent. Dust control may be achieved by applying water before/during earthwork and onto unpaved traffic areas, phasing work to limit dust, and setting up wind fences to limit wind-blown dust

In addition to the actions identified above, the following measures, including those identified in Table 6-3 of the SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts*, will be implemented:

- The project applicant will install pipe-grid trackout-control device to reduce mud/dirt trackout from unpaved truck exit routes (WRAP, 2006; pg. 5-10)
- Ground-disturbing activities (e.g., site grading) will be limited to a maximum of 5 acres per day

Implementation of the actions described above would substantially reduce impacts resulting from emissions associated with construction activities. Based on the modeling conducted, maximum annual PM_{10} and $PM_{2.5}$ total emissions would be reduced by up to approximately 62 and 55 percent, respectively. This reduction is demonstrated in Table 3.3-8. Predicted annual emissions of PM associated with individual construction phases would be reduced to a maximum of approximately 1.19 tons/year of PM_{10} and approximately 0.65 ton/year of $PM_{2.5}$.

Therefore, given that the project's construction-related PM_{10} emissions of 1.19 total tons is below the SJVAPCD PM_{10} threshold of 15 tons per year, and the project will comply with existing SJVAPCD PM_{10}

emission reduction rules (Regulation VIII and ISR Rule 9510), which the SJVAPCD also relies upon to reduce $PM_{2.5}$ emissions, the project's impact related to construction-related PM emissions is **less than significant** and no mitigation is necessary.

Emissions of Ozone Precursor Pollutants from Construction

IMPACT 3.3-2 Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan by exceeding SJVAPCD significance thresholds (Air Quality Standard of Significance 1). Implementation of the proposed project could violate an air quality standard or contribute substantially to an existing or projected air quality violation, by exacerbating the SJVAB's nonattainment status for 1-hour and 8-hour ozone (Air Quality Standard of Significance 2). Construction-related emissions of the ozone-precursor pollutant NO_x could exceed the SJVAPCD's significance threshold of 10 tons/year (SJVAPCD, 2013b; pg. 1; and SJVAPCD, 2002, pgs. 25 and 45). As a result, short-term emissions of this ozone-precursor pollutant would be considered potentially significant. Through the application of mitigation, this impact will be reduced to a **less than significant** level.

Construction activities are a source of ozone precursor pollutants (i.e., ROG and NO_x). As with construction-generated emission of PM_{10}, construction-generated emissions of ozone-precursor pollutants are temporary in duration. Construction-generated emissions of organic gases can result from the use of solvents in adhesives, non-water based paints, thinners, and some insulating and caulking materials. Asphalt use in paving emits organic gas for a short time after its application. Exhaust emissions of ROG and NO_x associated with the use of motorized construction equipment and vehicles would also occur.

Because detailed construction information (e.g., equipment and personnel needs) was not available for the proposed project, including proposed construction/expansion of the city stormwater detention basin, construction-related emissions of ROG and NO_x associated with the proposed project were conservatively estimated using the California Emissions Estimate Model (CalEEMod) Version 2013.2 software package. Construction-generated emissions of ROG and NOx are summarized in Table 3.3-7, Construction-Generated Emissions of ROG and NOx without Mitigation. The CalEEMod modeling worksheets are included in Appendix 3.3.

Site grading and building construction emissions were estimated using the CalEEMod 2013 [v.2012.27] computer model based on default model settings. Modeling for the expansion of the City stormwater detention basin assumes 24,000 cubic yards of soil excavated, 2 acres of active disturbance/day, 1.6 mile on-site round-trip distance for material transport to the project site (20 yards of capacity per vehicle), and 0.5 mile of vehicle travel on unpaved roads. Modeling for the filling of the temporary stormwater retention basin on the project site identifies an outer limit for the fill soil source, a 10-mile radius from the project site.

As indicated in Table 3.3-7, Construction-Generated Emissions of ROG & NO_x without Mitigation, uncontrolled emissions of ROG and NO_x associated with individual construction phases would not be anticipated to exceed the SJVAPCD's significance thresholds of 10 tons/year, unless the duration of

overall construction activities were shortened. If construction of the project were to occur in a period shorter than three years, short-term emissions of the ozone-precursor pollutant NO_x could exceed the 10 tons per year threshold and would be considered potentially significant. Implementation of the following mitigation measure would reduce this impact to a **less than significant** level.

TABLE 3.3-7
CONSTRUCTION-GENERATED EMISSIONS OF ROG & NO_X
WITHOUT MITIGATION

Sources	Emissions (tons/year)	
	ROG	NO_x
SJVAPCD Thresholds (tons/year)	**10**	**10**
2014	1.39	9.05
2015	1.46	8.48
2016	1.43	3.25
Total Emissions	**4.28**	**20.78**

Source: BSK Associates, 2014; Appendix 3.3

Mitigation Measure

MM 3.3-2 The project applicant shall comply with the SJVAPCD Indirect Source Review Rule (Rule 9510). In accordance with ISR Rule 9510, a detailed air impact assessment (AIA) shall be prepared detailing the specific construction requirements (i.e., equipment required, hours of use, etc.) and operational characteristics associated with proposed on-site and off-site improvements. In accordance with this rule, exhaust emissions of NO_x from construction equipment greater than fifty (50) horsepower used or associated with the development project shall be reduced by 20 percent. The project will demonstrate compliance with ISR Rule 9510, including payment of all applicable fees, before issuance of first building permit. As is set forth in ISR Rule 9510 subsection 6.3, mitigation required by the rule may be met through a "combination of on-site emission reduction measures or off-site fees."

Construction emissions may be reduced on-site by using less-polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer lower emitting equipment of at least Tier II or better (SJVAPCD, 2013b; pg. 2). The CalEEMod program utilized a particular combination of Tiers during analysis. However, this combination of equipment and Tiers can be altered as long as reductions and thresholds are still met, which will be identified in the AIA. Based on the findings of the AIA, the project applicant shall pay to the SJVAPCD a monetary sum necessary to offset the required construction emissions not reduced by measures contained in the AIA. Any offset fees to be paid will be dependent on the findings of the AIA, to be calculated in accordance with the methodologies identified in the ISR Rule 9510 and approved by the SJVAPCD. To reduce short-term air quality impacts attributable to the proposed project, the following SJVAPCD-recommended mitigation measures will be implemented:

- Off-road construction equipment will achieve fleet average emissions equal to or cleaner than the Tier II emissions standards set forth in section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations. (SJVAPCD, 2013b)

- When not in use, on-site equipment shall not be left idling longer than 10 minutes
- On-site equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. Equipment maintenance records shall be kept on-site and made available upon request by the SJVAPCD or City
- The project applicant shall comply with all applicable SJVAPCD rules and regulations. Copies of any applicable air quality permits and/or monitoring plans shall be provided to the City

With implementation of the above mitigation, maximum annual emissions of NO_X would be reduced by a minimum of approximately 23.36%, in accordance with SJVAPCD ISR Rule 9510.

Mitigated emissions of NO_x and PM_{10} are depicted in Table 3.3-8, Construction-Generated Emissions of NO_X and PM_{10} with Mitigation. As discussed in Impact 3.3-1, PM_{10} meets its thresholds with mitigation and therefore will not be discussed in this impact. Furthermore, PM_{10} is not an ozone precursor and therefore does not fall under this impact. In total, after mitigation, construction of the proposed project would generate an estimated total of 15.92 tons of NO_x over the entire course of construction. Although construction is anticipated to occur over a period of multiple years, a more rapid construction timeline could generate emissions of NO_X that exceed the SJVAPCD CEQA significance threshold of 10 tons/year (SJVAPCD, 2013b; pg. 1; and SJVAPCD, 2002; pgs. 25 and 45). In this event, emission offsets would be required to offset any remaining project-generated emissions over 10 tons per year of NO_x. Mitigated maximum annual emissions of NO_X with offsets would be 6.74 tons per year or less and would not exceed the SJVAPCD's significance threshold of 10 tons/year. Therefore, the project impact from construction-related emissions of ozone precursor pollutants is considered **less than significant** with mitigation.

TABLE 3.3-8
CONSTRUCTION-GENERATED EMISSIONS OF NO_X AND PM_{10} WITH MITIGATION

Sources	NO_X Emissions with Mitigation (Tons)	PM_{10} Emission with Mitigation (Tons)
SJVAPCD Thresholds (tons/year)	**10**	**15**
Percent Reduction Threshold	**20%**	**45%**
2014	6.64	0.46
2015	6.74	0.51
2016	2.54	0.22
Total Emissions	**15.93**	**1.19**
Percent Reduction	**23.36**	**62.60**

Source: BSK Associates, 2014 Appendix 3.3
Note: Mitigated emissions do not include offsets. ISR Rule 9510 requires average NOx reduction of 20 percent). Demolition, Site Grading, and Building Construction emissions were estimated using the CalEEMod Version 2013.2 computer model based on default model settings.

Operational Emissions of Regional Pollutants of Primary Concern

IMPACT 3.3-3 Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan by exceeding SJVAPCD significance thresholds (Air Quality Standard of Significance 1). Implementation of the proposed project could violate an air quality standard or contribute substantially to an existing or projected air quality violation, by exacerbating the SJVAB's nonattainment status for 1-hour and 8-hour ozone and for $PM_{2.4}$ and PM_{10} (Air Quality Standard of Significance 2). The proposed project's operational emissions of regional pollutants of primary concern would exceed applicable SJVAPCD significance thresholds. This is considered a significant impact that will be reduced to a **less than significant** level through mitigation.

Regional area and mobile-source emissions of ROG and NO_X associated with operation of the proposed project were estimated using CalEEMod v2013.2 and considered project location specifics and trip generation rates. The default settings for the SJVAB contained in the model were used for this analysis, based on trip generation rates obtained from the transportation analysis prepared for the proposed project by Omni-Means (Appendix 3.13). Modeling results are summarized below in Table 3.3-9, Proposed Project Operation Emissions without Mitigation. The modeling worksheets are included in Appendix 3.3**.**

TABLE 3.3-9
PROPOSED PROJECT OPERATIONAL EMISSIONS WITHOUT MITIGATION

Sources	Emissions Generated (tons/year)			
	ROG	NO_X	PM_{10} Total	$PM_{2.5}$ Total
SJVAPCD Thresholds (tons/year)	**10**	**10**	**15**	**Encompassed within PM_{10}**
Area Sources	7.29	$1.60e^{-004}$	$6.0e^{-005}$	$6.0e^{-005}$
Energy	0.01	0.11	$8.46e^{-03}$	$8.46e^{-03}$
Mobile Sources	12.75	35.43	10.27	3.06
Total Emissions	**20.05**	**35.54**	**10.27**	**3.06**

Source: BSK Associates, 2014 Appendix 3.3
Note: Area-source emissions associated with landscaping, natural gas and consumer products were estimated based on default model settings for the Delano area). Mobile-source emissions were estimated based on trip generation rates obtained from the Omni-Means traffic analysis prepared for this project under build-out conditions.

Based on the modeling conducted, operation of the proposed project would generate approximately 20.05 tons/year of ROG and 35.54 tons/year of NO_X. Long-term operation of the proposed project would also generate a total of approximately 10.28 tons/year of PM_{10}. The SJVAPCD's CEQA thresholds of significance for operational emissions are 10 tons per year of NO_x, 10 tons per year of ROGs, and 15 tons per year PM_{10} (SJVAPCD, 2013b, pgs. 1 to 2). The proposed project is under the threshold for PM_{10} emissions, but exceeds the threshold for NO_x and ROG. For this reason, regional air quality impacts from NO_x and ROG attributable to operation of the proposed project would be considered a **significant impact**. Implementation of the following mitigation measure would reduce operational emissions of regional pollutants of primary concern.

Mitigation Measure

MM 3.3-3 The proposed project shall comply with SJVAPCD Indirect Source Review (ISR), District Rule 9510. In accordance with ISR Rule 9510, a detailed air impact assessment (AIA) shall be prepared detailing operational characteristics associated with proposed on-site and off-site improvements. In accordance with this rule, operational emissions of NO_x and PM_{10} shall be reduced by a minimum of 33.3 percent and 50 percent, respectively. Emission reductions are in comparison to the project's operational baseline (unmitigated) emissions calculated over a ten-year period. Based on the findings of the AIA, the applicant shall pay to the SJVAPCD a monetary sum necessary to offset the required operational emissions that are not reduced by the emission reduction measures contained in the AIA The quantity of operational emissions that need to be offset will be calculated in accordance with the methodologies identified in ISR Rule 9510 and approved by the SJVAPCD. Operational emission reduction methods will be selected under the direction of the SJVAPCD according to the AIA process detailed in and required by ISR Rule 9510 (see ISR Rule 9510, subsection 5). Methods of reducing operational emissions include the following (some of these measures are included as mitigation listed in Section 3.13, Transportation/Traffic; however, they are repeated here to allow for a complete listing):

- Bus or streetcar service provides headways of one hour or less for stops within 1/4 mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting)
- Entire project is located within 1/2 mile of an existing Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing off-site facility. Existing facilities are defined as those facilities that are physically constructed and ready for use prior to the first 20% of the project's occupancy permits being granted. Project design includes a designated bicycle route connecting all units, on-site bicycle parking facilities, off-site bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within 1/2 mile. Bicycle route connects to all streets contiguous with project site. Bicycle route has minimum conflicts with automobile parking and circulation facilities. All streets internal to the project wider than 75 feet have Class II bicycle lanes on both sides
- The project provides a pedestrian access network that internally links all uses and connects to existing external streets and pedestrian facilities. Existing facilities are defined as those facilities that are physically constructed and ready for use prior to the first 20% of the project's occupancy permits being granted
- The project applicant will provide a pedestrian access network that internally links all uses for connecting to planned external streets and pedestrian facilities (facilities must be included in pedestrian master plan or equivalent)
- Site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation are eliminated. Barriers to pedestrian access of neighboring facilities and sites are minimized. This measure is not meant to

prevent the limited use of barriers to ensure public safety by prohibiting access to hazardous areas, etc.

- Provide traffic-calming measures within the project
- Make physical development consistent with requirements for neighborhood electric vehicles (NEV)
- Limit parking spaces by at least 18%
- Develop and implement a voluntary program to encourage employers to promote carpooling and/or the use of low-emission vehicles, thus providing emission reductions. The program may include financial incentives, preferred parking, or other benefits for employees and businesses that use low-emission vehicles
- Limit architectural coatings to low VOC paint for non-residential exteriors with a maximum VOC content of 50 g/L
- Use low-energy light-emitting diode (LED) demand lighting or other energy-saving features (e.g., motion sensors) for electronic displays and interior lighting, where practical
- During hours of non-operation, interior lighting should be dimmed to reduce energy demands
- Use white membrane roof coatings/materials or Energy Star equivalent, where possible, to increase solar reflectivity and reduce interior building cooling demands
- Installation of energy-efficient lighting and appliances (e.g., "Energy Star" rated)
- Apply water conservation strategy with minimum reductions of 20% in accordance with California's 20x2020 Water Conservation Plan. Strategy includes low-flow bathroom and kitchen faucets, toilets, and showers
- Implement a water-efficient irrigation system for the project site's reduced turf area
- Encourage commercial fleets to use newer lower-emission or alternatively fueled vehicles. For existing fleet vehicles, incentives are available through CARB's Carl Moyer Memorial Air Quality Standards Attainment Program to assist in the conversion of in-use vehicles to cleaner-than-required engines. For older fleet vehicles, conversion to newer, cleaner technologies can reduce emissions by up to approximately 85 percent

  (SJVAPCD, 2013g.)

Additionally, the number of parking spaces for the project will be reduced to lower emissions of NO_x and ROG. (This action will also reduce emissions of CO and GHGs.) According to the City Zoning Ordinance requirements for community shopping centers with less than 750,000 square feet, the required number of parking spaces for the project is 1,314 (City of Delano, 2007b; Table 13.A. (B)(2)). The project description for the project indicates that 54,697 square feet will be devoted to restaurants. Calculating the required number of parking spaces including the proposed restaurant square footage yields a

required parking space total of 1,780 (City of Delano, 2007; Table 13.A. (B)(3)(i)). The project description for the project proposes 2,512 parking spaces for the project. In order to reduce emissions, the project applicant will reduce the number of parking spaces at the project site to 2,060, a number sufficient to mitigate air quality impacts while still supplying the required number of parking spaces under the City Zoning Ordinance.

Incorporation of the above mitigation, including compliance with SJVAPCD ISR Rule 9510, would reduce operational emissions of NO_x and PM_{10} Total by approximately 38.3 percent and 50 percent, respectively, over a 10-year period. Based on these minimum reductions and the emissions modeling conducted for this DEIR, mitigated annual emissions of NO_x, ROG, and PM_{10} Total would be reduced to approximately 21.92 tons/year, 17.96 tons/year, and 5.13 tons/year, respectively (see Appendix 3.3). This reduction is illustrated in Table 3.3-10.

TABLE 3.3-10
OPERATIONAL EMISSIONS OF NO_x AND PM_{10} FOR PRE- AND POST-MITIGATION CONDITIONS

	Emissions Generated (tons/year)		
	NO_X	**ROG**	**PM_{10} Total**
Pre-Mitigation	35.54	20.05	10.28
Post-Mitigation	21.92	17.96	5.13
Total Reductions	13.61	2.09	5.15
Percentage Reduction Threshold	**33.3%**	**NA**	**50%**
Total Emission Percentage Reduction	**38.33%**	**10.44%**	**50.04%**

Source: BSK Associates, 2014; Appendix 3.3

In accordance with ISR Rule 9510, the purchase of offsets or provision of equivalent funding would be required to mitigate operational emissions associated with the proposed project (see ISR Rule 9510, subsection 7). The specific fees to be paid would be determined in consultation with the SJVAPCD and would be dependent on various factors, including the offset costs established by the SJVAPCD at the time of payment, as well as the specific emission-reduction measures incorporated into the proposed project, as identified in the AIA to be prepared for the proposed project. As is set forth in ISR Rule 9510 subsection 6.3, mitigation required by the rule may be met through a "combination of on-site emission reduction measures or off-site fees." No additional mitigation measures other than those described above are feasible.

As Table 3.3-10 indicates, the mitigation listed above would mitigate impacts of operational emissions of regional pollutants of primary concern and lower emissions of PM_{10} further below the SJVAPCD CEQA threshold of 15 tons per year, while meeting the 50 percent reduction ISR Rule 9510 requirement. However, emissions of NOx and ROG would remain above the SJVAPCD CEQA threshold of 10 tons per year, despite NOx meeting the 33.3 percent reduction required by ISR Rule 9510 (ROG does not have a percentage reduction requirement under ISR 9510). However, while the prior mitigation achieves ISR

9510, it does not reduce it below the 15 tons per year threshold, despite implementation of all feasible mitigation measures. Therefore, after mitigation, operational emissions of regional pollutants of primary concern (NOx and ROG) would be **significant and unavoidable.**

Toxic Air Contaminant (TAC) Emissions from Construction Activities

IMPACT 3.3-4 Implementation of the proposed project could expose sensitive receptors to substantial pollutant concentrations (Air Quality Standard of Significance 4). SJVAPCD's comments on the Notice of Preparation for the project identified that TAC emissions related to the project should be evaluated (SJVAPCD, 2013b; pg. 2). Particulate exhaust from diesel-fueled engines (DPM) is the most prevalent TAC identified on the construction-phase modeling assessment. As discussed previously, DPM was identified as a TAC by CARB in 1998. Other TACs (e.g., CO) would also be generated during construction. The proposed project would result in the generation of TAC emissions during construction associated with the use of off-road diesel equipment for site grading and excavation, paving, demolition, and other construction activities. The nearest sensitive receptor for construction and operational TAC emissions, as it is for noise impacts, is a day care center located approximately 0.29 mile north of the project boundary. See Figure 3.10-1 in Section 3.10, Noise, for an aerial view graphic illustrating the spatial relationship between the receptor and the project site.

Generation of TACs from construction projects typically occurs in a single area for a short period. Construction associated with the proposed project would occur over an extended period (approximately three years), and activities would be spread over a large area. Use of diesel-powered construction equipment in any one area would be short-term and episodic, and would cease when construction is completed in that area. Although construction activities can produce substantial emissions and can represent a significant air quality impact, the effect is not permanent (SJVAPCD, 2002; pg. 44). The construction period would be less than five percent of the 70-year constant exposure period used to evaluate the risk of developing cancer. Furthermore, the prevailing wind direction at the project site is NW based on the nearest weather centers in Bakersfield and Fresno (WRCC, 2002). This wind pattern directs any construction TACs away from the nearest sensitive receptor, the day care facility located approximately 0.29 mile north of the proposed project. As a result, the short-term generation of TACs associated with project construction would not be anticipated to exceed SJVAPCD significance thresholds (i.e., cancer risk greater than 10 in 1 million and/or non-carcinogenic Hazard Index greater than 1 for the Maximally Exposed Individual). Therefore, impacts associated with construction-generated TAC emissions are considered **less than significant**.

Operational Emissions of TACs

Impact 3.3-5 Implementation of the proposed project could expose sensitive receptors to substantial pollutant concentrations (Air Quality Standard of Significance 4). The project zoning designation consists of mostly Community Retail Commercial, with a western portion zoned as General Commercial. Operational emissions of TACs attributable to the proposed project would result from on-site use of stationary and mobile sources. Mobile sources include project-related traffic and delivery of materials to on-site uses. Stationary sources consist of commercial charbroiling at restaurants on-site. Any

potential exposure of nearby sensitive receptors to project-generated TACs is not anticipated to exceed the SJVAPCD significance thresholds of cancer risk greater than 10 in 1 million and/or non-carcinogenic Hazard Index greater than 1 for the Maximally Exposed Individual (MEI) (SJVAPCD, 2013). The proposed project's operational emission of TACs is considered a **less than significant impact** based on the analysis below. The emissions and health-related impacts associated with stationary and mobile sources are discussed separately, as follows:

Operational TAC Emissions from Stationary Sources

Commercial land uses developed as part of the proposed project do not include facilities typically considered to be sources of TACs, such as gasoline stations. For example, emissions from gasoline stations most commonly include vented emissions released during the transfer of fuel during the filling of storage tanks and vehicle refueling activities. Pursuant to SJVAPCD Rule 2010, all stationary sources having a significant potential to emit TACs are required to obtain permits from the SJVAPCD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including Rule 2201 (New and Modified Stationary Source Review Rule), Rule 4001 (New Source Performance Standards), and Rule 4002 (National Emissions Standards for Hazardous Air Pollutants). In accordance with permitting requirements, the SJVAPCD evaluates sources to determine potential health-related impacts and to identify the appropriate control measures to be implemented to ensure protection of nearby receptors.

The proposed project includes various food venues, both fast-food and sit-down. These food venues have the potential to emit TACs through the use of charbroilers to cook meat. The particular TAC of concern from fast-food restaurants is Polycyclic Aromatic Hydrocarbon (PAH), both with and without Naphelene. Under SJVAPCD Rule 2020, most retail food processing equipment is exempt from permitting requirements, except for charbroilers, which are subject to Rule 4692 controls aimed at limiting VOC and PM_{10} TAC emissions. The SJVAPCD provided a dynamic spreadsheet to model and evaluate the emissions and risk of PAH, with and without Naphelene, from fast-food restaurants (SJVAPCD, 2014). This spreadsheet and the modeling conducted by BSK Associates are provided in Appendix 3.3. The district's default values were used as conservative estimates of the potential emissions from the proposed project. These values include pounds of meat per week, pounds of PAH, with and without Naphelene, emitted per ton of meat, and the number of fast-food restaurants for the given project. Once all values are inputted, the spreadsheet produces a risk factor based on the nearest sensitive receptor located within a provided quadrant.

The project description for the proposed project indicates that the project may include up to 13 food vendors, four of which are proposed fast-food, drive-through restaurants. This model exercise took a conservative approach and modeled the risk as if all food vendors are considered fast-food restaurants. In reality, not all of the food vendors would be fast-food, and it is highly unlikely that all food vendors at the project would operate chain-driven charbroilers. Thus, the TAC modeling performed by BSK very likely overestimates potential TAC emissions from charbroiling at the project.

In the modeling, vendors were summed to calculate overall potential TAC emissions and the associated risk. The nearest sensitive receptor for the proposed project in regards to operational air emissions is the day care facility located 0.29 mile north of the project.

Applying the values provided by the SJVAPCD, the spreadsheet calculates a risk of 6.8 E-09 for TAC emissions due to fast-food production. This is less than the 10-in-a-million cancer risk factor threshold set forth by the district. Because of this low cancer risk factor, a Health Risk Assessment is not required. Therefore, the proposed project's stationary source TAC emissions due to commercial charbroiling are considered **less than significant**.

Operational TAC Emissions from Mobile Sources

The TACs generated by mobile sources associated with operation of the proposed project are diesel particulate matter (DPM) and carbon monoxide (CO). Operation of the proposed project includes the construction of commercial land uses ranging in size between 10,000 to 25,000 square feet which would involve the use of diesel-powered delivery trucks on a regular basis. Based on data provided by the project applicant and a review of EIRs prepared for similar projects (i.e., Delano Marketplace, the City of Madera Foxglove Project, and the City of Fresno Westlake mixed-use project) the daily number of delivery vehicles associated with such land uses can vary from day to day, averaging approximately 33 trucks per day (City of Delano, 2007c; pg. 3.3-50; City of Madera, 2012; pg. 3.2-47; and City of Fresno, 2013; 3.3-57). The TAC of primary concern associated with diesel-powered vehicles is DPM. DPM differs from other pollutants in that it is not a single substance, but rather a complex mixture of hundreds of substances. CARB has developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, which set a goal of achieving an 85 percent reduction by 2020.

Using the district-provided spreadsheet for DPM risk, the risk associated with the project truck travel is 5.30 E-08 and truck idling is 2.73 E-08 at the nearest sensitive receptor. These values do not exceed the 10 in 1 million risk threshold established by the SJVAPCD and is therefore is considered **less than significant** with mitigation. No mitigation measures in addition to the five-minute maximum idling time restriction from section 2485 of Title 13 the California Code of Regulations (CCR, 2006) are required. Air quality modeling results supporting these and the following findings appears in Appendix 3.3.

Mitigation Measure

MM 3.3-5 In order to lower DPM health risk related to operational TAC emissions from mobile sources, the project applicant shall ensure that diesel-powered delivery trucks operating at the project site shall not be left idling for longer than five minutes.

Conclusion

The combined risk from all operational TAC emission sources is 8.73 E-08. This risk is below the 10 in 1 million MEI threshold, and therefore, operational TAC emissions are considered a **less than significant** impact.

Exposure to Odorous Emissions

Impact 3.3-6 Implementation of the proposed project could create objectionable odors that affect a substantial number of people (Air Quality Standard of Significance 5). This impact is considered potentially significant.

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

The proposed project is not anticipated to result in the installation or creation of any major odor emission sources. However, uses considered to be minor sources of odors will be developed, such as restaurants. However, odors from such sources are typically intermittent and disperse rapidly with distance from the source. Given the distance to the nearest sensitive receptor (0.29 mile), detectable increases in odorous emissions at nearby sensitive receptors would not be anticipated. This impact would be considered **less than significant**. No mitigation measures are necessary.

3.3.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Regional Air Quality Impacts

Impact 3.3-7 Implementation of the proposed project could result in a cumulatively considerable net increase of the criteria pollutants which the project region is non-attainment under an applicable federal or state ambient air quality standard (Air Quality Standard of Significance 3). Implementation of the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Greenhouse Gas Standard of Significance 1). Implementation of the proposed project could also conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Greenhouse Gas Standard of Significance 2).

Project-generated emissions would contribute incrementally to cumulative existing and future regional nonattainment conditions within the SJVAB, as well as an increase in greenhouse gas emissions. This impact is considered potentially significant.

The SJVAPCD's approach towards assessing cumulative impacts is based, in part, on the projected increases in emissions attributable to the proposed project, as well as the project's consistency with the growth projections used for development of air quality attainment plans. In accordance with SJVAPCD-recommended methodology, projects anticipated to have a significant impact at the project level would also be considered to have significant cumulative air quality impacts (SJVAPCD, 2002; pg. 29). In addition, a project would be considered to conflict with or obstruct implementation of the regional air quality plans if it would be inconsistent with the emissions inventories contained in the regional air quality plans. Emission inventories are developed based on projected increases in population growth and vehicle miles traveled (VMT) within the region. Project-generated increases in population or VMT could, therefore, potentially conflict with regional air quality attainment plans.

Actions identified in Mitigation Measure **MM 3.3-3** would reduce mobile-source pollutants of regional and local concern.

Greenhouse Gas

The SJVAPCD requires proposed projects that require preparation of an EIR to quantify project-specific GHG emissions (SJVAPCD, 2009c; pg. 3). The proposed project would contribute to increases in greenhouse gas (GHG) emissions that are associated with global climate change. A large majority of the GHGs attributable to the proposed project would be comprised of carbon dioxide (CO_2) emissions generated by mobile sources. Additional emissions of GHGs would be associated with energy consumption.

The proposed project incorporates a number of design features and characteristics that reduce its GHG emissions. The combination of restaurants, drive-through fast food, a 12-screen theater, and retail stores will encourage multi-purpose shopping trips, which is expected to reduce fuel consumption by reducing the number of trips some people might otherwise make between different stores. The project has been designed to reduce travel from Delano to nearby towns through the provision of services which are not otherwise available in the community, such as the movie theater.

In addition, the following measures identified in Mitigation Measure **MM 3.3-3** will reduce electricity use by the project and in turn lower the project's incremental contribution to cumulative GHG emissions (SJVAPCD, 2009c; pg. 7).

- *Day lighting (skylights/dimming):* The shopping center will include a day lighting system, which automatically and continuously dims all of the lights as the daylight contribution increases
- *Night Dimming:* The project applicant will require retailers to dim lighting during hours of non-operation
- *White Roof:* Where feasible, the shopping center will have a "white" membrane roof vs. traditional retail stores that have a darker color. The high solar reflectivity of this membrane results in lowering the "cooling" load by about 10 percent, reducing the amount of power required to cool the building and lowering the project's incremental contribution to GHG emissions. Energy Star-equivalent materials are also acceptable
- *LED Illumination:* The shopping center will use LED lighting wherever possible. The application of LED technology is over 70 percent more energy-efficient than fluorescent illumination. With lamp life ranging to 100,000 hours, using LEDs significantly reduces need to manufacture and dispose of fluorescent lamps. This feature would reduce both the project's direct electricity use during operations, and its indirect electricity use related to the manufacturing of lamps, both of which would reduce the project's incremental contribution to cumulative GHG emissions

The proposed project would also be designed and equipped to recycle cardboard, vegetable oil, bottles and cans, plastic waste, and electronic waste. Recycling can substantially reduce GHG emissions associated with the manufacturing of such products. Implementation of the these measures, along with compliance with the most recent California Building Standards and the California Energy Commission

Energy Efficiency Standards, would help to reduce the project's contribution to global GHGs and climate change.

Table 3.3-11 quantifies GHG emissions of the project and indicates how the project design features and characteristics described above would reduce GHG emissions of the proposed project.

TABLE 3.3-11
CalEEMod PROPOSED PROJECT OPERATIONAL GHG EMISSIONS WITH AND WITHOUT PROJECT DESIGN FEATURES

Greenhouse Gas	Total CO_2 (MT/Year)	CH_4 (MT/Year)	N_20 (MT/Year)
Without Features	16,237.22	4.64	0.03
With Features	8,638.93	2.02	0.02
Percent Reduction	**46.74**	**56.51**	**29.54**
Total Average Percent Reduction: =			**44.26**

Source: BSK Associates, 2014 Appendix 3.3

As indicated in Table 3.3-11, the project's design features under the CalEEMod model reduce the proposed project's operational GHG emissions by 44.26%. SJVAPCD GHG emission guidance states that in order for a project to be determined to have a less than significant cumulative impact on GHG emissions, a project must either implement SJVAPCD BPS, or achieve a 29% reduction in GHG emissions (SJVAPCD, 2009c; pg. 5). The proposed project's GHG emission reduction project features meet the threshold described in SJVAPCD guidance, because they achieve a 29% reduction in GHG Emissions as estimated through CalEEMod. Therefore, the project's incremental contribution to cumulative GHG emissions is considered **less than significant.**

Emissions of ROG and NO_x

Implementation of the proposed project would contribute to increases in emissions of ROG and NO_X. However, with implementation of Mitigation Measure **MM 3.3-3**, the project's contribution to cumulative air quality impacts would be reduced, but not to a less than significant level. Thus, the proposed project's contribution to cumulative regional air quality conditions would be considered **significant and unavoidable**.

Cumulative Localized Air Quality Impacts

IMPACT 3.3-8a ***Cumulative Localized Odor Impacts*** Project-generated emissions could theoretically contribute, on a cumulative basis, to localized increases in odor concentrations. This impact is considered potentially significant. However, no major sources of odors were identified in the project vicinity, and emissions of odors attributable to the proposed project would be considered less than significant. Therefore, the project's incremental contribution to cumulative odor impacts would be considered **less than significant**.

IMPACT 3.3-8b ***Cumulative Air Impacts***

Cumulative Localized Stationary Source TAC Impacts Project-generated emissions of TACs could contribute, on a cumulative basis, to localized increases in TAC concentrations. This impact is considered potentially significant.

As previously discussed, sensitive land uses located in the vicinity of the project site consist primarily of residential land uses. The analysis of cumulative conditions assumes buildout and occupancy of the currently undeveloped residential development located approximately 180 feet (55 m) north of the northern boundary of the project site, which is much closer to the project than the existing day care center located approximately 0.29 mile (1,531.2 feet) north of the project site. This residential development is the nearest sensitive receptor for the cumulative scenario.

The SJVAPCD considers impacts of local pollutants (CO, TACs) to be cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards (SJVAPCD, 2002; pg.29). Cumulative TACs depend on the future mix of local uses, which are not known. A surrogate approach was used to assess the potential TAC impacts on sensitive receptors. The cumulative TAC scenario represents the likely emissions from other future development projects planned in the area, in addition to the proposed project. Therefore, the cumulative modeling examined the TAC emissions from the likeliest TAC source (fast food restaurants) for each of the proposed developments, at the same ratio as the proposed project. The risk associated with cumulative operational stationary source TACs is 5.60 E-07. This risk is less than the 10 in 1 million MEI threshold and is therefore considered **less than significant.** Modeling results are supplied in Appendix 3.3 of this DEIR.

Cumulative Localized CO Impacts Project-generated emissions of CO could contribute, on a cumulative basis, to localized increases in CO pollutant concentrations. This impact is considered potentially significant. As noted in Impact 3.3-5, implementation of the proposed project would not be anticipated to contribute to localized concentrations of mobile source CO under future cumulative conditions. Cumulative mobile source emissions of TACs (e.g., CO and DPM) will be lessened with the proposed roadway improvements set forth in the traffic study and listed in Mitigation Measures **MM 3.13.1-a, 3.13-1b, 3.13-1c,** and **MM 3.13-2a** through **MM 3.13-2g**. (Omni-Means, 2014; pgs. 38-44; Appendix 3.13). These mitigation measures will decrease CO by improving traffic congestion. By improving roadway LOS above LOS "E" or "F", the cumulative CO emissions will not create a hotspot according to

the SJVAPCD GAMAQI (SJVAPCD, 2002; pg. 49). By eliminating hotspot potential, mobile source CO emissions will be considered **less than significant**.

Cumulative Localized DPM Impacts Project-generated emissions of DPM could contribute, on a cumulative basis, to localized increases in DPM pollutant concentrations. This impact is considered potentially significant.

Before mitigation, DPM is not expected to exceed the 10 in 1 million MEI threshold based upon the Existing Plus Project traffic volumes identified in the traffic study, and the DPM modeling conducted with the same traffic volumes. The risk from cumulative DPM emissions is estimated from the SJVAPCD-provided mall spreadsheet and the surrogate approach explained in Impact 3.3-8b. The DPM risk from truck travel is 7.80 E-07 and truck idling is 1.74 E-07. This modeling represents a "worst case scenario" because intersection improvement mitigation measures were not included in the model. Cumulative impacts would be lessened even further with the proposed project traffic mitigation in Mitigation Measures **MM 3.13-1a, MM 3.13-1b, MM 3.13-1c,** and **MM 3.13-2a** through **MM 3.13-2g**. This is below the 10 in 1 million MEI threshold and therefore cumulative DPM emissions are considered **less than significant**.

Conclusion

The cumulative localized TAC emissions from future developments associated with all sources (stationary and mobile) is 1.5 E-06. This is below the 10 in one million MEI threshold and is therefore considered **less than significant.**

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3.4 BIOLOGICAL RESOURCES

This section evaluates potential impacts to biological resources resulting from the proposed project. Biological resources include potentially occurring special status species, wildlife habitats, and vegetation communities. The analysis of the impacts on biological resources presented in this section is based on a Biological Screening Assessment and wildlife survey conducted on May 30, 2013 prepared for the proposed project (EcoBridges Environmental, 2013, Appendix 3.4-1), and additional surveys conducted by BSK on February 6 and May 30, 2013 (BSK, 2013, Appendix 3.4-1), maps, and other available literature.

3.4.1 EXISTING ENVIRONMENTAL SETTING

Regional Setting

The project site is located within the City of Delano (City), Kern County, California (Township 25 South, Range 25 East, Section 14). The area to be developed is located on the corners of the Delano West, Delano East, McFarland, and Pond U.S. Geological Survey (USGS) 7.5-minute topographical quadrangle maps (quads)(USGS, 2012a; USGS, 2012b; USGS 2012c; USGS 2012d). Appendix 3.4-1, Biological Studies: Special Status Species Occurring In or Near the Project Area notes special status plant and wildlife species that have been recorded by California Department of Fish and Wildlife (DFW)[1] and United States Fish and Wildlife Service (USFWS) as having occurred within these four quadrangles. As illustrated by the Kern County Wildlife Habitats map prepared by CAL FIRE[2] for the Forest and Range 2002 Assessment, Kern County consists of over forty-five different land cover classifications, including annual grassland, desert scrub, subalpine conifer, urban, and irrigated cropland, the classification of the proposed project site (FRAP, 2004).

Local Setting

Habitat observed within the project site consists of ruderal grassland and agricultural fields. The immediate surrounding areas contain a combination of agricultural and urban uses.

Existing and Historical Site Conditions

Aerial photographs from 1946 to 2010 were reviewed as part of the environmental assessment. Based on the photographs, farming occurred on the property from 1946, to 1994, (EDR, 2013). Rural residential development occurred along the south side of Woollomes Avenue sometime around 1952 (City of Delano, 2007; pg. 3-7-2). The neighboring Home Depot building was visible in 2005. No activity appears to be evident on the property from 2005 to the current day (EDR, 2013). At the time of the site

[1] Note: The California Department of Fish and Wildlife (DFW) was known as the California Department of Fish and Game (DFG) until January 2013. References to policies and documents prepared by the DFG, as well as text taken from those policies and documents, may retain that acronym.

[2] Note: CAL FIRE was known as the California Department of Forestry and Fire Protection (CDF) until May 2006. References to policies and documents prepared by CDF, as well as text taken from those policies and documents, may retain that acronym.

reconnaissance by BSK in early 2013, the approximately 44.64-acre parcel was undeveloped agricultural land with no structures.

Biological Communities

BSK and Ecobridges biologists conducted site reconnaissance surveys on February 6 and May 30 of 2013 to evaluate the existing habitat at the project site. Observations made during these site visits are described below, along with information gathered regarding historical use of the site. Special status wildlife species, sensitive plants and critical habitat expected or known to occur within the general project area are also discussed.

Site Reconnaissance and Resource Review

Vegetation noted during the site reconnaissance consisted of invasive/ruderal plant species with occasional interspersed patches of bare ground. The northeast corner contained crushed debris from a small former residence. No known listed (endangered, threatened, or Species of Special Concern) species were observed to occur on the site, with the exception of a white-tailed kite (California Fully Protected Species) observed foraging adjacent to the project site during the February 6, 2013 site visit (Appendix 3.4-1).

A review of aerial imagery of the site was also conducted (EDR, 2013). Aerial imagery from 2011 shows the site with a blackened surface, which corresponds with information from the City that a fire burned across the entire site.

The CAL FIRE Wildlife Habitats map of Kern County categorizes the site as irrigated cropland with surrounding areas of *irrigated cropland*, *annual grassland*, and *urban land* (FRAP, 2004).[3] These habitat classes for the site and its surrounding area are described below. The USFWS Critical Habitat Mapper does not identify any critical habitat on or near the site.[4] The nearest critical habitat for any species is over ten miles from the site.

Annual Grassland

In California, annual grassland generally occurs on flat plains to gently rolling foothills throughout the Central Valley, in the coastal mountain ranges to Mendocino County, and in scattered locations in the south portion of the state. Dominant species found within this habitat varies across the state, depending upon the location. Surveys conducted by the California Native Plant Society (CNPS) in 2010 on three large grassland sites in Kern County reported dominant coverage by the following native grassland species: *Lasthenia californica* (California goldfields), *Plantago erecta* (California plantain), *Layia pentachaeta* (Sierra layia), *Plagiobothrys* spp. (popcorn flowers), *Lepidium nitidum* (shining pepperweed), *Trifolium gracilentum* (pinpoint clover), *Vulpia microstachys* (small fescue), *Monolopia lanceolata* (monolopia), *Coreopsis calliopsidea* (leafstem tickseed), *Amsinckia* spp. (fiddenecks), *Lupinus nanus* (sky lupine), and *Castilleja exserta* (purple owl's clover). Commonly found introduced plant

[3] Cal Fire map link: http://frap.cdf.ca.gov/webdata/maps/kern/fvegwhr_map.15.pdf
[4] Critical Habitat link: http://criticalhabitat.fws.gov/crithab/

species observed at the same sites included *Bromus* spp. (bromes), *Vulpia myuros* (rat's tail fescue), *Hordeum* spp. (barleys), *Sisymbrium irio* (London rocket), *Brachypodium distachyon* (purple false brome), *Avena barbata* (slender wild oat), and *Erodium cicutarium* (redstem filaree) (CNPS, 2011; pgs. 24 to 26).

The structure of annual grassland varies from year to year, based largely on precipitation, season, and presence of livestock (Kie, 1988; pg. 1). Annual plant seeds are germinated by rain in the fall months. Following these rains, plants grow slowly throughout the winter remaining relatively small until the spring when rising temperature stimulates rapid growth. Most annuals mature between April and June, although some species continue to grow into the summer. Grazing by livestock typically supports a greater abundance of shorter grass (less than 12 inches tall). Without the presence of livestock, annual grassland generally grows tall (greater than 12 inches) and dense.

There was no intact native annual grassland noted during the site reconnaissance, and the minor fragments of annual grassland that did exist consisted mainly of introduced and ruderal plant species, with interspersed patches of bare ground.

Irrigated Cropland

Irrigated cropland in this area of Central California includes, but is not limited to, grain crops (e.g., corn, safflower), hayfields, vineyards, and row and field crops (e.g., tomatoes, lettuce). The distribution of irrigated cropland habitat varies from site to site and year to year based on market demands driving crop production. Some species (e.g., rodents and birds) have adapted to cropland habitats and utilize them for foraging habitat (Schultze, 1999a; pg. 2). Flooded croplands can serve as freshwater wetlands for shore and wading bird species and as a source of fresh drinking water for other wildlife (Schultze, 1999a; pg. 2).

Irrigated grain and seed crops are annuals varying in height from a few inches to feet, are typically planted in spring and harvested in fall, and can form 100 percent canopy or have large open spaces between rows (Schultze, 1999a; pg. 1). Irrigated hayfields create dense habitat with nearly 100 percent cover at an average height of 1.5 feet after an initial two to six month growing period (Fitzhugh and Schultze, 1999; pg. 1). Vineyards provide foraging habitat to wildlife in several forms: vines for herbivorous mammals, fruit for birds and small mammals, and small birds and mammals for raptors (Schultze, 1999b; pg. 2). Irrigated row and field crops can be annual or perennial, form dense cover or have space between rows, and vary in height; they provide foraging habitat and freshwater for several bird and mammal species (Schultze, 1999c; pg. 2).

No evidence of recent planting of irrigated crops was noted during the site observations.

Urban

Urban habitat is distinguished by the presence of both native and exotic species maintained in a relatively static composition within a downtown, residential, or suburban setting. Species richness in these areas depends greatly upon community design (i.e., open space considerations) and proximity to the natural environment (McBride and Reid, 1988; pg. 3).

The California Wildlife Habitat Relationships (CWHR) system classifies urban habitat into five different vegetation types: tree grove, street strip, shade tree/lawn, lawn, and shrub cover (McBride and Reid, 1988; pg. 1). Tree groves refer to conditions typically found in city parks, green belts, and cemeteries. These areas vary in tree height, spacing, crown shape, and understory conditions. Street strip vegetation, located roadside, varies with species type, but typically includes a ground cover of grass. Shade trees and lawns refer to characteristic residential landscape, which is reminiscent of natural savannas. Lawns are composed of a variety of grasses, maintained at a uniform height with continuous ground cover through irrigation and fertilization. Shrub cover refers to areas commonly landscaped and maintained with hedges, as typically found in commercial districts. All five types of urban habitat are generally found in combination creating considerable edge effect, which can be more valuable to wildlife than any one individual unit (McBride and Reid, 1988; pg. 1).

Special Status Species

In general, special status species include plants and wildlife that are:

- Listed and protected under the Federal and/or California Endangered Species Acts
- Protected under other federal and/or state laws and regulations

(DFG, 2011; pgs. 1 to 2; and USACE, 2006; pg. 1)

Specifically, special status species are those that are officially designated as “threatened,” “endangered,” species by USFWS; are officially designated as “rare,” “threatened,” “endangered,” or “candidate” species listed by DFW; are listed as “Fully Protected” or “California Special Concern” by the DFW; are considered rare, threatened, or endangered under the conditions of section 15380 of the CEQA Guidelines, such as plant taxa identified on lists 1A, 1B, and 2 in the CNPS Inventory of Rare and Endangered Vascular Plants of California. Some species may also be designated as species of special concern by local jurisdictions due to limited data regarding distribution, which precludes listing them as threatened or endangered at the state or federal level.

Appendix 3.4-1 Special Studies, Special Status Species Occurring In or Near the Project Area, included in the Technical Appendices of this EIR, lists special status species identified by the DFW California Natural Diversity Database (CNDDB) and USFWS that may be affected by projects in the Delano East, Delano West, Pond, and McFarland quadrangles (CNDDB, 2013). Species noted as being unlikely to occur within the project site are considered to be beyond their known range or to have low habitat suitability for reproduction, cover, and/or foraging.

Special Status Plants

The project site has been leveled, disked, planted, and irrigated for agricultural land use activities for decades and predominantly contains weedy (or ruderal) plant species. None of the special status plant species historically observed and recorded in quadrangles Delano East, Delano West, Pond, and McFarland have been recorded on the site of the proposed project. As described in Appendix 3.4-1, only two special status plant species have been observed and recorded within five miles of the project site

within the last several decades: Earlimart orache (*Atriplex erecticaulis*) and recurved larkspur (*Delphinium recurvatum*). A California jewel-flower (*Caulanthus californicus)* occurrence was observed within five miles of the site. The sighting was in the 1930s and was verified in the 1980s to be extirpated (locally extinct). None are mapped as distributed within thirty miles of the project site (Kern County, 2006; pgs. 5-19 to 5-25).

Annual grassland provides suitable habitat for all but one special status plant species discussed in Appendix 3.4-1. While native habitat at the site may have been annual grassland historically, decades of agricultural activities have replaced the habitat with ruderal farm field. The February 2013 site survey found predominantly ruderal plant species, due to regular plowing of the soil and a recent fire at the site. The site is not currently suitable habitat for these special status plant species and their presence is unlikely.

Special Status Wildlife

Review of species' life history and habitat suitability data indicates that special status wildlife species protected by State and Federal regulatory agencies have a potential for occurrence at the project site, three of which have the potential to occur and would require pre-construction surveys. Appendix 3.4-1 identifies these species and their protected status (DFG, 2011; pgs. 1 to 10). In addition, the nesting raptor and migratory bird species that are protected under section 3503.5 of the California Fish and Game Code and Migratory Bird Treaty Act have a potential for occurrence at the project site. These species are discussed below.

Raptors and Migratory Birds

Migratory birds forage and nest in a variety of habitats, including ruderal fields and urban regions. Active bird nests potentially found within the project area are typically protected under the Migratory Bird Treaty Act and section 3503.5 of the California Fish and Game Code, which prohibits their disturbance or destruction with certain exceptions. Raptors and migratory birds were detected on and near the project site during early 2013 site reconnaissance visits (Appendix 3.4-1).

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a California species of special concern. Found commonly in fallow agricultural fields and low-growing grassland, this gregarious owl also frequents habitats such as airport fields, highway shoulders, golf courses, and vacant lots. As a subterranean nester, the burrowing owl is dependent upon ground squirrels or other small mammals for ideal nest sites and tends to reuse the same burrows year after year. Man-made structures such as cement culverts, debris piles, or openings beneath pavement can also provide suitable nest areas. (California Burrowing Owl Consortium, 1993; pg. 1).

Nesting season begins as early as February 1 and continues through August 31, peaking between April 15 and July 15 (DFG, 2012; pg. 6). The young are initially dependent on their parents for food and warmth and generally leave the nest about 28 days from hatching. Disturbance of nest sites

(harassment within 160 feet of the burrow) and habitat loss contribute to the decline of this species (California Burrowing Owl Consortium, 1993; pg. i).

The City recognizes that the burrowing owls potentially occur within or near the boundaries of its General Plan (City of Delano, 2005; pg. 4-15). Habitat at the site and immediate surrounding areas provides small mammal burrows, an essential element for potential occurrence of this species (California Burrowing Owl Consortium, 1993; pg. 1). Therefore, it is possible that burrowing owls use the project area for reproduction, cover, and/or foraging, although they were not observed during the site visits.

San Joaquin Kit Fox

The San Joaquin kit fox (*Vulpes macrotis mutica*) is a federal endangered and California threatened listed species that may be found at the project site (Appendix 3.4-1). This fox is believed to have ranged historically from southern Kern and San Luis Obispo counties in the south to Contra Costa and Stanislaus counties in the northern portion of the San Joaquin Valley (USFWS, 2010a; pg. 12). They inhabited several San Joaquin Valley vegetation communities, including annual grassland and a variety of scrub habitats. Today, San Joaquin kit fox populations are extremely fragmented. In their northern range, the kit fox is found primarily in foothill grassland, oak savannah, and adjacent agricultural areas. In the southern range, the kit fox inhabits grassland and scrubland communities, including those that have been modified by development, such as oil exploration, agriculture, grazing and land conversion (USFWS, 2010a; pg. 25).

The San Joaquin kit fox is primarily carnivorous, feeding on small mammals (hares [*Lepus* spp.], rabbits [*Sylvilagus* spp.], kangaroo rats [*Dipodomys* spp.], California ground squirrel [*Spermophilus beecheyi*], San Joaquin antelope squirrel [*Ammospermophilus nelsoni*], white-footed mice and pocket mice [*Peromyscus* spp.]), ground-nesting birds, chukar (*Alectoris chukar*), insects, and some vegetation (mostly grass) (EPA, 2010; pg. 2; and USFWS, 2010a; pg. 2). Dens are used for temperature regulation, shelter from adverse weather, protection from predators, and refuge for the pups. The kit fox digs dens in open, level areas with loose-textured soils. The kit fox also uses dens constructed by other animals and man-made structures such as culverts, abandoned pipelines, or banks in sumps or roadbeds. The kit fox often changes dens, so many different dens may be used throughout the year (EPA, 2010; pg. 1). Adult breeding pairs of the kit fox stay together throughout the year. The females begin to clean and enlarge pupping dens between September and October, and mating occurs between December and March. The pups are born after a 48-52 day gestation period (EPA, 2010; pg. 1) and emerge from the den about one month later. Disturbance or loss of dens, fragmentation of habitat, hunting, trapping, use of off-road vehicles, and use of rodenticides and other poisons contribute to the decline of the San Joaquin kit fox (USFWS, 2010a; pgs. 25 to 64).

Local plans and records include observations of the San Joaquin kit fox. The City recognizes that the San Joaquin kit fox potentially occurs within or near their General Plan area (City of Delano, 2005; pg. 4-15). The CNDDB includes roughly a half dozen reported occurrences of the San Joaquin kit fox within five miles of the project area in recent decades (CNDDB, 2013). Mapping of the San Joaquin kit fox

distribution found in the first public draft of the HCP indicates that the species occurs within two miles of the project site (Kern County, 2006; pg. 5-56). Therefore, it is possible that the San Joaquin kit fox may utilize the project location, although they were not observed during the site visits.

Tipton Kangaroo Rat

The Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) is a federal and California endangered species that may be found at the project site (Appendix 3.4-1). The historical range of this species covered about 1.7 million acres of arid-land valley communities of the Tulare Basin, but has been reduced to roughly four percent of this original acreage primarily due to cultivation and urbanization (USFWS, 2010b; pg. 2). Often separated by physical barriers such as roads and canals, current populations are limited to small and isolated patches (USFWS, 2010b; pg. 30).

Local plans and records include the Tipton kangaroo rat. The City recognizes that the Tipton kangaroo rat potentially occurs within or near their General Plan area (City of Delano 2005; pg. 4-15). The CNDDB shows the project area as located within the current distributional range of the Tipton kangaroo rat (USFWS, 2010b; pg. 6), and CNDDB RareFind data show a half dozen recorded occurrences within ten miles of the project site in the last several decades, one of which was less than two miles from the project site (CNDDB, 2013). Mapping of the Tipton kangaroo rat distribution found in the first public draft of the HCP indicates that the species occurred historically within five miles of the project site (Kern County, 2006; pg. 5-50). The site provides moderately suitable habitat for reproduction and cover of the Tipton kangaroo rat and highly suitable habitat for foraging. A site reconnaissance visit conducted in May 2013 identified a potential kangaroo rat burrow system along the northern edge of the property (Appendix 3.4-1). While no information identified the system as belonging to the Tipton kangaroo rat, it is possible that the Tipton kangaroo rat could utilize the project location.

American Badger

The American badger (*Taxidea taxus*) is a California species of concern that may be found at the project site (Appendix 3.4-1). In California, this species is found throughout much of the state, with the exception of the humid and densely forested North Coast area (Williams, 1986; pg. 66). American badger populations in California have been drastically reduced by loss of habitat due to urban and agricultural development and incidental and deliberate killing (Williams, 1986; pg. 66). Local plans and records include the American badger. Mapping of the American badger distribution found in the first public draft of the HCP indicates that the species occurs in two small areas north and northeast of Delano within five miles of the project site; the next closest area of distribution is between five and ten miles from the project site (Kern County, 2006; pg. 5-57). CNDDB RareFind data indicates a recorded occurrence within ten miles of the project site (CNDDB, 2013). The project site provides potentially suitable habitat for American badger reproduction, shelter, and foraging; therefore, it is possible that the American badger could use the project location, although they were not observed during the site visits.

Blunt-nosed Leopard Lizard

The blunt-nosed leopard lizard (*Gambelia sila*) is a federal and California endangered species that may be found at the project site (Appendix 3.4-1). The historical range of this species covered about 7.5 million acres in California, north to south from the Sacramento-San Joaquin Delta to the Tehachapi Mountains, and east to west from the Sierra Nevada foothills to the Coast Range, including the San Joaquin Valley, Kettleman Plain, Carrizo Plain, and Cuyama Valley (City of Bakersfield, 1994; pg. 23). The 1985 range of the blunt-nosed leopard lizard was estimated at 415,680 acres, a reduction of 95% from the species' estimated historical range (USFWS, 1985 as cited in City of Bakersfield, 1994; pg. 28).

Local plans and records include the blunt-nosed leopard lizard. The City recognizes that the blunt-nosed leopard lizard potentially occurs within or near their General Plan area (City of Delano, 2005; pg. 4-15). CNDDB RareFind data show about a dozen recorded occurrences within ten miles of the project site in the last several decades (CNDDB, 2013). Mapping of the blunt-nosed leopard lizard distribution found in the first public draft of the HCP indicates that the species occurs within two miles of the project site (Kern County, 2006; pg. 5-39). The project site is potentially suitable for use of this species; therefore, it is possible that the blunt-nosed leopard lizard could use the project location, although they were not observed during the site visits.

Sensitive Habitats

Sensitive habitats include: a) areas of special concern to resource agencies, b) areas protected under the California Environmental Quality Act (CEQA), c) areas designated as sensitive natural communities by DFW, and d) areas protected under local regulations and policies. Sensitive habitats were not observed at the project site either during the site reconnaissance in February 2013, or during a subsequent review of aerial photography (EDR, 2013). The site consists of irrigated agricultural and ruderal annual grassland, which is common throughout California and is of low habitat quality. As such, it is not considered sensitive habitat by resource agencies or local ordinances.

Wildlife Corridors

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link undisturbed areas that would otherwise be fragmented. Maintaining the continuity of established wildlife corridors is important to sustain species with specific foraging requirements, preserve a species' distribution potential, and retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource. No known wildlife migration routes or corridors that were identified occur within the project site (DFW, 2013). Furthermore, since the surrounding area has existing residential and commercial development, and the unincorporated areas to the south and west of the project site are open and undeveloped, no potential impact to wildlife corridors is expected from project implementation.

3.4.2 REGULATORY SETTING

Federal Regulations

Federal Endangered Species Act

The Federal Endangered Species Act (ESA) (16 U.S.C § 1531), protects and facilitates recovery of federally listed threatened and endangered animal and plant species and their habitats from unlawful take. "Take" under ESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS regulations define "harm" to include some types of "significant habitat modification or degradation." "Harm" may include habitat modification "where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (*Babbit v. Sweet Home Chapter of Communities for a Great Oregon* (1995) 515 U.S. 687, 691.) Section 7 of the ESA requires that federal agencies, in consultation with USFWS or the National Oceanic and Atmospheric Administration (NOAA) Fisheries, use their authorities to further the purpose of ESA and to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. Section 10(a)(1)(B) allows non-federal entities to obtain permits for incidental taking of threatened or endangered species through consultation with USFWS or NOAA Fisheries.

Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C §§ 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of Federal Regulations part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. § 21). If nests are found, they must remain protected during construction activities until the young birds have fledged, unless otherwise authorized by DFW and/or USFWS.

San Joaquin Valley Upland Species Recovery Plan

The recovery plan covers 34 species of plants and animals that occur in the San Joaquin Valley. The ultimate goal of this recovery plan is to delist the 11 endangered and threatened species and ensure the long-term conservation of the 23 candidates and species of concern. An interim goal is to reclassify the endangered species to threatened status. USFWS is responsible for the implementation of the recovery plan (CSU Stanislaus 2006).

The 11 listed species include 5 federally endangered plants (California jewel-flower [*Caulanthus californicus*], palmate-bracted bird's-beak [*Chloropyron palmatum*], Kern mallow [*Eremalche kernensis*], San Joaquin woolly-threads [*Monolopia congdonii*], and Bakersfield cactus [*Opuntia basilaris* var. *treleasei*]), 1 threatened plant (Hoover's woolly-star [*Eriastrum hooveri*]), and 5 endangered animals (giant kangaroo rat [*Dipodomys ingens*], Fresno kangaroo rat [*Dipodomys nitratoides exilis*], Tipton kangaroo rat [*Dipodomys nitratoides nitratoides*], blunt-nosed leopard lizard [*Gambelia silus*], and San Joaquin kit fox [*Vulpes macrotis mutica*]). In addition, 23 candidates or species of concern are addressed. The plants include lesser saltscale (*Atriplex minuscula*), Bakersfield smallscale (*Atriplex tularensis*), Lost

Hills saltbush (*Atriplex coronata* var. *vallicola*), Vasek's clarkia (*Clarkia tembloriensis* ssp. *calientensis*), Temblor buckwheat (*Eriogonum temblorense*), Tejon poppy (*Eschscholzia lemmonii* ssp. *kernensis*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), Comanche Point layia (*Layia leucopappa*), Munz's tidy-tips (*Layia munzii*), Jared's peppergrass (*Lepidium jaredii* ssp. *jaredii*), Merced monardella (*Monardella leucocephala*), Merced phacelia (*Phacelia ciliata* var. *opaca*), and oil neststraw (*Stylocline citroleum*). The animals include Ciervo aegialian scarab beetle (*Aegialia concinna*), San Joaquin dune beetle (*Coelus gracilis*), Doyen's dune weevil (*Trigonoscuta* sp.), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*), riparian woodrat (*Neotoma fuscipes riparia*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), Buena Vista Lake shrew (*Sorex ornatus relictus*), riparian brush rabbit (*Sylvilagus bachmani riparius*), and San Joaquin Le Conte's thrasher (*Toxostoma lecontei lecontei*).

Wetlands and Other Waters of the U.S.

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies.

United States Army Corps of Engineers (USACE) exerts jurisdiction over "waters of the U.S.," including all waters that are subject to the ebb and flow of tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the U.S. is generally defined as that portion that falls within the limits of the "ordinary high water" mark. Typically, the ordinary high water mark (OHWM) corresponds roughly to the 2-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology) as determined by field investigation must be present for a site to be classified as a wetland by USACE (USACE 1987).

Federal Clean Water Act (33 U.S.C. 1251 through 1376)

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that a project proponent for a federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredge or fill material) into waters of the United States.

Section 404 establishes a permit program administered by USACE regulating the discharge of dredged, or fill, material into waters of the United States, including wetlands. Implementing regulations by USACE are found at 33 CFR Parts 320–330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the Environmental Protection Agency (EPA) in conjunction with USACE (40 CFR Part 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

State Regulations

California Endangered Species Act

Under the California Endangered Species Act (CESA), DFW has the responsibility to maintain a list of endangered and threatened species (Fish and Game Code section 2070). DFW also maintains a list of "candidate species," which are species that DFW formally notices as being under review for addition to the list of endangered or threatened species. Pursuant to the CESA and CEQA, a lead agency reviewing any project within the state must determine whether state-listed endangered or threatened species may be present in the project study area and determine whether the proposed project may have a potentially significant impact on such species.

California Department of Fish and Wildlife

Streambed Alteration Agreement (Sections 1600-1607 of the California Fish and Game Code): state, local public agencies, and private entities are subject to section 1602 of the California Fish and Game Code, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the DFW. Under section 1602, a discretionary Stream Alteration Agreement must be issued by the DFW to the project applicant prior to the initiation of construction activities within a streambed. As a general rule, this requirement applies to any work undertaken within the 100-year floodplain of a stream or river containing fish or wildlife resources.

Native Plant Protection Act: The Native Plant Protection Act (California Fish and Game Code section 1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a State designation of rare, threatened, or endangered (as defined by DFW). An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify DFW and give the agency at least 10 days to salvage the plants before they are destroyed.

Birds of Prey: Under section 3503.5 of the California Fish and Game Code, it is "unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

"Fully Protected" Species: California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, and amphibians. Section 3505 of the California Fish and Game Code makes it unlawful to "take" "any aigrette or egret, osprey, bird of paradise, goura,

numidi, or any part of such a bird." Section 3511 protects from "take" the following "fully protected bird" that was observed foraging at the proposed project site: white-tailed kite (*Elanus leucurus*). Fish and Game Code section 5050 protects from "take" the following "fully protected reptile" that could be present at the site: blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*).

"Special Concern" Species: According to section 15380 of the CEQA Guidelines species of special concern should be included in an analysis of project impacts. Project-level impacts to listed (rare, threatened, or endangered) species are generally considered significant, thus requiring lead agencies to prepare an Environmental Impact Report to fully analyze and evaluate the impacts. In assigning "impact significance" to populations of *non-listed* species, an analysis may consider factors such as population-level effects, proportion of the taxon's range affected by a project, regional effects, and impacts to habitat features. The following California species of special concern was observed foraging at the proposed project site: Northern harrier (*Circus cyaneus*).

California Wetland Definition and Policy

California has relied on the previously described CWA while it continues to develop its own wetland policy. The State Water Resources Control Board (SWRCB) issued Resolution RS2008-0026 to direct this policy development, and as of March 2014, it was not final. The SWRCB has identified that the Porter-Cologne Water Quality Control Act is the legal mechanism for protection of non-federal waters http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/stateregulation_isolatedwaters.pdf).

State law does provide for the definition and protection of wetlands including the Keene-Nejedly California Wetlands Preservation and California Wildlife Protection Acts (Pub. Resources Code, section 5812 and Fish & Game Code section 2785). The Keene-Nejedly California Wetlands Preservation Act defined wetlands as:

> "...streams, channels, lakes reservoirs, bays, estuaries, lagoons, marshes, and the lands underlying and adjoining such waters, whether permanently or intermittently submerged to the extent that such waters and lands support and contain significant fish, wildlife, recreational, aesthetic, or scientific purposes." (Pub. Resources Code section 5812).

California Wildlife Protection Act defines "wetlands" as lands which may be covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools. (Fish & Game Code 2785).

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the State fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge

requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

CEQA Guidelines, Section 15380

Although threatened and endangered species are protected by specific federal and State statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected, and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDB as sensitive are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents such as general plans often identify these resources as well.

Local Regulations

City of Delano General Plan

The following objective and related policies from the Natural Resources section of the Open Space and Conservation Element of the City General Plan are relevant to biological impacts:

> Objective: To protect natural resources including groundwater, soils, and air quality, to meet the needs of present and future generations.
>
> > Policy 6: Promote biological diversity and the use of plant species compatible with the bio-region.
> >
> > Policy 10: Properties which may have listed plant and animal species will be required to have biological investigation if such species may be present. Federal and State protocols and requirements shall be used for such surveys and needed mitigation.
>
> (City of Delano, 2005; pgs. 4-18 to 4-19.)

3.4.3 IMPACTS AND MITIGATION MEASURES

Methodology

Available published information pertaining to biological resources within the project action area, which refers to the area directly or indirectly affected by the proposed action, was reviewed during this analysis. This information included, but was not limited to:

- City of Delano General Plan (City of Delano, 2005)
- Inventory of Rare and Endangered Plants for the Pond, Delano East, Delano West, McFarland, Wasco, Wasco NW, Wasco SW, Famoso, and Allensworth topographic quadrangles (CNPS, 2013)
- California Natural Diversity Database records for the Delano East, Delano West, McFarland, and Pond topographic quadrangles (CNDDB, 2013)
- The Jepson Manual: Higher Plants of California (Baldwin et al., 2012)
- National Audubon Society, Field Guide to California (Alden and Heath, 1998)
- List of Federal Endangered and Threatened Species that occur in or may be affected by projects in Pond, Delano East, Delano West, and McFarland topographic quadrangles (USFWS, 2013a)
- USGS 7.5 minute McFarland, Delano East, Delano West, and Pond topographic quadrangles (USGS, 2012a; USGS, 2012b; USGS 2012c; USGS 2012d)
- Aerial photos of the project site (EDR, 2013)

Site Reconnaissance

Site reconnaissance was conducted at the project site on February 6 and May 30, 2013 to characterize existing habitat on-site, such as areas with the potential to support special status species or critical habitats, and to record plant and wildlife species observed on-site. Additional discussion of the site reconnaissance visits is available in Appendix 3.4-1.

Previous Studies at Adjacent Site

As part of environmental review of the nearby commercial project, studies were performed by Pacific Municipal Consultants to establish whether the San Joaquin kit fox or the burrowing owl actively used or reproduced at that project site. Descriptions of the commercial site located southeast of the project site generally match the soil and vegetation conditions at the project site. During the 2006 survey period from August 29 to September 1, no canine tracks or prey remains were observed. A possible sign of old kit fox scat was seen in the northwest corner of the project site. No burrowing owls were observed. Therefore, it is not likely that the San Joaquin kit fox or the burrowing owl inhabited that site. As transient species, there is a possibility that these species had ranged throughout the area and may have sought potential dens on-site (City of Delano, 2007; pg. 3.4-56). In August and September 2005, M.H. Wolfe and Associates performed night spotlighting and diurnal surveys, as well as scent and camera station surveys of areas adjacent to the project site. Their studies also concluded it is unlikely that the

San Joaquin kit fox inhabits adjacent sites, but it is possible this species ranges throughout the area (City of Delano, 2007; pg. 3.4-56).

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines (Appendix G; and CEQA Guidelines section 15065). For the purposes of this DEIR, impacts are considered significant if implementation of the proposed project may result in any of the following:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a sensitive, endangered, threatened, or other special status species in local or regional plans, policies and regulations, or by DFW or USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies and regulations, or by DFW or USFWS.
3. Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local polices or ordinances protecting biological resources, such as a tree preservation policy.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
7. Substantially reduce the habitat of a fish, wildlife, or plant species or cause a species to drop below self-sustaining levels.

Effects Found Not to Be Significant

As analyzed in the Notice of Preparation, one potential effect related to Biological Resources was found not to be significant because the project will have **no impacts** in the area of wetland impacts. The project could have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

No potentially jurisdictional waters or waterways were observed at the project location during the site reconnaissance. No fill material shall be introduced into intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds due to implementation of the project. Therefore, the proposed project is outside the jurisdiction of the U.S. Army Corps of Engineers. For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

Development of the proposed project would result in temporary disturbance and permanent alteration of site conditions that could support special status wildlife species such as federal and California threatened or endangered species of special concern, including the burrowing owl, San Joaquin kit fox, blunt-nosed leopard lizard, and American badger.

The generally disturbed nature of the project site and the presence of active and inactive agriculture uses, as well as existing commercial and residential development around the site, likely reduce the potential diversity of wildlife species in the area.

The project site provides wildlife movement opportunities as it is generally undeveloped open land; however, it does not support habitat or act as a major wildlife movement corridor that would require protection with implementation of the project to preserve connection between habitat areas. The site also does not contain features such as washes that support or concentrate the movement of wildlife.

Surrounding agricultural lands are typically not suitable habitat for the majority of wildlife species; however, such lands may offer foraging or shelter opportunities for mammal and bird species that have adapted to the conditions of occupying such lands.

Expansion of the City's existing stormwater basin located approximately 0.2 mile southwest of the proposed project site is required to hold more stormwater and improve flood control. The removal of soil around the existing stormwater basin for this expansion is considered a potentially significant impact to special status species, if present. A temporary stormwater basin was created on the proposed project site during construction of another commercial project located across the street. Deposition of fill is required to level this temporary stormwater basin area on the proposed project site. The removal of soil from the source site to provide the fill necessary to level the temporary stormwater basin on the project site is considered a potentially significant impact to special status species, if present.

There is the potential for special-status wildlife to enter the project site and could therefore be subject to take. Direct and/or indirect impacts on such wildlife species in the area may therefore occur as the result of construction of the proposed project. Potential impacts may include the disruption of breeding or foraging behavior, alteration of wildlife movement patterns, and/or mortality (e.g. collisions with project-related vehicles). Once operational, the development of the site with structures, increased impervious surfaces (e.g., roadways, surface parking, etc.), and increased operational activities (e.g. vehicle use) would likely decrease the potential for sensitive plant or wildlife species to establish themselves on-site in the future.

Kit Fox and American Badger

The San Joaquin kit fox, a special status wildlife species, and American badger may occur in the project area (BSK, 2013). Local plans and records include observations of the San Joaquin kit fox. The City of

Delano recognizes that San Joaquin kit fox potentially occur within or near their General Plan area (City of Delano, 2005; pg. 4-15). The CNDDB includes roughly a half dozen reported occurrences of San Joaquin kit fox within five miles of the project area in recent decades (CNDDB, 2013). American badger sightings have occurred in two small areas north and northeast of Delano within five miles of the project site; the next closest area of distribution is between five and ten miles from the project site. CNDDB RareFind data indicates a recorded occurrence within ten miles of the project site (CNDDB, 2013).

Although the project site is degraded, it is potentially suitable for reproduction, cover and foraging of these species. The project site, as well as the nearby existing City stormwater detention basin site that would be expanded as part of the project, and the off-site source of soil to fill the on-site emergency stormwater detention basin may provide temporary refuge for the species (City of Delano, 2007; pg. 3.4-56). No San Joaquin kit fox were observed during surveys performed in August and September of 2006. Neither the kit fox or American badger were seen during the site observations conducted in February and May of 2013 (Appendix 3.4-1). Several habitat elements associated with this species were noted within the project area in 2013, such as ground squirrel burrows, indications of small mammals, and friable soils. Therefore, construction and operation of the proposed project could affect the San Joaquin kit fox if individuals are using the project site, the existing City stormwater detention basin site, or the off-site source of soil to fill the on-site emergency stormwater detention basin for temporary refuge, both directly (e.g., removal of habitat) and indirectly (e.g., increased human activity). Special status wildlife species are considered to be a sensitive resource by federal and state resource agencies, so alteration of the project site to urban uses is considered a potentially significant impact. Implementation of the Mitigation Measures **MM 3.4-1b** through **MM 3.4-1g** would reduce impacts to San Joaquin kit fox and American badger to a **less than significant** level.

Tipton Kangaroo Rat

The City of Delano recognizes that Tipton kangaroo rat potentially occurs within or near their General Plan area (City of Delano 2005; pg. 4-15). The CNDDB shows the project area as located within the current distributional range of Tipton kangaroo rat (USFWS, 2010b; pg. 6), and CNDDB RareFind data show a half dozen recorded occurrences within ten miles of the project site in the last several decades, one of which was less than two miles from the project site (CNDDB, 2013).

The Tipton kangaroo rat, a special status wildlife species, may occur in the project area. The site provides moderately suitable habitat for reproduction and cover and highly suitable habitat for foraging. While no Tipton kangaroo rats were observed during the site reconnaissance by (BSK, 2013), several habitat elements associated with this species were noted within the project area, such as burrows, indications of small mammals, and friable soils. Therefore, construction and operation of the proposed project could affect the Tipton kangaroo rat if individuals inhabit the project site, the potential footprint of the City stormwater basin expansion, or at the off-site source of soil used to fill the on-site emergency stormwater detention basin. Special status wildlife species are considered to be a sensitive resource by federal and state resource agencies, so alteration of the project site to urban uses is considered a potentially significant impact.

Mitigation Measure **MM 3.4-1b** would minimize construction impacts on sensitive species such as Tipton kangaroo rat, and other sensitive species by requiring a preconstruction biota survey prior to ground disturbance activities and establishing appropriate buffers. Mitigation Measure **MM 3.4-1g** would minimize impacts Tipton kangaroo rats by requiring implementation of exclusion fencing and other avoidance measures approved by CDFW, and also ensure that construction activities would not cause take of the species. Mitigation Measures **MM 3.4-1b** and **MM 3.4-1e** further ensure minimization of impacts by requiring implementation of a variety of measures designed to protect wildlife and plant species on the project site. Overall, Mitigation Measures **MM 3.4-1b**, **MM 3.4-1d**, **MM 3.4-1e**, and **MM 3.4-1g** would reduce impacts to special-status wildlife species including tipton kangaroo rats, resulting with the proposed project to a **less-than-significant** level.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a California species of special concern. Found commonly in fallow agricultural fields and low-growing grassland, this gregarious owl also frequents habitats such as airport fields, highway shoulders, golf courses, and vacant lots. As a subterranean nester, the burrowing owl is dependent upon ground squirrels or other small mammals for ideal nest sites and tends to reuse the same burrows year after year. Man-made structures such as cement culverts, debris piles, or openings beneath pavement can also provide suitable nest areas. (California Burrowing Owl Consortium, 1993; pg. 1). The City of Delano recognizes that burrowing owl potentially occur within or near the boundaries of its General Plan (City of Delano, 2005; pg. 4-15).

Burrowing owls were not observed on site during reconnaissance surveys. There was no evidence of burrowing owls, but ground squirrel burrows and the concrete debris piles in the northeast corner of the site provide potentially suitable dens. Habitat at the project location is suitable for use by this species. The site survey found numerous California ground squirrel burrows, but no signs characteristic of burrowing owl activity. Therefore, it is possible that burrowing owls would be present at the project location. Implementation of MM 3.4-2, MM3.4-3, MM 3.4-5 and MM 3.4-6 would require avoidance and minimization in order to reduce potential impacts to burrowing owl or other special status species to **less than significant** levels.

Blunt-nosed Leopard Lizard

The blunt-nosed leopard lizard (*Gambelia sila*) is a federal and California endangered species that may be found at the project site (Appendix 3-4-1). The project site is potentially suitable for use of this species; therefore, it is possible that blunt-nosed leopard lizard could use the project location, although they were not observed during the site visits. Implementation of **MM 3.4-1b, MM 3.4-1d, MM 3.4-1e** and **MM 3.4-1g** would require avoidance and minimization in order to reduce potential impacts to blunt-nosed leopard lizards or other special status species to **less than significant** levels.

Special Species Plants

Although no rare plant species have been observed or recorded at the project site, the winter of 2012-13 was a relatively dry water year; hence the spring of 2013 was not an optimal indicator of plant species present, and their presence on-site cannot yet be excluded. Mitigation Measures **MM 3.4-1a**

and **MM 3.4-1b** would require a pre-construction rare plant survey would ensure that no impact will occur to rare plant species that may be on the site, at the potential footprint of the City stormwater basin expansion, or at the off-site source of soil used to fill the on-site emergency stormwater detention basin. To include the flowering times of all potential rare plant species occurrences that could be present in the area, rare plant surveys should generally be conducted in both April and August. Mitigation Measures **MM 3.4-1a** and **MM 3.4-1b** would minimize construction impacts to rare plants by requiring a preconstruction plant survey. Therefore, implementation of **MM 3.4-1a** and **MM 3.4-1b** would reduce this impact to a **less than significant** level.

Mitigation Measure

MM 3.4-1a Prior to the issuance of grading or building permits, the project applicant shall retain a qualified botanist to conduct a pre-construction plant survey of the project site, the potential footprint of the City stormwater basin expansion, and at the off-site source of soil used to fill the on-site emergency stormwater detention basin for the presence of special status plant species according to guidelines listed in the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (DFG, 2009). Survey results shall be submitted to the City, and positive detections submitted to USFWS, and/or DFW as appropriate, for evaluation and comment prior to the onset of construction activities. If no special status plants are located during the surveys, no further mitigation would be required.

If special status plant species are present, the applicant will consult with the City, and with USFWS and/or DFW (as appropriate) to determine appropriate mitigation.

If non-listed special status plant species are found (California Native Plant Society 1A, 1B, and 2B), the project applicant shall notify DFW within 24 hours to provide the opportunity to salvage plants, soil, or seed banks for use in rare plant restoration in mitigation areas.

MM 3.4-1b

a) A pre-construction survey by a qualified biologist shall be conducted no more than 30 days prior to the issuance of grading or building permits. If any evidence of occupation of the project site by listed or other special-status plant or animal species is subsequently observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance to comply with applicable regulations. If sufficient avoidance cannot be established, the United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures. The project proponent shall obtain any required permits from the appropriate wildlife agency. Copies of the preconstruction survey and results, as well as any required permits and evidence of compliance with applicable regulations shall be submitted to the City of Delano.

   The following buffer distances shall be established prior to construction activities:

   - San Joaquin kit fox or American badger potential den: 50 feet
   - San Joaquin kit fox known den: 100 feet

- San Joaquin kit fox or American badger pupping den: contact the California Department of Fish and Wildlife and United States Fish and Wildlife Service
- Burrowing owl burrow outside of breeding season: as recommended by CDFG 2012
- Burrowing owl burrow during breeding season: as recommended by CDFG 2012
- Swainson's hawk nest during breeding season: ½ mile
- Other protected raptor nests during the breeding season: as recommended by qualified biologist
- Other protected nesting migratory bird nests during the breeding season: as recommended by qualified biologist
- Other special-status wildlife species: as recommended by qualified biologist

b) If any evidence of occupation of the project site by listed or other special-status plant or animal species is subsequently observed, a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified Biologist shall be conducted within one week of employment all new construction workers at the project site. The Training Program shall include, but not be limited to, information on the life history of the species observed, as well as other wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Act.

   i. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker.

   ii. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.

MM 3.4-1c

a) If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation (CDFG, 2012).

b) If occupied burrowing owl burrows are observed outside of the breeding season a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (CDFW, 2012) (Table 1). During the breeding season a buffer zone as noted in Table 1 shall be maintained unless a qualified biologist verifies through noninvasive methods that either the

birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

TABLE 3.4-1
BURROWING OWL BURROW BUFFERS (CDFG STAFF REPORT 2012)

Location	Time of year	Level of disturbance		
		Low	Medium	High
Nesting sites	April 1-Aug 15	656 ft	1640 ft	1640 ft
Nesting sites	Aug 16-Oct 15	656 ft	656 ft	1640 ft
Any occupied burrow	Oct 16-Mar 31	164 ft	328 ft	1640 ft

MM 3.4-1d: The measures listed below shall be implemented during construction:

a) If any San Joaquin kit fox dens are found during preconstruction surveys, the status of the dens shall be evaluated no more than 14 days prior to project ground disturbance. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand-excavated following United States Fish and Wildlife Service standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance. If kit fox activity is observed at a den, the den status shall change to "known" per United States Fish and Wildlife Service guidelines (1999), and the buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from the United States Fish and Wildlife Service and California Department of Fish and Wildlife.

b) To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site during construction, the perimeter security fence shall leave a 4- to 5-inch opening between the fence mesh and the ground or the fence shall be raised 4 inches above the ground. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.

c) All pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the United States Fish and Wildlife Service has been consulted. If necessary, under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped.

d) To prevent inadvertent entrapment of San Joaquin kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be

covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If listed species are trapped, the United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted.

e) All vertical tubes used in project construction, such as chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.

MM 3.4-1e: The measures below shall be implemented throughout construction of the project.

a) Project-related vehicles shall observe a 15 mile-per-hour speed limit in all project areas, except on county roads and State and federal highways. Construction after sundown shall be prohibited. Off-road traffic outside of designated project areas shall be prohibited.

b) All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from construction or project site.

c) No pets shall be allowed in project areas.

d) The use of herbicides for vegetation control in project areas shall be restricted. No rodenticides shall be used on the property. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and federal and State legislation as well as additional project-related restrictions deemed necessary by the California Department of Fish and Wildlife and/or the United States Fish and Wildlife Service.

e) No plants or wildlife shall be collected, taken, or removed from the construction areas or areas of off-site improvements, except as necessary for project-related vegetation removal or wildlife relocation. Salvage of native vegetation to be removed from construction areas is encouraged, but shall only be performed by qualified biologists and with written approval from the California Department of Fish and Wildlife.

f) If San Joaquin kit fox known or pupping dens are observed in project areas, the project proponent shall contact the United States Fish and Wildlife Service and California Department of Fish and Wildlife to discuss appropriate actions.

MM 3.4-1f: A pre-construction survey by a qualified biologist for nesting birds shall be required if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds (February 1–August 31), to reduce potential impacts to nesting birds and raptors. The survey shall be conducted within 30 days of ground disturbance activities.

MM 3.4-1g: During construction of the project, if Tipton kangaroo rats, San Joaquin kit foxes, or blunt-nosed leopard lizards are found within the project area, temporary fencing shall be installed around the ground disturbance zone perimeter to prevent individuals from entering the construction zone. If the above species are found within the disturbance zone, work in the vicinity of the animal will

cease until a qualified biologist is on site to determine the appropriate measure to be taken. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the sensitive species is observed leaving the site, work in the area can resume. A report shall be prepared by the biologist to document the activities and a copy of the report shall be submitted to wildlife and resource agency representatives and the City.

Impact 3.4-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS

According to the biological screening assessment conducted for the project, the site was described as dry, degraded, and supported primarily nonnative grasses and a relatively heavy cover of dead Russian thistle (*Salsola kali*), or tumbleweeds. The site had been tilled, possibly within the last year. The surrounding properties are primarily developed with residential uses and commercial operations. The extreme northeast corner of the site supported a few small tree of heaven (*Ailanthus altissima*) trees with a single larger tree of unknown species. Concrete debris and human trash were scattered throughout this small area (Appendix 3.4-1). No drainages, stream courses, and/or other natural water features were identified during the field survey for areas affected by the proposed project. As such, no wetland or riparian habitat or other sensitive natural communities occur on-site. Accordingly, the proposed project would not have a substantial adverse effect on any riparian or other sensitive natural community. However, implementation of Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce potential impacts to **less than significant** levels.

Impact 3.4-3 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

As noted above, site was described as dry, degraded, and supported primarily nonnative grasses, and the land surrounding the project is primarily urbanized and developed. The project site has not been identified as lying within a major terrestrial wildlife movement corridor nor does it concentrate wildlife movement through a corridor linking large areas of undeveloped open space on a local or regional level. Accordingly, the proposed project would not have a substantial adverse effect on any riparian or other sensitive natural community. However, implementation of Mitigation Measures **MM 3.4-1b through MM 3.4-1g** would reduce potential impacts **to less than significant** levels.

Habitat at the site provides suitable nesting opportunities for many avian species, including migratory birds and to a lesser degree, raptors. Raptors and raptor nests are considered to be a protected natural resource by federal and State agencies under the MBTA and California Code of Regulations. Project implementation could result in impacts to nesting birds. Possible nest abandonment as well as mortality to eggs and chicks are considered potentially significant impacts. Construction could also result in noise, dust, increased human activity, and other indirect impacts to nesting raptors or migratory bird species in the project vicinity, the potential footprint of the City stormwater basin expansion, or at the off-site

source of soil used to fill the on-site emergency stormwater detention basin. Implementation of Mitigation Measure **3.4-1f** would require pre-construction survey by a qualified biologist for nesting birds shall be required if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds (February 1–August 31), to reduce potential impacts to nesting birds and raptors to a **less than significant** level.

Impact 3.4-4 Implementation of the proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The City of Delano recognizes various sensitive species that may potentially occur within or near its General Plan area (City of Delano, 2005). However, the project site will not conflict with any local policies or ordinances protecting biological resources. Nonetheless, proposed Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce impacts to biological resources to **less than significant** levels.

Impact 3.4-5 The project could conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The project site is not located within an adopted local, regional, or state habitat conservation plan boundary. Therefore, the proposed project is not in conflict with an adopted Habitat Conservation Plan and no impact is anticipated with development of the proposed project. Nonetheless, proposed Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce impacts to biological resources to **less than significant** levels.

3.4.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

The proposed project, in addition to anticipated cumulative development in the project vicinity, may disturb special status species and associated wildlife movement throughout the local area. These impacts would be considered potentially significant cumulative impacts that would be reduced to **less than significant** levels with the implementation of Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g**.

As presented in the impact discussions above, implementation of the proposed project could theoretically result in a loss of foraging habitat and contribute to biological resource impacts, including potential disturbance of special status species. Anticipated development and urban expansion of the area may further contribute to these impacts and is considered a potentially significant cumulative impact to biological resources.

However, based on the analysis presented, implementation of Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce the proposed project's incremental contribution to cumulative biological resources.

Appropriate performance measures are incorporated within these mitigation measures to ensure that the proposed project would not contribute to the potential loss and/or restriction of biological

resources in the region. Therefore, the proposed project, when combined with other development proposed in the area, would result in would have a **less than significant** cumulative impact to special status species, critical habitats, and wildlife movement.

3.4.5 REFERENCES

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3.5 CULTURAL RESOURCES

This section of the DEIR describes the known historical and cultural resources present at the project site and evaluates the potential impacts to those resources that could result from development of the proposed project. This analysis is based upon a Cultural Resources Assessment completed (Fleagle, 2005), and review of existing policies in the City of Delano General Plan (City of Delano, 2005). The Cultural Resources Assessment Report is included in Appendix 3.5 of this DEIR.

3.5.1 EXISTING SETTING

Regional Setting

The San Joaquin Valley provided an exceptionally rich natural resource base that was used by prehistoric and historic Native American populations. In general, the prehistory of the San Joaquin Valley may be divided into three periods: big game hunting dating back to approximately 8,000 years ago; a shift in subsistence strategy from hunting to the collection of plant resources from approximately 5,000 years ago to A.D. 1200; and habitation of the area by Yokuts from approximately A.D. 1200-1700.

Ethnography

The Southern Yokuts are believed to have occupied the Delano area and developed a distinctive subsistence strategy that used the wetlands that once covered large areas of the southern San Joaquin Valley. The subsistence patterns of the Yokuts included hunting, fishing, and collecting plant resources. They hunted using an un-backed bow and arrows with simple, hardened wood points. Waterfowl were netted or trapped, and fish were netted or speared. In addition, lakes, sloughs, and marshes were used for other resources such as fresh-water mussels and turtles. Yokuts used a wide variety of plant resources, particularly roots and seeds, for food and tule for boats and huts. The Yokuts culture prospered until the arrival of Euroamericans to their territory (Fleagle, 2005; pgs. 8 to 10).

Euroamerican Contact

Contact with Euroamericans dramatically altered the Yokuts culture and as the Euroamerican population increased in California. The Yokuts and their traditional cultures declined, as did other Native American groups (Fleagle, 2005; pg. 10). Euroamericans initially used the San Joaquin Valley for cattle and sheep ranching. The climate, however, was more suited for agriculture, and by 1870 much of the land in the valley was primarily used for wheat farming. Farming continued to expand in the area and currently the San Joaquin Valley contains five of the top ten agricultural counties in the United States.

Project Setting

An archaeological and historical investigation was completed to comply with regulations and criteria set forth in CEQA and CEQA Guidelines at section 15064.5 (Fleagle, 2005). Cultural resources investigations included a records search at the Southern San Joaquin Valley Information Center at California State

University, Bakersfield; the National Register of Historic Places; the California Register; the California Inventory of Historic Resources; California Points of Historic Interest; California State Historic Landmarks; and a pedestrian surface survey of the site (Fleagle, 2005; pgs. 3, 4, 11, and 14). A report was completed that documents the results of archaeological and historical investigations and presents management recommendations, as appropriate, for cultural resources (e.g., prehistoric sites, historic sites, and/or historic buildings) within the project boundaries (Fleagle, 2005). See Appendix 3.5-1.

Cultural Resources

An archaeological cultural assessment was conducted on 77.27 acres immediately north of Woollomes Avenue and immediately east of Stradley Avenue that includes the entire approximately 44.64-acre project area. The purpose of the study was to identify if any cultural resources were present. A pedestrian surface survey was conducted using 25 to 30 meter transects to observe any cultural artifacts. Visibility was estimated to be between 80 to 95 percent. The area was not considered a prehistoric or historic site since no cultural resources were located as a result of the pedestrian surface survey (Fleagle, 2005; pg. 3). Additionally, the archaeological records search did not identify any cultural resources (e.g., prehistoric sites, historic sites, isolated artifacts, and/or historic buildings) or sensitive Native American cultural resources within the project area (Fleagle, 2005; pgs. 3 to 4, and 11). According to the City of Delano's General Plan, there is only one recorded archaeological site in the vicinity, the abandoned domestic refuse site in the southwestern part of town.

Historic Resources

The pedestrian surface survey and search of historical records did not identify any historical resources within the project area (Fleagle, 2005; pgs. 3 to 4, and 11). In addition, aerial photographs were reviewed of the proposed project area and revealed site activities that appeared to be limited to farming from approximately 1946 to 1994 (EDR, 2013; pgs. 3 to 12).

3.5.2 REGULATORY SETTING

State Regulations

California Environmental Quality Act (CEQA)

CEQA presents Guidelines at section 15064.5 and section 21083.2 for the identification of historical resources and the determination of their historical significance. CEQA Guidelines section 15064.5(a)(3) presents eligibility criteria for inclusion of historical resources in the California Register of Historical Resources (CRHR). The criteria require that to be a historical resource, a feature or structure:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

The CEQA statute also presents criteria for the identification of unique archaeological resources at Public Resources Code section 21083.2(g). To be considered a unique archaeological resource, a feature:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event.

In addition to the eligibility criteria at CEQA Guidelines section 15064.5(a)(3), the California Code of Regulations (CCR), Title 14, Division 3, Chapter 11.5 section 4852(a)(5)(c) also states that integrity of historical resources should be considered when addressing their eligibility for inclusion in the CRHR. This section of the CCR describes integrity as the:

> *. . . authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources eligible for listing in the California Register must . . . retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. . . . integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.*

Therefore, eligible historic resources must not only meet one of the above listed CRHR criteria, but they must also retain enough of their historic character or appearance to convey the reasons for their importance, or retain the potential to yield significant scientific or historical information or specific data. Most often, historical resources eligible for the CRHR will be 50 years old or older. However, the regulations stipulate "a resource less than fifty (50) years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance" (14 CCR § 4852(d)(2)).

California Office of Historic Preservation, Regional Information Centers

The California Office of Historic Preservation established the Regional Information Centers as local repositories for all archaeological reports prepared under cultural resource management regulations. State guidelines and current professional standards require a background search at the appropriate Regional Information Center. The report conducted for the project site included a background records search at the Southern San Joaquin Valley Information Center, which is the Regional Information Center for Kern County.

Local Regulations

City of Delano General Plan

Cultural resources are addressed in the Open Space and Conservation Element of the City of Delano's General Plan (City of Delano, 2005; pg. 4-15). The purpose of the Open Space and Conservation Element is to identify natural and man-made resources within the City of Delano (City) and to develop policies

and programs to encourage the conservation, protection, and proper management of these resources. The City and its planning areas have a number of valuable resources including those of cultural significance. Section 4.7, Cultural Resources, states that a resources records search was conducted for the City's General Plan using a database of the Southern San Joaquin Valley Information Center. One recorded archaeological site was identified which is located in southwestern Delano.

The City General Plan objectives, policies and standards for natural resources are presented below:

Objective: Protect natural resources to meet the needs of present and future generations - Section 4-11: Natural Resources (City of Delano, 2005; pg. 4-18).

Policy 11 Construction activity will be conducted in the manner presented in Section VIII of Appendix K of the CEQA Guidelines, which describes procedures to employ in the event of discovery or recognition of human remains (City of Delano, 2005; pg. 4-19).

3.5.3 IMPACTS AND MITIGATION MEASURES

Methodology

Archaeological and historical investigations conducted for the proposed project included records searches, historical research, a pedestrian surface survey of the site (Appendix 3.5), and historic aerial photographs.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by the City. For the purposes of this DEIR, a significant impact will occur if the project will result in one or more of the following:

1. Cause a substantial adverse change in the significance of an historical or archaeological resource as defined in CEQA Guidelines section 15064.5.
2. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
3. Disturb any human remains, including those interred outside of formal cemeteries.

Potential Environmental Impacts

Impact 3.5-1 The project could cause a substantial adverse change in the significance of a archaeological resource, as defined in CEQA Guidelines Section 15064.5.

Site preparation and grading could disrupt previously undiscovered archaeological and cultural resources of importance under CEQA and/or eligible for listing on the CRHR. This is a potentially significant impact.

Field inspections and review of maps and records on file at the Southern San Joaquin Valley Information Center at California State University, Bakersfield were performed. These investigations did not identify any historical resources or unique archaeological resources on or near the project site. The project site

has historically been used for rural residential farming and so the soil was plowed as a normal part of agricultural activities, which could have disturbed or covered resources if they were present at one time. With that said, there is no evidence that any historical, cultural, or archaeological resources are present at the site or that such resources have been disturbed. Nevertheless, it is always possible to inadvertently uncover cultural resources or human remains during future ground-disturbing project activity (e.g., grading activities during construction). Any destruction or disturbance of newly discovered archaeological resources, whether planned or inadvertent, is considered a **potentially significant impact.** Implementation of Mitigation Measure **MM 3.5-1** would reduce this impact to a **less than significant** level.

Mitigation Measure

MM 3.5-1: Should any cultural, historic, or archaeological resources be uncovered in the course of site preparation, clearing, or grading activities, all operations within 50 feet of the discovery shall be halted until such time as a City-approved qualified professional archaeologist can be consulted to evaluate the find and recommend appropriate action. Project personnel shall not collect or remove any material suspected to have cultural, historic, or archaeological value. The archaeologist shall evaluate the resource(s) and assess the significance of the find based on the requirements of CEQA Guidelines section 15064.5's criteria for historical or archaeological resources and make recommendations. The identified resource shall be avoided by project activities during evaluation. If the resource does not meet the section 15064.5 criteria and is not considered significant by the City under CEQA Guidelines section 15064.5 (a)(4), avoidance is not necessary. If the resource meets the section 15064.5 criteria or is considered significant by the City under CEQA Guidelines section 15064.5 (a)(4), it shall be avoided or any unavoidable adverse effects must be mitigated. Mitigation actions may range from documentation of the find to emergency protection of the find and its removal from the site depending on the specific values identified by the archeologist. Upon completion of the archaeologist's evaluation, a report shall be prepared documenting the methods and results, as well as recommendations. The recommendations of the archaeologist shall be incorporated into construction plans. The report shall be submitted to the City and the Southern San Joaquin Valley Information Center.

Implementation of the above mitigation measure will reduce the potential impact to undiscovered archaeological, historic, or cultural resources to a **less than significant** level.

Impact 3.5-2 The project could cause a substantial adverse change in the significance of an historical resource pursuant to CEQA Guidelines section 15064.5.

As noted above, field inspections and review of maps and records on file at the Southern San Joaquin Valley Information Center at California State University, Bakersfield were performed. These investigations did not identify any historical resources on or near the project site. However, in the event that unknown historical resources are discovered during project construction, significant impacts could occur. Impacts would be mitigated to **less than significant** through the implementation of Mitigation Measure **MM 3.5-1.**

Impact 3.5-3 The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The visual inspection of the project site also did not identify any unique geologic features, and the site is level, without rock outcroppings or other notable geologic features (see Section 3.6, Geology and Soils). However, the possibility exists that construction could unexpectedly uncover unique paleontological or geologic resources. Destruction of such resources is considered a potentially significant impact. Implementation of the Mitigation Measure **MM 3.5-3** would reduce this impact to a **less than significant** level.

Mitigation Measure

MM 3.5-3: If animal or plant fossils as well as unique geologic resources are encountered during construction subsurface earthwork activities, all work within 50 feet of the discovery shall stop until a city-approved qualified paleontologist has determined the significance of the find and provided recommendations. Project personnel shall not collect or remove any paleontological material. If the paleontological finds are found to be significant, the area shall be avoided by project activities. The recommendations of the paleontologist shall be incorporated into construction plans.

If unique geologic resources are unearthed during construction earthwork activities, all work within 50 feet of the discovery shall stop until a city-approved qualified geologist has determined the significance of the find and provided recommendations. Project personnel shall not collect or remove any geological material. If the geological find is found to be significant, the area shall be avoided by project activities.

Mitigation actions may range from documentation of the find to emergency protection of the find and its removal from the site depending on the specific values identified by the paleontologist and/or geologist. Upon completion of the paleontologist's and/or geologist's evaluations, a report shall be prepared documenting the methods and results of the evaluation(s), as well as recommendations. The recommendations of the paleontologist and/or geologist shall be incorporated into construction plans. The report(s) shall be submitted to the City and the Los Angeles Museum of Natural History.

Impact 3.5-4 The project could disturb human remains, including those interred outside of formal cemeteries.

There is no indication, either from the archival research results or the archaeological survey, that any particular location within the project area has been used for human burial purposes in the recent or distant past. However, in the event that human remains are inadvertently discovered during project construction activities, the human remains could be inadvertently damaged, which could be a significant impact. Implementation of Mitigation Measure MM 3.5-3 would ensure that any human remains encountered are appropriately addressed, thus reducing any potential impacts to a **less than significant** level.

Mitigation Measure

MM 3.5-4: In the event of discovery or recognition of any human remains in any location other than a

dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of Kern County has determined whether the remains are subject to the coroner's authority. This is in accordance with section 7050.5 of the California Health and Safety Code. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of identification. Pursuant to section 5097.98 of the Public Resource Code, the Native American Heritage Commission will identify persons "most likely descended from the deceased" to inspect the site and provide recommendations for the proper treatment of the remains and any associated grave goods.

Implementation of the above mitigation measure will reduce the potential impact of disturbance of human remains to a **less than significant** level.

3.5.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Though not likely, construction activities associated with the proposed project could contribute to the cumulative loss of archaeological and paleontological resources and result in adverse cumulative impacts.

No historical or archaeological resources were identified in the course of studies for this project. Excavation activities associated with the proposed project in conjunction with other projects in the area could contribute to the progressive loss of fossil remains, as-yet unrecorded cultural or paleontological resources, associated geological and geographic data, and fossil-bearing strata. With implementation of Mitigation Measures **MM 3.5-1** and **MM 3.5-4**, impacts on archaeological resources and buried human remains, including those interred outside of formal cemeteries, resulting from the project would be less than significant. With respect to paleontological resources or unique geologic features, implementation of Mitigation Measure **MM 3.5-3** would reduce the impact from the project to a level less than significant. Similar mitigation would also be imposed on other projects in the City of Delano to reduce each individual project's impact on cultural and paleontological resources.

Therefore, the cumulative impact is considered **less than significant**.

3.5.5 REFERENCES

City of Delano, 2005. General Plan Update, adopted December 5, 2005; (http://www.cityofdelano.org/DocumentCenter/View/99) web accessed March 18, 2014.

EDR, 2013. Environmental Data Resources (EDR), The EDR Aerial Photo Decade Package, Grapevine Marketplace, March 11, 2013.

Fleagle, 2005. A Cultural Resources Assessment for 77.27 Acres Immediately North of Woollomes Avenue and Immediately East of Straddle Avenue in Delano, Kern County, California. Three Girls and A Shovel, August 2005.

3.6 GEOLOGY AND SOILS

This section discusses and analyzes the potential impacts associated with the geology and soils of the project site and general vicinity, particularly as they relate to the exposure of people and property to geologic hazards, seismicity, landform alteration, and erosion.

Analyses in this section are based on the April 2013 technical study by BSK Associates, entitled *Preliminary Geologic Hazards Evaluation and Geotechnical Engineering Investigation Report, Proposed Grapevine Project* (Appendix 3.6).

3.6.1 EXISTING SETTING

Regional Setting

Located in the southern portion of the San Joaquin Valley, the City of Delano (City) is located approximately ten miles from the western foothills of the Sierra Nevada Mountains and approximately twenty-five miles from the Coast Ranges to the west. The City is within northern Kern County, approximately thirty miles northwest of the City of Bakersfield and seventy-eight miles southeast of the City of Fresno; see Figure 2-1, Project Vicinity and Figure 2-2, Site Area, in Section 2.0, Project Description. The fertile soils and level topography of the region support agricultural activities, including the growing of orchard and field crops.

Character of the Project Site

The approximately 44.64-acre project site is located in the southern part of the City, west of the Woollomes Avenue interchange with State Route 99. The project site is relatively level and slopes gently to the southwest.

Topography, Geology and Soils

Regional Geologic Setting

The site is located in the Great Valley geomorphic province, an alluvial plain about 50 miles wide and 400 miles long, between the Coast and Sierra Nevada Ranges. The southern end of the Valley is drained by the San Joaquin River, which eventually drains into the San Francisco Bay. It is part of the structural region identified by Bartow (1991) as the San Joaquin Valley portion of the southern Sierran block. This area forms a broad syncline (folded rock layer) containing deposits of marine and overlying continental sediments, Jurassic to Holocene in age. The thickness of the sediments increases to the west and reaches a thickness of as much as 20,000 feet on the west side of the San Joaquin Valley syncline.

According to the Regional Geologic Map (BSK Associates, 2013; Figure 5) the site is situated on recent alluvial fan deposits (fan-shaped deposits of water-transported material) which are the result of the development of alluvial fans from the Sierra Nevada Mountains to the east.

Project Site Geologic Setting

The 44.64-acre project site is relatively level, with an elevation of approximately 295 to 300 feet above mean sea level, and slopes gently to the west.

Soils Characteristics

Surface Soils

According to the Soil Survey Geographic (SSURGO) database for Kern County, California, obtained from the United States Department of Agriculture (USDA) Natural Resources Conservation Service, the majority of the site is located on soils identified as Kimberlina fine sandy loam, with 0 to 2 percent slopes (BSK Associates, 2013; Figure 4; and USDA, 2013). Kimberlina soils form from alluvium with parent materials of igneous and sedimentary rock. These soils are well drained, with high available water capacity and a moderately high hydraulic conductivity. Kimberlina soils have an engineering classification of SM (Silty Sand) and would be considered nonplastic to low plasticity with low expansive potential.

The northeast and southeast corners of the site are located on soils identified as Wasco sand loam. Wasco soils form from alluvium with parent materials of granitic rock. Wasco soils are well drained, with moderate available water capacity and a high hydraulic conductivity. These soils have an engineering classification of SM (Silty Sand) and would be considered nonplastic to low plasticity with low expansive potential.

Subsurface Soils

The shallow subsurface soils generally consist of silty sand to sandy silt and sandy clay. Sandy clay with a moderately high potential for expansion was encountered at the site. These soils have the potential to cause displacement and possible damage to surface improvements such as concrete slab-on-grade floors and exterior walkways. The potential effects of the shrinking and swelling of expansive soils and the associated impacts can be mitigated through prudent grading and design of the structures.

Groundwater Conditions

Groundwater was not encountered in the borings excavated to a maximum depth of 51.5 feet at the site on March 19, 2013. Department of Water Resources note data from wells in the vicinity of the site indicate that the depth to groundwater in the area is greater than 50 feet below ground surface (bgs) (BSK Associates, 2013; pg. 3). Fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors not in evidence at the time measurements were made.

Faults and Seismicity

Faults

A fault is a fracture in the earth's crust along which rocks on one side have moved relative to those on the other side. Displacement of the earth's crust along faults releases energy in the form of earthquakes; with most faults resulting from repeated displacements over a long period of time. The

State of California designates faults as active, potentially active, or inactive, depending on how recent the movement was that can be substantiated for a fault.

San Andreas Fault

The San Andreas Fault is a right-lateral, strike-slip fault that extends more than 700 miles from the Gulf of California to Cape Mendocino in northern California. The segment of the San Andreas Fault within Kern County is relatively short compared to its 700-mile length. However, it is important because this segment breaks from the system's predominantly 350-degree trending direction between the San Luis Obispo County and Los Angeles County line. This is an active fault capable of damaging the project area. Areas along this fault have been designated by the State of California as Alquist-Priolo Special Studies Zones. Several historic earthquakes on the San Andreas Fault Zone have produced significant seismic shaking within the vicinity of the proposed project. The most notable example was on January 9, 1857, the Fort Tejon earthquake, one of the largest earthquakes ever recorded in the United States (SCEDEC, 2011).

No known faults traverse the project site (BSK Associates, 2013; pg. 4).

Fault Systems

The nearest fault system to the project site is the Pond fault system, located over three miles to the southwest of the site, which is identified as an active fault by the CGS. However, based on fault details provided by the CGS, observed creep along this historic fault has been attributed to groundwater withdrawal in the area and the fault is not considered a likely source of significant earthquake activity (CGS, 2010). Furthermore, the Southern California Earthquake Center (SCEC) does not list any previous significant earthquakes associated with this fault.

Seismicity

Ground shaking potential at the site is determined by the distance and magnitude of earthquakes located on active faults within the site region. Current methods of determining the intensity of ground shaking involve the use of models of faults in the region and the probability of a certain magnitude earthquake occurring on the fault. The United States Geologic Survey (USGS) has developed a model for estimating earthquake ground motion at sites based on the site location and soil type. The hazard level for determining ground motion, under the current building code (2010 California Building Code), is referred to as the Maximum Considered Earthquake (MCE) and is based on a 2% in 50-year likelihood of occurrence.

Table 3.6-1, below, lists the result of deaggregation at the MCE hazard level from the USGS website (BSK Associates, 2013; pg. 5). The source that contributes the highest acceleration to the site ground motion is a rupture of multiple segments of the Southern San Andreas Fault (SSA). The site may experience relatively intense ground motion, primarily due to the relative proximity of the San Andreas Fault zone, which is capable of a magnitude 7.9 earthquake. Based on this fact, for liquefaction and seismic settlement, a magnitude (Mw) of 7.9 would be appropriate for input parameters which are consistent with the design earthquake ground motion.

TABLE 3.6-1 SEISMIC HAZARD DEAGGREGATIONS MAXIMUM CONSIDERED EARTHQUAKES				
Seismic Source	**Percent Contribution**	**Distance (km)**	**Magnitude (Mw)**	**Epsilon (Mean Values)**
PGA Deaggregation (USGS 2008)				
California A-faults	13.1	74.0	7.83	2.0
CA Compr. crustal gridded	85.9	12.5	5.92	0.7
SSA;PK+CH+CC+BB+NM+SM aPriori	2.8	73.6	7.91	1.9

BSK Associates, 2013; pg. 5

Seismic Hazards

Ground Shaking

The potential for seismic ground shaking exists across the State of California. Therefore, seismic ground shaking on the project site is expected during the life of the project, and all structures will be built in accordance with State seismic design standards contained in the California Building Code (CBC) (BSK Associates, 2013; pgs. 8 and 12).

The earthquake hazard level of the maximum considered earthquake (MCE) is defined in American Society of Civil Engineers (ASCE) 7-05 as the ground motion resulting from a seismic source(s) having a probability of exceedance of 2% in 50 years. The USGS has prepared maps presenting the MCE spectral acceleration (5% damping) for periods of 0.2 seconds (S_S) and 1.0 seconds (S_1). The values of S_S and S_1 can be obtained from the USGS Ground Motion Parameter Calculator available at: http://earthquake.usgs.gov/hazards/designmaps/grdmotion.php.

Soil testing results performed at the site indicate it is located in Class D for purposes of CBC design requirements (BSK Associates, 2013; pg. 7). The USGS Ground Motion Parameter Calculator and Chapter 16 of the 2010 CBC produced the following values based on Site Class D conditions (BSK Associates, 2013; pg. 8):

TABLE 3.6-2 SEISMIC DESIGN PARAMETERS			
Seismic Design Parameter	**Value**		**Reference**
MCE Mapped Spectral Acceleration (g)	S_S = 0.837	S_1 = 0.312	USGS Mapped Value
Amplification Factors (Site Class D)	F_a = 1.165	F_v = 1.775	Table 1613.5.3
Site Adjusted MCE Spectral Acceleration (g)	S_{MS} = 0.975	S_{M1} = 0.554	Equations 16-37, 38
Design Spectral Acceleration (g)	S_{DS} = 0.650	S_{D1} = 0.370	Equations 16-39, 40
Design Peak Ground Acceleration (S_{DS}/2.5) (g)	PGA = 0.26		

BSK Associates, 2013; pg. 8

Surface Ground Rupture

A surface ground rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not always happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault, and can be sudden (earthquake) or slow (fault creep).

The site is not located in a Fault-Rupture Hazard Zone. The closest Fault-Rupture Hazard Zone is associated with the Pond Fault located approximately 3.6 miles southwest of the site (BSK Associates, 2013; pg. 4 and Figure 6).

Liquefaction

Liquefaction describes a condition in which a saturated, cohesionless soil loses shear strength during earthquake shocks. Ground motion from an earthquake may induce cyclic reversals of shearing strains of large amplitude. Lateral and vertical movements of the soil mass, combined with loss of bearing strength, usually result from this phenomenon. Historically, liquefaction of soils has caused severe damage to structures, berms, levees and roads. Potential for liquefaction depends on soil type, void ratio, depth to groundwater, duration of shaking, and confining pressures over the potentially liquefiable soil mass. Fine, well sorted, loose sand; shallow groundwater; severe seismic ground motion; and particularly long durations of ground shaking are conditions conducive for liquefaction.

Soils on the site are primarily silty sand and the depth to groundwater on the project site is currently greater than 50 feet bgs; therefore, the potential for liquefaction is low.

Seismic Settlement

Seismic settlement can occur in both saturated and unsaturated granular soils due to the rearrangement of granular soils during cyclic loading induced by ground shaking, resulting in volume reduction and surface deformation. Liquefaction analyses for the site indicate that a total settlement due to dry seismic settlement is estimated to be 0.2 inch to 0.3 inch. The differential settlement is estimated to be 0.1 inch to 0.15 inch (BSK Associates, 2013; pgs. 8 and 9).

Landslides

Landslides include rockfalls and slope failure. Geological conditions, drainage, slope, vegetation, and other factors affect the potential for landslides. Due to the essentially level topography of the project site, the potential for landslides at the project site is considered minimal.

Lateral Spreading or Slumping

Lateral spreading is the lateral displacement of flat-lying alluvial material toward an open or a free face, such as a steep bank of a stream channel. It can occur with seismic shaking on slopes of saturated soils. Since the project site is flat, the potential for lateral spreading is low.

Erosion

The site surface soils consist of loose sandy silt, clayey sand to sandy silty clay (BSK Associates, 2013; pg. 3). Soils of this type may have the potential for significant erosion with sloped ground. Given that the topography of the site is level, significant erosion potential is low.

Expansive Soils

Near-surface soils at the site consist primarily of silty sand to sandy silt and sandy clay with a moderately high potential for expansion. Expansive soils shrink and swell in volume during changes in moisture content and have the potential to cause displacement and possible damage to surface improvements such as concrete slab-on-grade floors and exterior walkways. The potential effects of the shrinking and swelling of expansive soils and the associated impacts can be mitigated through prudent grading and design of the structures. Soils at the project site have the potential to cause displacement and possible damage to surface improvements such as concrete slab-on-grade floors and exterior walkways (BSK Associates, 2013; pg. 5).

Subsidence

The site is not located in an area susceptible to significant subsidence due to petroleum or groundwater withdrawal. The site is not located in an area which soils are known to be impacted by hydrocompaction (BSK Associates, 2013; pg. 4).

3.6.2 REGULATORY SETTING

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1997 to "*reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program*." To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the proposed project would be required to adhere.

State Regulations

California and Uniform Building Codes

The 2010 California Building Standards Code (Title 24) and the Uniform Building Code provide standards for building construction as well as seismic design parameters and grading requirements. These codes contain specific requirements for seismic safety, excavation, foundations, retaining walls, and all demolition and grading activities.

Alquist-Priolo-Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The project site is not located within an Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist (BSK Associates, 2013; pg. 4).

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (1990) addresses non-surface fault rupture earthquake hazards such as liquefaction and seismically induced landslides. This Act requires the State Geologist to designate Seismic Hazard Zones. These zones assist cities and counties in fulfilling their responsibilities for protecting the public from the effects of non-surface fault rupture earthquake hazards such as strong ground shaking, earthquake-induced landslides, liquefaction, or other ground failures. The California Geological Survey has not issued a Seismic Hazards Map for the Delano area and the area is not located in a Seismic Hazard Zone (BSK Associates, 2013; pg. 4).

Local Regulations

City of Delano General Plan

The Safety Element of the City's General Plan identifies and discusses seismic hazards in the Delano Planning Area, with the aim to "reduce and minimize the economic, social, and physical disruption created by natural geologic dangers" (City of Delano, 2005; pg. 9-2).

Section 9.9, Safety Element Goals, Objectives, and Policies, contains an objective and policy regarding seismic safety:

> Objective: Promote minimal loss of life, bodily injury, and property damage from seismic and other geologic occurrences, flooding, and other environmental hazards.
>
> > Policy 1 Reduce the loss potential of life and property caused by earthquakes and resultant effects.
> >
> > a. Require that seismic considerations be included in all areas identified as having significant earthquake potential.
> >
> > b. Retain geologically hazardous areas, which are unsuitable for human occupancy, as open space. (Note: See Safety Hazard Action Programs)
> >
> > c. Insure that future structures built in high seismic-potential areas conform to the guidelines established in the Uniform Building Code: Earthquake Regulations.
> >
> > d. Support the adopted Kern County Emergency Plan showing evacuation routes and protective safety procedures.

e. Coordinate with other governmental agencies to establish plans and programs that would improve the protection against seismic dangers.

Subsection 9.9.1, Safety Hazard Action Programs, includes the following action programs to promote seismic safety in the City:

3. The Building Department shall continue to enforce the earthquake requirements of the Uniform Building Code for future buildings and structures.

5. The Public Works/Engineering Department shall enforce the Uniform Building Code requiring geological and soils engineering investigations in identified significant geologic hazard areas.

23. The City shall continue to enforce the regulations established in the Uniform Building Code, Uniform Mechanical Code, Uniform Plumbing Code, Uniform Fire Code, Uniform Dangerous Building Abatement Code, and other model codes adopted by the City to guarantee sound development.

City of Delano Municipal Code

The City Municipal Code contains the following ordinances adopting the California Building Standards Code and Uniform Housing Code:

<u>14.03.010 California Building Standards Code</u>

Title 24 of the California Code of Regulations, the California Building Standards Code as amended and modified in Title 14, is hereby adopted by reference and incorporated as though fully set forth in this chapter. The California Building Standards Code includes, but is not limited to, the following codes:

A. California Administrative Code

B. California Building Code

C. California Electrical Code

D. California Mechanical Code

E. California Plumbing Code

F. California Energy Code

G. California Elevator Safety Construction Code

H. California Historical Building Code

I. California Code for Building Conservation

J. California Referenced Standards Code

14.18.010 Adoption of Code

Subject to the additions, deletions and amendments set forth in California Code of Regulations, Title 24, California Building Standards Code and the Uniform Housing Code, 1997 Edition, sponsored and copyrighted by the International Conference of Building Officials, a copy of which is on file in the building department in the city for use and examination by the public, is adopted by reference as if fully set forth in this chapter and is declared to be the housing code of the city.

3.6.3 IMPACTS AND MITIGATION MEASURES

Methodology

The following impact evaluation is based primarily on the findings and recommendations contained in the April 2013 Preliminary Geologic Hazards Evaluation and Geotechnical Engineering Investigation Report by BSK Associates (2013, Appendix 3.6).

The BSK Associates geotechnical investigation included soil borings at six locations, with boring locations selected to provide adequate spacing for determining the general subsurface soil profile across the proposed project site. Laboratory testing was conducted on disturbed and undisturbed samples representative of the subsurface material to determine selected physical and engineering properties of soils underlying the site.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and generally accepted standards for environmental documents prepared pursuant to CEQA (OPR, 2013). For the purposes of this DEIR, impacts are considered to be significant if any of the following would result from implementation of the proposed project:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.
    b) Strong seismic ground shaking.
    c) Seismic-related ground failure including liquefaction.
    d) Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

4. Be located on an expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Effects Found Not to Be Significant

As discussed in the Notice of Preparation (NOP), it was determined the project will have no impacts in the following two areas: whether the project would expose people or structures to risk of landslides; whether soils at the project site are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available.

Landslides

The project site and its surroundings are flat and level. There are no slopes or mapped landslides in the vicinity that possess significant landslide potential either as a result of strong seismic activity or site construction, and there is no potential for landslides or slope stability problems. There would be no impact from landslides and no mitigation measures are required.

Septic Systems

The proposed project would connect to the City sewer system and would not involve the construction of septic tanks or an alternative wastewater treatment system. Therefore, the proposed project would have no impact on soils necessary to support septic systems at the project site. No mitigation measures are required.

For additional discussion, see Section 6.2, Effects Not Found to Be Significant.

Potential Environmental Impacts

Impact 3.6-1 The project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure, including liquefaction.

Ground rupture, seismic ground shaking

The project site is not located within an Alquist-Priolo Earthquake Fault Zoning Map as issued by the State Geologist (BSK Associates, 2013; pg. 4). There are no known or potentially active faults located within or adjacent to the project site; the nearest fault is located over three miles from the site. Based on the distance of the nearest fault to the project site, the proposed project would not expose people or property to ground rupture, seismic ground shaking or ground failure due to liquefaction.

Strong ground shaking from nearby active and potentially active faults during a major earthquake event could cause severe damage to structures at the project site. This is considered a **potentially significant** impact. The site is located in an area of California with moderate to high seismicity. In general, the site may experience relatively intense ground motion, primarily due to the proximity of the San Andreas Fault zone, which is capable of a magnitude 7.9 magnitude earthquake. Ground motion acceleration

parameters are dependent on the amplification properties of the subsurface units present at the site. The project operator is required to design project infrastructure to withstand substantial ground shaking in accordance with applicable California Building Code seismic design standards, City of Delano Building Code, and as recommended by a California registered professional engineer in the site-specific geotechnical review. Prior to the issuance of grading permits, the project operator would be required to retain a qualified geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the sites. All grading and construction onsite would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the seismic recommendations by the California-registered professional engineer in accordance with California and City of Delano Building Code requirements. The required measures would encompass site preparation, foundation specifications, and protection measures for buried metal. Geotechnical Investigations performed for the proposed project indicate that significant site soil amplification is not anticipated. Mitigation Measure **MM 3.6-1a** would require the proposed project to prepare a geotechnical study prior to the issuance of grading permits. Construction design recommendations that would apply include but are not limited to clearing activities, the use of non-expansive soils, recompaction, the use of imported soils for fill, soil corrosivity, excavation, the use of retaining walls, etc. With implementation of Mitigation Measures **MM 3.6-1a** and **MM 3.6-1b**, impacts would be considered less than significant.

Liquefaction

Soil liquefaction results from loss of strength during cyclic loading such as that resulting from earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded fine-grained sands. Soils on the project site are primarily silty sand and the depth to groundwater is significantly greater than 50 feet, therefore the liquefaction potential is considered to be low. In addition, all structures constructed as part of the project would be required by state law to comply with applicable California Building Code earthquake construction standards, including those related to soil characteristics. With adherence to all applicable regulations including California and local City of Delano Building Code requirements as well as project site characteristics, the project would avoid potential impacts to structures resulting from liquefaction at the project site and the potential impacts would be less than significant. Implementation of Mitigation Measures **MM 3.6-1a** and **MM 3.6-1b** would further ensure all impacts are reduced to a **less than significant** level.

Mitigation Measure

MM 3.6-1a Prior to the issuance of grading permits, a final Geotechnical Investigation by a qualified engineer shall be prepared for review and approval by the City. Geotechnical mitigation measures shall be incorporated in the design plans.

MM 3.6-1b Prior to the issuance of building permits and subject to review and approval by the City, construction at the project site and engineering and improvement plans shall be designed in accordance with City standards, the requirements of the 2010 edition or later of the California Building Standards

Code. The geotechnical investigations prepared by BSK recommend actions that apply these City and state standards to construction at the site. (BSK, 2013; pgs. 9 to 16).

Impact 3.6-2 The project could result in substantial soil erosion or the loss of topsoil.

The site currently consists of level topography that would result in minor erosion potential, primarily from sheet flow across the site during intense rainfall. However, the site soils have low cohesion that may result in significant erosion potential in channeled high flow areas. The one exception to the site's level topography is a temporary storm water detention basin with a volume of approximately 25,300 cubic yards that exists on the site. The basin will be filled with suitable fill soil prior to grading of the site as described in Mitigation Measure **MM 3.6-2** below. Because the exact size of the basin is only approximately known and the location and compressibility characteristics of the fill soil source are not yet known, up to approximately 30,000 cubic yards of material may be needed to fill the basin.

Construction activities at the site should be performed under guidelines in an approved Stormwater Pollution Prevention Plan (SWPPP) using best management practices (BMPs) as outlined in **MM 3.8-1a** and **MM 3.8-1b**. Use of BMPs as outlined in the SWPPP as well as implementation of Mitigation Measure **MM 3.6-2** will ensure that potential short-term soil erosion impacts generated during construction activities will be reduced to a **less than significant level**.

Mitigation Measure

MM 3.6-2 Prior to the issuance of grading permits and subject to review and approval by the City of Delano, a qualified engineer shall determine the design and suitable fill for the temporary storm water detention basin on the site.

Impact 3.6-3 The project could be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.

The project site is not located on a geologic unit or soil that is unstable or has the potential for collapse. As noted in Impact 3.6-1, soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded fine-grained sands. Soils on the project site are primarily silty sand and the depth to groundwater is significantly greater than 50 feet, therefore the liquefaction potential is considered to be low.

Seismic settlement analysis of the unsaturated zones indicates that settlement due to dry seismic settlement is estimated to be 0.2 inch to 0.3 inch. The differential settlement is estimated to be 0.1 inch to 0.15 inch. Settlements in this order of magnitude generally do not require mitigation in the form of special building designs; however, incorporation of the California Building Standards Code seismic design parameters into the structural and foundation design as required in **MM 3.6-3** would mitigate any potential impacts from seismic settlement to a **less than significant** level.

Implementation of Mitigation Measure **MM-3.6-1a** through **MM 3.6-4** would ensure that potential impacts from soil compressibility, off-site landslide, lateral spreading, subsidence, liquefaction, settlement or collapse would be reduced to a **less than significant** level.

Mitigation Measures

MM 3.6-3 Prior to the issuance of building permits and subject to review and approval by the City, construction at the project site and engineering and improvement plans shall be designed in accordance with the City's standards and the requirements of the California Building Standards Code (2013).

Impact 3.6-4 The project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Near-surface soils encountered in the exploratory borings consist primarily of silty sand to sandy silt and sandy clay with a moderately high potential for expansion. Soils with an expansive index greater than 20, as tested according to ASTM D 4829 UBC Standard 18-2, were encountered at the site. Placement of new structures at the project site could result in potential structural damage and associated human safety hazards resulting from expansive soils at the project site. Implementation of Mitigation Measures **MM 3.6-1a, MM 3.6-1b,** and **MM 3.6-4** would reduce impacts due to expansive soils to less than significant levels.

As previously stated, changes in the water content of a highly expansive soil can result in severe distress for structures constructed on or against the soil. The project site could include soils with expansion potential. Therefore, a geotechnical report identifying the proposed project's potential to result in impacts related to expansive soils would be prepared. Additionally, the proposed project would be designed to comply with applicable building codes and structural improvement requirements to withstand the effects of expansive soils. The implementation of Mitigation Measure **MM 3.6-1a** would require a geotechnical study of the site, and final structural design would be based on the results of that study and would be subject to approval by the City. Thus, impacts would be **considered less than significant** after mitigation.

Mitigation Measures

MM 3.6-4 Recommendations to help mitigate the impact of near-surface expansive soils are addressed within the geotechnical investigation prepared by BSK in the Site Preparation and Earthwork Construction Section (BSK, 2013; pgs. 9 to 11). A final geotechnical investigation will be required to be prepared for the City to ensure that the geotechnical mitigation measures are incorporated in the design plans as described in Mitigation Measure **MM 3.6-1a** to ensure that potential impacts from expansive soil would be reduced to a less than significant level.

Impact 3.6-5 Based on the result of the corrosivity testing performed during the BSK geotechnical investigation, soils would be considered moderately corrosive to buried metal objects and could result in damage to buried utilities.

This is considered a potentially significant impact.

The risk of corrosion of construction materials relates to the potential for soil-induced chemical reaction. The rate of deterioration depends on soil resistivity, texture, acidity, and chemical concentration. Implementation of the following mitigation measure would reduce this potentially significant impact to a **less than significant** level.

Mitigation Measure

MM 3.6-5 Subject to review and approval by the City, buried metal conduits, ferrous metal pipes, and exposed steel shall have a protective coating in accordance with the manufacturer's specification.

3.6.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

As discussed above, the proposed project is in a seismically active area and near the Pond Poso Fault and the northwest-trending San Andreas Fault.

The proposed project, combined with other similar projects in the area, may result in a cumulative impact to the geological conditions of the project area. However, the effects of these projects are not of a nature to cause cumulatively significant effects from geologic impacts or on soils because such impacts are site specific and would only have the potential to combine with impacts of the proposed project if they occurred in the same location as the project. This effect is considered a **less than significant** impact with implementation of Mitigation Measures **MM 3.6-1a** through **MM 3.6-5**.

Additionally, onsite soils are located on fairly level slopes (typically zero to five percent slopes) which generally limit erosion potential. As a result, the proposed project is not highly susceptible to erosion. Implementation of the required SWPPP and BMPs would reduce erosion from the proposed project. Impacts from erosion or loss of topsoil for other cumulative projects would require site-specific analysis to determine the soils' permeability, slope angle and length, extent of groundcover, and human influence on the sites. All planned projects in the vicinity of the proposed project are subject to review in separate environmental documents that would require conformance to the Delano General Plan and Building Code, including mitigation of seismic hazards and engineering to ensure soil stability. With implementation of Mitigation Measure **MM 3.6-1a** through **MM 3.6-5**, the proposed project would not contribute to any cumulative impacts for geologic, seismic hazards or related events. Moreover, any potential geologic impacts would be site specific and are generally not affected by cumulative development in the region. The proposed project will not combine with past, present, and reasonably foreseeable future projects in the area to form a new impact greater or more significant than the project impact alone. As currently designed, and with the identified mitigation measures incorporated, the proposed project would not contribute to a cumulative impact related to geology and soils, including seismic hazards. Therefore, the cumulative impact is considered **less than significant** and the project's incremental contribution is **less than significant**.

3.6.5 REFERENCES

BSK Associates, 2013. Preliminary Geologic Hazards Evaluation and Geotechnical Engineering Investigation Report, Proposed Grapevine Project, Delano, California, April 15, 2013.

City of Delano, 2013. Notice of Preparation of a Draft Environmental Impact Report, March 27, 2013.

City of Delano, 2005. General Plan Update, adopted December 5, 2005; (http://www.cityofdelano.org/DocumentCenter/View/99) web accessed March 18, 2014.

OPR, 2013. Governor's Office of Planning and Research, State of California. Guidelines for Implementation of the California Environmental Quality Act, as amended. 2013.

United States Department of Agriculture (USDA), 2013. Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture, Soil Survey Geographic (SSURGO) Database for Kern County, California; (http://websoilsurvey.nrcs.usda.gov/) web accessed April 2013.

3.7 HAZARDS AND HAZARDOUS MATERIALS

This section of the DEIR discusses the potential presence of hazardous materials and conditions within the project area and analyzes the potential risk of these conditions in proximity to existing and proposed development and human activities. The analysis is based primarily on the results of site visits by BSK technical staff, understanding of the proposed project, and review of publicly available environmental documents regarding the property and properties in the vicinity of the project site. This section of the DEIR also addresses other potential hazards including noise and safety hazards associated with the Delano Municipal Airport, located approximately one-half (0.61) mile from the project site.

3.7.1 EXISTING SETTING

Hazardous Materials

A screening environmental assessment was conducted to evaluate conditions at the project site and adjacent properties that could represent a potential public health and safety hazard. The focus of the screening environmental assessment was to determine the presence or likely presence of any current conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures at the project site or into the ground, groundwater, or surface water. Based on the results of the screening environmental assessment no hazardous materials or a history of hazardous material usage were identified.

Existing and Historical Site Conditions

Aerial photographs obtained from an Environmental Data Resource Inc. (EDR) record search from 1946 to 2010 were reviewed as part of the screening level environmental assessment (EDR, 2013a). Based on the photographs, farming took place on the property from at least 1946 to about 1994. The neighboring Home Depot building was visible in 2005; however, no activity appears to be evident on the project property from 2005 to current day (EDR, 2013a; pgs. 3 to 12). At the time of the site reconnaissance conducted by BSK Associates (BSK) on March 4, 2013, the 44.64-acre parcel appeared to be undeveloped agricultural land with no structures. Rural residential development occurred along Woollomes Avenue sometime around 1952 (City of Delano, 2007; pg. 3.7-2).

Observed Site Features

On February 2, 2013 and March 4, 2013, BSK conducted general site reconnaissance surveys to evaluate the potential for previous site activities that could pose environmental concerns. Specific indicators of environmental concerns were evaluated for the project site and adjacent properties during the site reconnaissance. The project site was viewed for evidence of current and/or past use or storage of toxic or hazardous materials; on-site ponds, landfills, drywells, waste streams, or other disposal units; visible soil discoloration; above ground or underground storage tanks (USTs); electrical transformers containing polychlorinated biphenyls (PCBs); and drums, barrels, and other storage containers. During the site

visits, an apparent demolished older residence was noted in the northeast corner of the property with some personal items visible. While two apparently empty 5-gallon open containers were observed, no signs of hazardous materials or waste were evident. The closed McFarland-Delano Sanitary Landfill, located within 0.27 mile of the site, was visible to the south (CalRecycle, 2013).

Materials Storage

During the site visit no evidence of hazardous materials storage was observed on site including:

- Underground Storage Tanks (USTs)
- Aboveground Storage Tanks (ASTs)
- Waste or product containers
- Potential Polychlorinated Biphenyl (PCB)-containing equipment

Pits, Ponds and Lagoons

No pits, ponds, or lagoons associated with former site uses were noted during the site reconnaissance and no evidence was seen in historical photographs or topographic maps obtained through EDR. A construction stormwater detention pond is now present on the site. The pond is currently a bare earth basin, surrounded by a secured chain-link construction fence and designed to capture only stormwater runoff.

Pipelines and Pipes

No pipelines or pipeline markers were observed on the project site. No oil or gasoline pipelines were noted on the EDR Radius Map Report© (EDR, 2013c; pgs. 19 and 20). However, an irrigation water line runs along the western border of the property and is marked by a large concrete stand pipe.

Water Wells

No water wells were observed on the project site. Information supplied by the Kern County Department of Public Health, Environmental Health Division, indicates that four wells previously existed in the vicinity but have been destroyed (Kern County, 2013). Environmental Health Division records do not indicate any abandoned or out-of-service wells at the project site.

Other Physical Evidence of Contamination

A potential indication of contamination was observed from the debris associated with the demolished house. Older buildings can contain asbestos and lead-based paint within the building materials. Additionally, rural farms may contain underground fuel tanks associated with fueling farm vehicles and above ground tanks for storing agricultural products including pesticides and herbicides. However, during the site reconnaissance surveys, no direct visual evidence of such tanks, their foundations, or contaminants was observed, such as oil staining, zones of dead plants, or abandoned drums or containers.

Records Search

The records search was based on the City Directory and Radius Map Report records obtained through EDR for the subject property. No mapped sites were found in the EDR's search of available government records on the target property for federal, state, and local standard environmental records (EDR, 2013b; pg. 3, and EDR, 2013c). EDR reports are linked electronically to EnviroStor and GeoTracker databases that identified the following off-site properties:

- *Pioneer Auto and Truck Stop*, located at 1000 Garzoli Avenue is 0.44 mile from the project site. Pioneer Truck Stop is listed on the State Water Resources Control Board (SWRCB) Leaking Underground Storage Tank (LUST) database and on the SWRCB Hazardous Waste and Substances (Cortese) database (EDR, 2013c; pg. 14). Kern County Environmental Health Services Department (KCEHSD) is identified as the lead agency for the LUST cleanup. According to GeoTracker (SWRCB, 2013), a leak was discovered in 2005 during an upgrade of the diesel fuel dispenser. Since diesel concentrations did not attenuate at depth, the KCEHSD required additional investigation, which was completed in July 2008 (Kern County, 2008a; pg. 3). Site closure was granted by the KCEHSD in August 2008 based on findings that the impact to soil was localized to under the dispenser and did not pose a potential impact to groundwater, which is greater than 100 feet below ground surface (Kern County, 2008b). Based on the closed status and down gradient location of this facility, the environmental concern posed to the project site from this off-site source appears low

- *Kern County Dump* (also referred to as the former McFarland-Delano Sanitary Landfill) is located approximately 0.27 mile west southwest of the site property. This facility is listed within the U.S. Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and Facility Index Data System (FINDS) databases (EDR 2013c; pgs. 11 to 14). The Kern County Waste Management Department (KCWMD) reportedly stated the landfill was closed in 1995, with an engineered cap installed. A landfill gas system was installed in 1999 and ongoing monitoring of the system "indicates the landfill is stable and relatively dry" (City of Delano, 2007; pg. 3.7-7). An inspection by KCWMD in September 2013 indicates no issues with the drainage system and monitoring devices, which are intact and properly maintained, and reading of the landfill monitoring indicates 0% by volume of methane from all monitoring points (CalRecycle, 2013; pg. 3)

- *Western Farm Service Delano* (currently operating as Crop Production Services) is located at 930 Woollomes Ave and is 0.5 mile east-southeast of the project site. The facility is listed within the statewide SLIC (Spills, Leaks, Investigations, and Cleanups) database with an "Open – Site Assessment" status (EDR, 2013c; pg. 17). The site is 13 acres in size listed in GeoTracker with the Regional Water Quality Control Board (RWQCB) as the lead oversight agency. The case was opened by the RWQCB following an unauthorized release from an UST in 1998. Based on the distance from the project site, the environmental concern posed to the project site from this off-site source appears low

- *The Home Depot* is located at 601 Woollomes Ave and is 0.13 mile from the project site. Home Depot is listed as a Resource Conservation Recovery Act (RCRA) small quantity generator of ignitable and corrosive wastes, waste that may contain metals, and pesticides. No violations under RCRA have been found and the activity does not pose a risk to the proposed project (EDR, 2013c; pgs. 5, 9, and 10)

Airports

The proposed project is located approximately one-half (0.61) mile west of the Delano Municipal Airport and within Safety Zone 6 (Traffic Pattern Zone) of the Delano Municipal Airport Compatibility Criteria, as delineated in the City Municipal Code and the Delano Municipal Airport Master Plan (City of Delano, 2011b, section 20.3.30; and City of Delano, 2011a; pg. 4-11).

Regional Potential Public Health Issues

Existing conditions in Kern County and the City of Delano (City) include naturally-occurring biologically-based risks identified in Kern County and State of California planning documents and resources.

Valley Fever (Coccidioidomycosis)

Caused by the fungus *Coccidioides immitis*, Valley Fever's name is derived from its discovery in the San Joaquin Valley of California. According to the California Department of Public Health (CDPH), rates of Valley Fever are relatively high in Kern County, with over 75 cases per 100,000 people per year. The ailment is a disease of the lungs that is common in the southwestern United States and northwestern Mexico. The fungus grows in soils located in areas of low rainfall, high summer temperatures, and moderate winter temperatures. These fungal spores become airborne when the soil is disturbed by winds, construction, farming, and other activities. In susceptible people and animals, infection occurs when a spore is inhaled.

The disease is not contagious. Residents of Bakersfield, California and Phoenix, Arizona, have shown positive skin test reaction rates of 30-40%, meaning that about one-third of residents tested have had Valley Fever sometime in the past. Over half of those infected have no symptoms at all, and in many others symptoms are very mild. The person may develop what resembles a slight cold, which quickly subsides, never knowing that the "cold" was actually a mild case of Valley Fever. Of those seeking medical care, symptoms may include fatigue, cough, chest pain, fever, rash, headache, and joint aches. In unusually severe cases, sufferers may develop pneumonia, meningitis, or persistent fatigue. New cases tend to arise in a seasonal pattern, peaking in the hot, dry summer and fall months, particularly after a period of windy weather or after a dust storm that spreads the fungus aerially. Although it has been studied for the past 100 years, it is a disease that has remained difficult to control and treat. The United States Food and Drug Administration (FDA) has approved several medications for use against Valley Fever. The Valley Fever Vaccine Project has been working on the development of a vaccine since the 1990's (Kern County, 2005; pgs. 4.1-67 to 4.1-70; and Kern County, 2004; pgs. 4-9-10 to 4-9-11; and CDPH, 2013a; pg. 2).

Hazards from Mosquitos

Mosquito-borne illnesses have been identified as a public health risk to be addressed in Kern County Planning. Kern County established one of the earliest mosquito control districts in the state in 1916, which has helped suppress mosquito-borne ailments (Kern County, 2005; pgs. 4.1-3, 4.1-64 to 4.1-66). Additionally, the California Department of Public Health (CDPH) has developed Best Management Practices that may be voluntarily adopted to manage this naturally-occurring risk (Kern County, 2005; pgs. 4.1-3, 4.1-64 to 4.1-66; and CDPH, 2012a; pgs. 4 to 6, and 16 to 17).

3.7.2 REGULATORY SETTING

Definition of Hazardous Materials

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in the California Health and Safety Code and title 22 of the California Code of Regulations (CCR) as:

> (A)ny material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. (Health and Safety Code section 25501, subdivision (p) cited in California Code of Regulations, Title 22, section 66260.10, "Hazardous material").

Chemical and physical properties cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity. These terms are defined in the CCR, title 22, sections 66261.20-66261.24. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway and individual susceptibility.

Federal Regulations

The U.S. Environmental Protection Agency (EPA) provides leadership in the nation's environmental science, research, education, and assessment efforts. To develop and enforce regulations under existing laws, the EPA works closely with state and local governments, Native American tribes, and federal agencies, including the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), and the National Institutes of Health (NIH). The EPA is responsible for researching and setting national standards for a variety of environmental programs and it delegates responsibility to states and tribes for issuing permits and monitoring and enforcing compliance.

Prior to August 1992, the principal agency at the federal level enforcing standards for the generation, transport, and disposal of hazardous waste was the EPA, acting under the authority of the Resource

Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the EPA authorized the California Department of Toxic Substances Control (DTSC) to implement the state's hazardous waste management program for the EPA. The federal EPA continues to enforce regulation of hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Comprehensive Environmental Response, Compensation, and Liability Act

The CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites and established a trust fund to provide for cleanup when no responsible party could be identified.

The law authorizes two kinds of response actions: short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response, and long-term remedial response actions. Long-term remedial response actions permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These actions can be conducted only at sites listed on EPA's National Priorities List (NPL).

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), 42 U.S.C sections 6901 et seq. (1976), gave EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. In addition, RCRA set forth a framework for the management of non-hazardous wastes.

The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. RCRA focuses only on active and future facilities and does not address abandoned or historical sites (see CERCLA).

The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that required phasing out land disposal of hazardous waste. Some of the other mandates of this law include increased EPA enforcement authority, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

Federal Toxic Substances Control Act

Congress enacted the Toxic Substances Control Act (TSCA) in 1976 (15 U.S.C. sections 2601 et seq.), to become effective January 1, 1977. The act authorizes the EPA to secure information on all new and existing chemical substances and to control any of these substances determined to cause an unreasonable risk to public health or the environment. TSCA also includes requirements for the storage, use, and disposal of polychlorinated biphenyl (PCB)-containing materials.

Federal Insecticide, Fungicide, and Rodenticide Act

The primary focus of the 1976 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), United States Code sections 136 et seq., was to provide federal control of pesticide distribution, sale, and use. EPA was given authority under FIFRA not only to study the consequences of pesticide usage but also to require users (farmers, utility companies, and others) to register when purchasing pesticides. Through later amendments to the law, users also must take exams for certification as applicators of pesticides. All pesticides used in the U.S. must be registered (licensed) by the EPA. Registration assures that pesticides will be properly labeled and will not cause unreasonable harm to the environment if used in accordance with specifications.

Federal Aviation Regulations

Federal Aviation Regulations (FAR), Part 77, "Safe, Efficient Use, and Preservation of the Navigable Airspace" prescribes height limitations for objects near airports. Section 77.17 states that proposed structures and vegetation would be an obstruction to air navigation if they would be of greater height than 499 feet above ground level at the project site; 200 feet above ground level or above the established airport elevation, whichever is higher, within three nautical miles of the established reference point of the airport; or greater than the surface of a takeoff and landing area or any imaginary surface established under certain regulations. Section 77.19 establishes civil airport imaginary surfaces related to airport location and runway configurations.

State Regulations

The California Environmental Protection Agency (Cal-EPA) and the SWRCB establish rules governing the use of hazardous materials and the management of hazardous waste. Within Cal-EPA, the DTSC has primary regulatory responsibility for the management of hazardous materials and the generation, transport, and disposal of hazardous waste. DTSC also delegates enforcement to local jurisdictions that enter into agreements with the agency.

California Health and Safety Code

As the designated Local Enforcement Authority (LEA), Kern County is currently responsible for implementing Chapter 6.95 of Division 20 of the California Health and Safety Code (section 25500 et seq.), relating to hazardous materials release response plans and inventory.

California Water Code

California Water Code section 231 requires the California Department of Water Resources (DWR) to develop well standards to protect California's groundwater quality. DWR published two bulletins that encompass the complete minimum requirements for constructing, altering, maintaining, and destroying water wells, monitoring wells, and cathodic protection wells. The standards in DWR Bulletin 74-81 (December 1981) and DWR Bulletin 74-90 (June 1991 supplement to 74-81) apply to all water well drillers in California and the local agencies that oversee them.

Hazardous Waste Control Laws

The California Hazardous Waste Control Law (HWCL) is the State's equivalent to RCRA and closely parallels RCRA by regulating the generation, storage, transportation, treatment, and disposal of hazardous waste in the State. The primary authority for enforcement of HWCL and RCRA lies with the DTSC, which has been authorized by the EPA to administer all regulations issued under both statutes.

California Department of Transportation, Division of Aeronautics

The Division of Aeronautics administers the California State Aeronautics Act (SAA, Public Utilities Code section 21001 et seq.), which protects public health, safety, and welfare by coordinating land use decisions near airports to avoid incompatible uses and activities. State law requires an EIR for projects located within an airport compatibility plan area to evaluate impacts regarding safety and noise by utilizing the California Airport Land Use Planning Handbook (Caltrans Handbook), published by the California Department of Transportation (Caltrans), as a technical resource (Caltrans, 2011; pgs. vii and 6-6; and Public Resources Code section 21091, subd. (a)).

Cal/OSHA

The California Occupational Safety and Health Administration (Cal/OSHA) is responsible for implementing workplace regulations. Cal/OSHA considers an asbestos-containing material (ACM) as one containing at least one percent asbestos. The removal or disturbance of 100 square feet or more of ACM may only be performed by a contractor certified by the California Contractors State License Board to conduct asbestos-related work. Requirements specifically addressing asbestos are contained in Title 8 of the California Code of Regulations (CCR) and in the California Health and Safety Code (HSC).

Regional Regulations

San Joaquin Valley Unified Air Pollution Control District (SJVAPCD)

Under District Rule 4002, the SJVAPCD adopted regulations and policies implementing asbestos demolition and renovation requirements developed by the EPA, known as the National Emission Standards for Hazardous Air Pollutants (NESHAP). NESHAP requires that a thorough inspection for asbestos-containing material be conducted before any regulated facility is demolished or renovated. Any building, including any dwelling at the site of a proposed public or commercial project, such as a new shopping mall, is a regulated facility subject to this regulation.

Local Regulations

Kern County Airport Land Use Compatibility Plan (Kern County ALUCP)

Under the requirements of the SAA, California counties are required to incorporate airport compatibility considerations into planning decisions. Most counties perform this function through a county Airport Land Use Commission (ALUC) that evaluates land use near airports and develops an Airport Land Use Compatibility Plan (ALUCP). Kern County operates under an exception in the Public Utilities Code that allows it to not have an ALUC (Public Utilities Code section 21670.1, subd. (d); and Caltrans, 2011; pgs. 1-2, 1-4, and 5-13 to 5-14). Under this exception, the Kern County ALUCP was written under contract

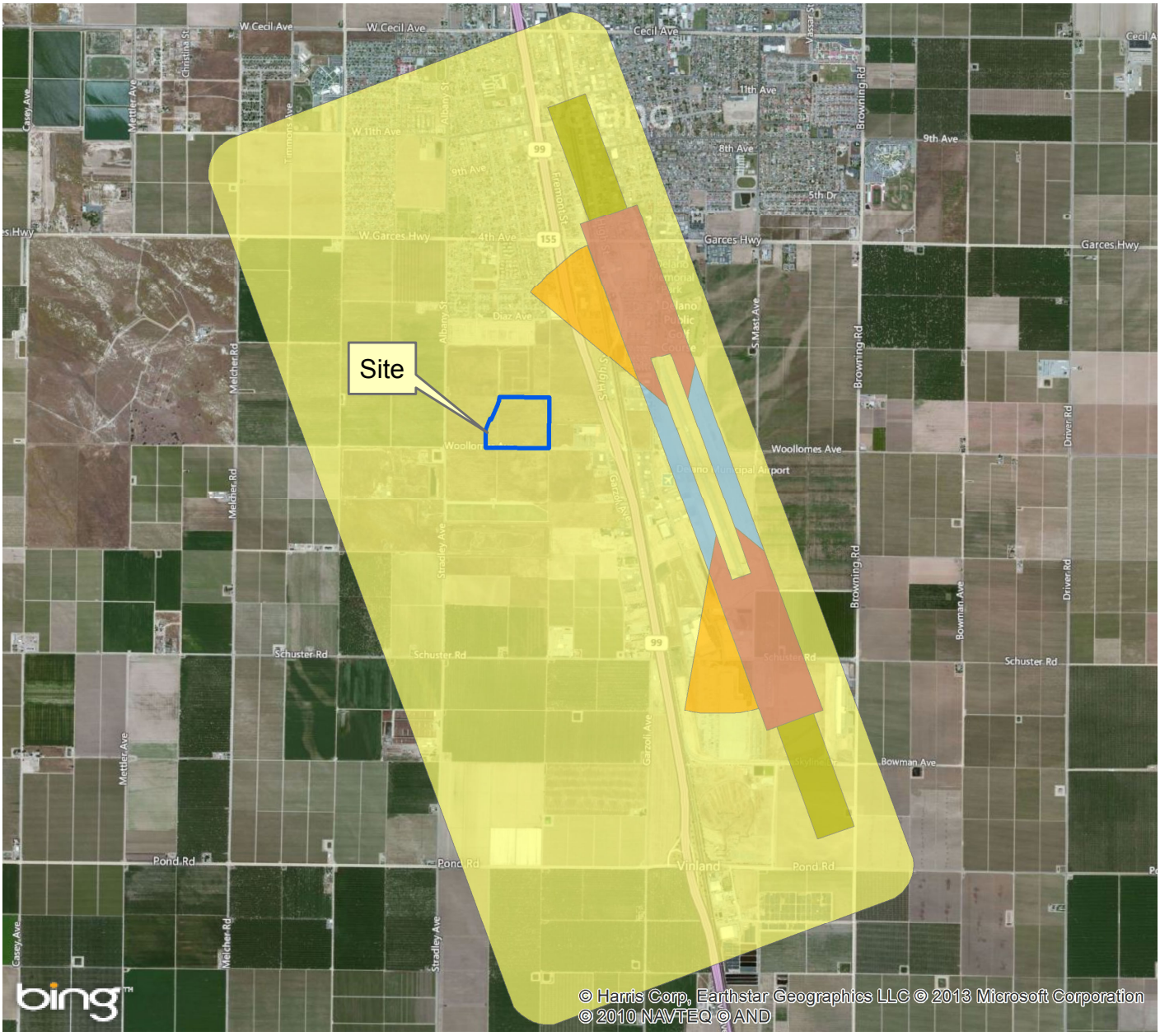
with the Division of Aeronautics. This legal exception also requires that "the county and the cities affected by the airports within the county" incorporate "the height, use, noise, safety, and density criteria that are compatible with airport operations as established by [the SAA], and referred to as the Airport Land Use Planning Handbook." (Public Utilities Code section 21670.1, subd. (d)(2); and Caltrans, 2011; pg. vii.)

The Kern County ALUCP provided the basis for the initial adoption of the City of Delano's airport planning requirements and resources, including the City of Delano Municipal Code Delano Municipal Airport Compatibility Criteria, the City of Delano General Plan Land Use Element Airport Compatibility Criteria, and the City of Delano Municipal Airport Master Plan (Kern County, 2011; pgs. 1 to 2).

The Kern County ALUCP outlines airport safety zones for airports within the county (Kern County, 2011; pgs. 4-1 to 4-2 and 4-22 to 4-25). However, these zones are based on an older, superseded 1993 edition of the Caltrans Handbook, rather than the newer safety zones appearing in more recent editions of the Handbook published since 2002 (City of Delano, 2011a; pgs. 9-5 to 9-8; see also Caltrans, 2011; pg. 4-25).

City of Delano Municipal Airport Master Plan (Airport Master Plan)

The City of Delano Municipal Airport Master Plan was prepared in accordance with the 2002 Caltrans Handbook and the Kern County ALUCP, among other references (City of Delano, 2011a; pg. 9-5). The Airport Master Plan notes that the Kern County ALUCP bases its airport compatibility zones on "guidelines published by the State in 1993 which have since been superseded" (City of Delano, 2011a; pg. 9-5). The Airport Master Plan bases its airport compatibility zone descriptions and maps on a newer 2002 edition of the Caltrans Handbook that the Master Plan states is "much more definitive in the guidance it provides" (City of Delano, 2011a; pg. 9-5). These airport compatibility zone descriptions and maps are substantially similar to the newest edition of the Caltrans Handbook, released in late 2011 after the publication of the Airport Master Plan (Caltrans, 2011; pgs. 4-20 to 4-25; and City of Delano, 2011a; pg. 9-7). Figure 3.7-1, Delano Municipal Airport Caltrans Safety Zones, illustrates the application of the Safety Zones to areas surrounding the airport.



Adapted from Delano Municipal Airport Master Plan
Note: Connected Runway Terminus to Match Actual End.

N
W E
S

0 2,000 4,000 8,000
Feet

Legend

Site

Caltrans Airport Safety Zones

Description

- Runway Protection Zone
- Inner Approach/Departure Zone
- Inner Turning Zone
- Outer Approach/Departure Zone
- Sideline Zone
- Traffic Pattern Zone

Grapevine Shopping Center
NW Corner of Woollomes and S. Dover
Delano, California

FIGURE 3.7-1
Delano Municipal Airport
CalTrans Safety Zones

Document Path: T:\GIS-Files\Project-Files\E1300901S - Grapevine Delano\Figure3x-caltrans-air-hazard.mxd

City of Delano Municipal Code Airport Safety Regulations and Related City of Delano Airport Planning Review

The City Municipal Code section 20.3.30 contains airport safety regulations "to provide greater safety to both aviators and the general public by establishing requirements for land use compatibility reviews within designated areas" in the general vicinity of the airport (City of Delano, 2011b). The project is located approximately one-half (0.61) mile from the airport, within Safety Zone 6 of the Municipal Code section 20.3.30 Delano Municipal Airport Compatibility Measures. The ordinance requires that the proposed project be consistent with the City of Delano General Plan, the City of Delano Zoning Ordinance, the Delano Municipal Airport Master Plan, and the Kern County Airport Land Use Compatibility Plan. The ordinance also requires that the proposed use does not involve the storage or dispensing of volatile or otherwise hazardous substances that would endanger aircraft operations; the proposed use does not attract large concentrations of birds, produce smoke, generate electrical interference, reflect glare or light, or emit radio transmissions that may endanger aircraft operations; the proposed use complies with the City's noise standards; and the proposed use will not adversely affect safe air navigation, airport operations, or interfere with airport communications.

As required by section 20.3.30, subsection 14, review of and findings on the project will be performed by the Community Development Director to determine whether the project is consistent with municipal code requirements. The Delano City Council will also review the project for consistency with the purposes of the SAA and compatibility with airport compatibility planning resources and requirements, including the Kern County ALUCP, the Delano Municipal Airport Master Plan, the City of Delano Development Code Delano Municipal Airport Compatibility Criteria, and the City of Delano General Plan Land Use Element Airport Compatibility Criteria (Kern County, March 2011; City of Delano, 2005; pgs. 2-22 to 2-23; City of Delano, 2011a; City of Delano, 2011b chapter 20.3.30).

Kern County Environmental Health Services Department (KCEHSD)

In 1995, the Certified Unified Program Agency (CUPA) was developed to consolidate all County hazardous materials programs under one agency. The KCEHSD has been designated the lead agency for hazardous materials programs and acts as the single point of contact for issuance of permits. Site inspections of all hazardous materials programs (e.g., aboveground and underground tanks, hazardous waste treatment, hazardous waste generators, hazardous materials management plans, etc.) are consolidated and accomplished by a single inspection. All businesses that handle or store hazardous materials in greater quantities than 55 gallons for liquids, 400 pounds for solids, and 200 cubic feet for compressed gases are required to complete forms and file a Hazardous Materials Business Plan and Chemical Inventory with the KCEHSD. Lower thresholds are typically mandated for "Acutely Hazardous Substances." A site map and emergency plan are also required to be submitted by all businesses that submit a Hazardous Materials Business Plan and Chemical Inventory.

The program provides emergency response to chemical events to furnish substance identification; health and environmental risk assessment; air, soil, water, and waste sample collection; incident mitigation and cleanup feasibility options; and on-scene coordination for state Superfund incidents. The

program also provides for the oversight, investigation, and remediation of unauthorized releases from underground tanks.

Mosquito Vector Control District

The project site lies within the Delano Mosquito Abatement District Control Area (DMAD, 2013a). Kern County established one of the earliest mosquito control districts in the state in 1916, which has helped suppress mosquito-borne ailments. Additionally, the California Department of Public Health (CDPH) has developed Best Management Practices that may be voluntarily adopted to manage this naturally-occurring risk. (Kern County, 2005; pgs. 4.1-3, 4.1-64 to 4.1-66; and CDPH, 2012a; pgs. 4 to 6 and 14 to 17. See also DMAD, 2013b; and DMAD, 2013c.)

Kern County Special Waste Facility

The Kern County Special Waste Facility provides for the hazardous waste disposal needs of businesses within Kern County. The Conditionally Exempt Small Quantity Generator (CESQG) Program allows eligible businesses to bring hazardous waste to the County's Special Waste Facility. This program is sponsored by the Kern County Waste Management Department and by grants received from CalRecycle. State and federal hazardous waste laws limit the use of this type of hazardous waste collection program to businesses that qualify as Conditionally Exempt Small Quantity Generators (CESQGs). To qualify as a CESQG, a business must generate less than 27 gallons or 220 pounds of hazardous waste per month, including a maximum of 1 quart or 2.2 pounds of acutely hazardous waste. Businesses that generate more than these amounts are required to use a licensed hazardous waste hauler to manifest and transport their waste.

3.7.3 IMPACTS AND MITIGATION MEASURES

Methodology

BSK Associates performed a screening-level environmental assessment that consisted of an historical document and aerial photograph review, a site visit, and an online search of environmental regulatory databases.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based upon Appendix G of the CEQA Guidelines and standards used by the City (OPR, 2013.). For the purposes of this EIR, impacts are considered significant if the following could result from implementation of the proposed project:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
4. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and as a result would create a significant hazard to the public or the environment.
5. Be located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, and thus result in a safety hazard for people residing or working in the project area.
6. Be located within the vicinity of a private airstrip, and thus result in a safety hazard for people residing or working in the project area.
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
8. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Effects Found Not to Be Significant

As analyzed in the Notice of Preparation (NOP), several potential effects related to Hazards and Hazardous Materials were found not to be significant because the project will have no impacts in these areas. These effects are whether the project would:

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and as a result would create a significant hazard to the public or the environment
- Be located within the vicinity of a private airstrip, and thus result in a safety hazard for people residing or working in the project area
- Expose people or structures to a significant risk or loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

(City of Delano, 2013c; pgs. 19 to 20.)

For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.7-1 Development of the proposed project could expose people, property or the environment to risks associated with asbestos or lead-based paint associated with building materials from the historical residence in the event these hazards were present.

The project site was not included on a list of hazardous materials sites pursuant to Government Code section 65962.5; therefore, there is no known release at the project site. Additionally, there do not appear to be any abandoned or out-of-service water wells at the site. Information supplied by the Kern County Department of Public Health, Environmental Health Division, indicates that four wells previously existed in the vicinity but have been destroyed (Kern County, 2013). Environmental Health Division records do not indicate any abandoned or out-of-service wells at the project site. Therefore, based on preliminary study, this impact is considered to be less than significant. However, as with all former agricultural properties, it is possible that irrigation lines on the project sites may contain asbestos or be wrapped in asbestos. Demolition of the existing building on site may also uncover potentially hazardous materials. If hazardous materials were discovered on the site during the course of construction, a potentially significant impact could arise. If suspect asbestos-containing materials are uncovered during construction, Mitigation Measure **MM 3.7-1** would require all work at the project site to halt so that a proper assessment can be made of the suspect materials and all potentially friable asbestos-containing materials can be removed in accordance with applicable law. This potentially significant impact will be mitigated to a **less than significant** level through implementation of Mitigation Measure **MM 3.7-1**.

Mitigation Measure

MM 3.7-1 Prior to the issuance of grading or building permits, the project applicant shall properly remove building debris from the previous residence. In the event that suspect asbestos-containing materials or other potentially hazardous materials are uncovered during project construction, work at the project site shall immediately halt and a qualified hazardous materials professional shall be contacted and brought to the project site to make a proper assessment of the suspect materials. All potentially friable asbestos-containing materials shall be removed in accordance with federal, state, and local laws and the National Emissions Standards for Hazardous Air Pollutants guidelines prior to building demolition or renovation that may disturb such materials.

Impact 3.7-2 The project has the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during operation or construction.

The proposed project includes an approximately 328,500-square-foot-shopping center including a movie theater, retail shops, restaurants, and fast-food services. Commercial retail operations would involve potentially hazardous storage and handling of waste-containing hazardous substances including universal waste (florescent bulbs) and waste generated from returned items or expired shelf life products, such as batteries and paints, depending on the specific retailer. Compliance with the regulations of the Kern County Environmental Health Services Department and the SJVAPCD

Department including the preparation of Hazardous Materials Business Plan, Chemical Information, and Contingency Plans will ensure that the proposed project would have a less than significant impact.

Under California Health and Safety Code Section 25503.5, any activity involving the handling of hazardous materials requires the establishment and implementation of a Hazardous Materials Business Response Plan. In addition, according to the KCEHSD, all businesses must file a Hazardous Materials Business Plan, Chemical Information, and Contingency Plan with the KCEHSD if they handle or store hazardous materials above the following threshold quantities: 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases. Lower threshold quantities may be mandated for "Acutely Hazardous Substances." The elements of the Hazardous Materials Business Plan, Chemical Information, and Contingency Plan include the following components (if applicable): submittal of a Hazardous Materials Release Response Plan and Inventory Program; Uniform Fire Code Plans and Inventory Requirements; Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs; California Accidental Release Prevention Program; Underground Storage Tank Program; and Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC). All applicable plans are required to be submitted to the County for hazardous materials use and storage at the project site. Failure to submit the applicable forms may result in legal action by the County.

The proposed operation of general retail in compliance with the regulations of the KCEHSD and the SJVAPCD would ensure that the proposed project does not create a significant hazard to the public or the environment by releasing hazardous materials into the environment. The following mitigation measure will be implemented to facilitate compliance and assure this impact remains **less than significant**.

Mitigation Measure

MM 3.7-2 Prior to the issuance of grading or building permits, the project applicant shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division**/**Hazardous Materials Section for review and approval. The hazardous materials business plan shall delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. The hazardous materials business plan shall also include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the sites. A copy of the approved hazardous materials business plan shall be submitted to the City, as well as provide a copy to all contractors working on the project and ensure that one copy is available at the project site at all times.

Impact 3.7-3 The proposed project is located within Zone C of the Kern County Airport Land Use Compatibility Plan (ALUCP) area, and so the project must be analyzed to determine whether its development could result in a safety or noise hazard for people residing or working in the project area.

The project is designed in compliance with airport land use compatibility laws and ordinances designed to guide development within the airport vicinity and, therefore, the project will have **no impact** regarding safety or noise hazards for people residing or working in the project area.

As discussed above in 3.7.2 Regulatory Setting: Local Regulations, the proposed project is located approximately one-half (0.61) mile west of the Delano Municipal Airport, within Safety Zone 6 Traffic Pattern Zone of the City Municipal Code Delano Municipal Airport Compatibility Measures (City of Delano, 2011b; section 20.3.30). To comply with the SAA, the City has adopted the airport compatibility zoning framework of the most current edition of the Caltrans Handbook. City of Delano Municipal Code section 20.3.30 establishes density requirements for areas within the City's Airport Influence Area, including Zone 6. Zone 6 is the lowest risk, outermost zone in the Airport Influence Area and has no prohibited uses except "outdoor stadiums and similar uses with very high intensities" (section 20.3.30, Tables 3.B and 3.C). Figure 3.7-1, Delano Municipal Airport Caltrans Safety Zones, illustrates the project's location within Zone 6.

Under the Zone 6 framework, allowable densities vary according to whether a site is located in a rural, suburban, or urban area. The project is located in an urban area within Zone 6. Urban areas are characterized as "Heavily Developed" (section 20.3.30, Table 3.B). The most recent edition of the Caltrans Handbook (2011) provides additional detail on the "urban" designation, stating that urban areas are "characterized by mid-rise (up to 5 stories) development; generally surface vehicle parking, but potentially some parking structures" (Caltrans, 2011; pg. 4-18). In contrast, suburban areas are "characterized by low-rise (1-2 story) development" (*Ibid*.)

Building heights in the project vicinity exceed 2 stories, including the nearby Home Depot store to the east and the Walmart store to the southeast. Large industrial buildings and a tank farm are sited to the southeast as well, between the project and the airport. Surface vehicle parking is generally used in this area. Thus, based on the project vicinity's multi-story buildings and heavy development, the area meets the definition of "urban" as defined in section 20.3.30 and the Caltrans Handbook.

Density Calculation Methods and Project Density Calculations

The 2011 Caltrans Handbook provides guidance for calculating the estimated density of the proposed project in Appendix G, "Methods for Determining Concentrations of People" (Caltrans, 2011; pg. G-1). The "Parking Ordinance" method calculates the maximum number of people per acre that would be present at any one time, based upon the number of parking spaces. According to the handbook, this method is appropriate when the proposed land use is expected to be dependent upon access by vehicles, as would be the case with the proposed project.

If all of the Project's proposed 2,512 parking spaces were filled at the same time with an average vehicle occupancy rate of 1.7 persons per vehicle, total occupancy would be approximately 4271 people.

(Caltrans, 2013; pgs. 123 to 124, Table 8.4.4; and U.S. Department of Transportation, 2009; pg. 33, Table 16.) This is within the density prescribed for an urban Zone 6 location by the Caltrans Handbook and by City of Delano Municipal Code section 20.3.30. Furthermore, with the implementation of Mitigation Measure **MM 3.3-3**, the parking will be reduced by at least 18%, making the total spaces after mitigation 2,060. Based on average vehicle occupancy, the total occupancy would be approximately 3,502 and would also be within the prescribed density of the Caltrans Handbook and the City of Delano Municipal Code section 20.3.30.

In accordance with the Caltrans Handbook, the density of the project's movie theater is estimated separately, based on the number of fixed seats in the building (Caltrans, 2011; pg. 4-26 and pgs. G-1 to G-2). The Maximum Single Acre Density for Zone 6: Traffic Pattern Zone is unlimited in an urban area (Caltrans, 2011; pg. 4-25, Figure 4G). The projected number of seats is estimated to be 2,100, within the density prescribed for an urban Zone 6 location by the Caltrans Handbook and by City of Delano Municipal Code section 20.3.30.

Other Municipal Code Requirements

City Municipal Code section 20.3.30 also requires that the proposed use does not involve the storage or dispensing of volatile or otherwise hazardous substances that would endanger aircraft operations; the proposed use does not attract large concentrations of birds, produce smoke, generate electrical interference, reflect glare or light, or emit radio transmissions that may endanger aircraft operations; the proposed use complies with the City's noise standards (i.e., does not expose people at the project to noise levels above the City standards as a result of the project's location in the airport vicinity); and the proposed use will not affect safe air navigation, airport operations, or interfere with airport communications.

The proposed project, a shopping center development, does not contain any features that would attract a large concentration of birds, produce smoke, generate electrical interference, or emit radio transmissions. Two other retail-commercial developments directly adjacent to the project have been constructed (Home Depot and Walmart) that are located closer to the airport than the project, and neither has resulted in these sorts of adverse impacts to airport operations. Any glare or light from the planned on-site signage associated with the project will not present any additional hazard to aircraft operations.

In addition, proposed structures and the normal mature height of vegetation will not exceed the height limitations contained in Federal Aviation Regulations (FAR), Part 77, "Safe, Efficient Use, and Preservation of the Navigable Airspace." According to the Delano Municipal Airport Master Plan, the project site is located within the Horizontal Surface area of the airport. This area is a horizontal plane that begins 150 feet above the established airport elevation. The height of the tallest sign on the project site will be no more than 80 feet, which is well within the FAR limits described above. Building height would also be within the FAR limits, because the buildings at the project site will have a height between 20 and 40 feet with some buildings reaching a height of 50 feet for an architectural feature.

Conclusion

As described above under "Standards of Significance," the standard of significance relating to airports states that project impacts would be considered significant if the project's location within the local airport land use plan area would result in a safety hazard for people residing or working in the project area. The project location is entirely within Zone 6 and meets all associated restrictions.

The proposed project would comply with maximum density restrictions, height restrictions and other requirements of applicable federal, state, and local airport compatibility laws and ordinances designed to guide development within the Delano Municipal Airport area. Therefore, the project will not create a safety hazard for people residing or working in the project area, and there will be **no impact** resulting from the project's proximity to the Airport. No mitigation is required.

Impact 3.7-4 Construction of project elements, especially utility pipelines and roads, may interfere temporarily with traffic flow and roadway use. This could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan by interfering with emergency vehicle access and evacuation routes.

This is a potentially significant impact.

The City of Delano currently has no established Emergency Response Plan or designated Emergency Evacuation Routes. Each emergency situation is specific in nature and continually evolving. Based on the type, location, and size of a given incident, evacuations or shelter-in-place may be required. In those rare events, City emergency responders, Incident Command Staff, and the Incident Commander, be it the Public Works Director, Chief of Police, or Fire Chief, if evacuations are determined to be needed, will use all available information and accepted protocols to establish evacuation routes that will provide for the most reliable, orderly, and quickest response possible to reduce injury, illness, or other safety concerns to those persons within the affected area that are not determined to be first responders. (Personal Communication with Chief of Police Mark DeRosia on December 20, 2013). Therefore, the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and there will be **no impact** from the project on emergency response services.

Impact 3.7-5 A small but significant risk of Valley Fever infection exists for construction personnel working on the project in the peak summer and fall months.

As was described above in the discussion of Regional Public Health Issues, the fungal-borne disease Valley Fever (Coccidioidomycosis) is spread by the inhalation of dust containing the fungal spore *Coccidioides immitis* that causes the disease. Although the vast majority of individuals exposed to the fungus experience no or very mild symptoms, in a small percentage of the population it can generate more serious symptoms of meningitis, pneumonia, or chronic fatigue. People working in certain occupations, such as construction, agriculture, and archaeology, have an increased risk of exposure and disease since these jobs result in the disturbance of soils where fungal spores are found (CDPH, 2013a;

pg. 2). Individuals at higher risk include those of African and Filipino descent as well as people who are HIV-positive or pregnant; have AIDS, cancer, or diabetes; or who smoke (CDPH, 2013a; pg. 3). Valley Fever infection is highest in California from June to November, and the illness is endemic to Kern County (CDPH, 2013a; pg. 2). Thus, a small but significant risk of Valley Fever infection exists for construction personnel working on the project in the peak summer and fall months. This is considered a potentially significant impact. Valley Fever risk from construction-related dust from the project will be partially mitigated through implementation of an SJVAPCD-approved Dust Control Plan (see Impact 3.3-1 in Section 3.3, Air Quality and Greenhouse Gas Emissions). Mitigation Measures **MM 3.7-5a, MM 3.7-5b, MM 3.7-5c, MM 3.7-5d, and MM 3.7-5e** will further mitigate Valley Fever risks. These mitigation measures are based upon CDPH recommendations for preventing work-related Valley Fever (CDPH, 2013a; pgs. 4 to 7).

Mitigation Measures

MM 3.7-5a Engineering and Work Practice Controls: In order to minimize worker exposure to dust containing the Valley Fever fungus, the following actions will be taken by the project applicant:

1. When digging a trench or performing other soil-disturbing tasks, workers will be positioned upwind when possible.
2. When possible, vehicles will have enclosed, air-conditioned cabs and workers will be advised to keep the windows closed.
3. Overwatering the site for dust control could create an increased threat, and so wetting must be applied in a controlled, strategic manner.

MM 3.7-5b Administrative Controls and Hazard Awareness: To increase hazard awareness and knowledge of safe work practices so that workers and supervisors may employ safer work practices, the project applicant will ensure that the following actions are taken.

1. Workers and supervisors will be trained on:
    a. Distribution of endemic areas
    b. Symptoms and signs of Valley Fever
    c. The need to report symptoms to supervisors
    d. The need to obtain medical evaluation
    e. People at highest risk of serious disease
    f. Effective practices, such as avoiding dust and working upwind of dust
    g. Effective controls, including proper use of equipment such as respirators
    h. The need to shower and wash hair as soon as possible after work to limit exposure and transport of fungal spores.
2. The following CDPH materials on Valley Fever will be distributed to workers and supervisors.

a. For supervisors:

   i. CDPH pamphlet, "Preventing Work-Related Coccidioidomycosis (Valley Fever)," available at: http://www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf.

b. For workers:

   i. CDPH Valley Fever Fact Sheet in English, available at: http://www.cdph.ca.gov/HealthInfo/discond/Pages/Coccidioidomycosis.aspx

   ii. CDPH Valley Fever Fact Sheet in Spanish, available at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/fiebredelvalle12.pdf

   iii. CDPH Valley Fever Fact Sheet in Tagalog, available at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/fiebredelvalle12.pdf

(CDPH, 2013b; CDPH, 2012b; and CDPH, 2012c)

MM 3.7-5c Personal Protective Equipment: To ensure that workers have appropriate protection from dust, the project applicant will ensure that the following actions are taken.

1. When digging or working near earth-moving trucks or equipment, the contractors shall make available NIOSH-approved masks rated at N95 or above.
2. If respirators are used, a comprehensive respirator program will be implemented, including medical clearance, training, fit testing, and procedures for cleaning and maintaining respirators. Such training may be combined with that listed in **MM 3.7-4b** above.
3. Workers will be made aware of the potential threat of the spores and that work clothes can transport them. A changing area will be made available.

MM 3.7-5d Limiting Spore Transport/Clean-up Controls: At the end of the work day, workers will be required to remove their work clothes at the work site. Work boots will be stored on site if possible; otherwise a boot wash will be provided for workers to use before leaving the project site. Equipment will be washed before being moved off-site.

MM 3.7-5e Case Reporting Protocols: In order to ensure appropriate diagnosis, treatment, and reporting of potential Valley Fever cases, the following actions will be taken by the project applicant's contractor.

1. When two or more workers report symptoms that suggest Valley Fever, workers should be sent to a single medical provider or occupational medicine clinic for coordinated medical care, if possible. The purpose of this requirement is to facilitate better communication between the medical provider, public health agencies, and employer.
2. An "Employer's Report of Occupational Injury or Illness" (Form 5020) shall be completed for each occupational Valley Fever illness which results in "lost time" or medical treatment beyond first aid.

3. Valley Fever cases will be listed on the Cal/OSHA Form 300, "Log of Work-Related Injuries and Illnesses".
4. In compliance with section 330 of Title 8 of the California Code of Regulations, serious worker illnesses or death connected with Valley Fever shall be reported to the local Cal/OSHA district office, as well as the City of Delano Community Development Department at 1005 Eleventh Avenue, Delano, California 93215.

Implementation of the above mitigation measures will reduce impacts from Valley Fever fungus exposure during construction to a **less than significant** level.

Impact 3.7-6 Areas of standing water, due to temporary construction ponds, pooling of water during construction or during irrigation of landscaping, or due to stormwater management, could inadvertently create mosquito breeding areas. These breeding areas could in turn create the potential for a small increase in the risk of mosquito-borne illness.

The small increase is not considered a less than significant impact because of the lack of nearby vectors, such as wetlands or stockponds. However, to support Kern County and the Delano Mosquito Abatement District programs and state recommendations to adopt Best Management Practices (BMPs), the following mitigation measures will be implemented. Both state and local mosquito abatement programs recommend abatement measures be taken during the mosquito's larval (in-water) stage of development, and so the mitigation measures focus on standing water control BMPs (Kern County, 2005, pgs. 4.1-3, 4.1-64 to 4.1-66; DMAD, 2013a; DMAD, 2013b; and CDPH, 2012a; pgs. 1, 4 to 6, 16 to 17). To the extent that one or more of these measures contradicts or is determined to be un-implementable, the applicant will contact the Delano Mosquito Abatement District to evaluate the project site for mosquito breeding areas and work cooperatively to prevent a mosquito problem on the site.

Mitigation Measures

MM 3.7-6a During construction and operations of the project, Universally Applicable Mosquito Control BMPs shall be implemented to the extent feasible:

1. Examine outdoor areas and drain temporary and unnecessary water that may stand longer than 96 hours.
2. Dispose of unwanted or unused artificial containers.
3. Properly dispose of old tires.
4. If possible, drill drainage holes, cover, or invert any container or object that holds standing water that must remain outdoors. Be sure to check for containers or trash in places that may be hard to see, such as under bushes or buildings.
5. Clean clogged rain gutters and storm drains. Keep outdoor drains flowing freely and clear of leaves, vegetation, and other debris.
6. Aerate ornamental ponds to avoid letting water stagnate.

7. Change water in birdbaths and fountains at least once per week.
8. Ensure rain and/or irrigation water does not stand in plant containers, trash cans, or other containers on commercial properties.
9. Maintain irrigation systems to avoid excess water use and runoff into storm drains.
10. Minimize sites mosquitoes can use for refuge (harborage) by thinning branches, trimming and pruning ornamental shrubs and bushes, and keeping grass mowed short.
11. Contact the Delano Mosquito Abatement District to evaluate the project site for mosquito breeding areas and work cooperatively to prevent a mosquito problem on the site.

(CDPH, 2012a; pgs. 4 to 5; and DMAD, 2013c.)

MM 3.7-6b The project applicant shall implement the following to manage the landscaped areas at the project site:

1. Avoid over-irrigating to prevent excess pooling and runoff.
2. Routinely inspect, maintain, and repair irrigation system components.
3. All underground drain pipes shall be laid to grade to avoid low areas that may hold water for longer than 96 hours.
4. Back-fill tire ruts or other low areas that hold water for more than 96 hours.
5. Improve drainage channels and grading to minimize potential for standing water.
6. Keep drainage ditches free of excessive vegetation and debris to provide rapid drainage.
7. Check and repair leaky outdoor faucets.
8. Report any evidence of standing water to responsible maintenance personnel.
9. Use waterfalls, fountains, aerators and/or mosquitofish in ponds and ornamental water features. Land owners must consult with the local mosquito control agencies or California Fish and Wildlife regarding proper use of mosquito fish.
10. Prevent mosquito breeding in rain barrels by properly screening all openings, preventing mosquito access to the stored water.
11. For ponds and ornamental water features where mosquitofish cannot be used, landowners should use one of several readily available larval mosquito control products to treat water when they see immature mosquitoes.

(CDPH, 2012a; pgs. 5 to 6.)

MM 3.7-6c Mosquito Control Measures for temporary, permanent stormwater control basins or other open water control areas shall be implemented on the site during construction and operations. These shall include, but are not limited to:

1. **General Stormwater Management Mosquito Control BMPs**

    a. Manage sprinkler and irrigation systems to minimize runoff entering stormwater infrastructure.

    b. Avoid intentionally running water into stormwater systems by not washing sidewalks and driveways, washing cars on streets or driveways, etc.

    c. Inspect facilities weekly during warm weather for the presence of standing water or immature mosquitoes.

    d. Remove emergent vegetation and debris from gutters and channels that accumulate water.

    e. Consider mosquito production during the design, construction, and maintenance of stormwater infrastructure.

    f. Design and maintain systems to fully discharge captured water in 96 hours or less.

    g. Include access for maintenance in system design.

    h. Design systems with permanent water sources such as wetlands, ponds, sumps, and basins to minimize mosquito habitat and plan for routine larval mosquito inspection and control activities with the assistance of a local mosquito control program.

2. **Stormwater Conveyance**

    a. Provide proper grades along conveyance structures to ensure that water flows freely.

    b. Inspect on a routine basis to ensure the grade remains as designed and to remove accumulations of sediment, trash, and debris.

    c. Keep inlets free of accumulations of sediment, trash, and debris to prevent standing water from backing up on roadways and gutters.

    d. Design outfalls to prevent scour depressions that can hold standing water.

3. **Stormwater Storage and Infiltration Systems (Aboveground)**

    a. Design structures so that they do not hold standing water for more than 96 hours to prevent mosquito development. Features to prevent or reduce the possibility of

clogged discharge orifices (e.g., debris screens) shall be incorporated into the design. The use of weep holes is not permitted due to rapid clogging.

b. Provide a uniform grade between the inlets and outlets to ensure that all water is discharged in 96 hours or less. Routine inspection and maintenance are crucial to ensuring the grade remains as designed.

c. Avoid the use of electric pumps. They are subject to failure and often require permanent-water sumps. Structures that do not require pumping should be favored over those that have this requirement.

d. Avoid the use of loose rock rip-rap that may hold standing water.

e. Design distribution pumping and containment basins with adequate slopes to drain fully. The design slope should take into consideration buildup of sediment between maintenance periods.

4. Stormwater Structures with Permanent-Water Sumps or Basins (Belowground)

a. Where possible, seal access holes (e.g., pickholes in manhole covers) to below ground structures designed to retain water in sumps or basins to minimize entry of adult mosquitoes. If using covers or screens, maximum allowable gaps of 1/16 inch (2 mm) will exclude entry of adult mosquitoes. Inspect barriers frequently and replace when needed.

b. If the sump or basin is completely sealed against mosquitoes, with the exception of the inlet and outlet, the inlet and outlet shall be completely submerged to reduce the available surface area of water for mosquitoes to lay eggs (female mosquitoes can fly through pipes).

c. Where possible, design below ground sumps with the equipment necessary to allow for easy dewatering of the unit.

d. Contact the local mosquito control program for advice with problem systems.

5. Stormwater Treatment Ponds and Constructed Treatment Wetlands

a. Whenever possible, stock stormwater ponds and constructed wetlands with mosquito-eating fish available from local mosquito control programs.

b. Design and maintain accessible shorelines to allow for periodic maintenance and/or control of emergent and shoreline vegetation, and routine monitoring and control of mosquitoes. Emergent plant density should be routinely managed so mosquito predators can move throughout the vegetated areas and are not excluded from pond edges.

c. Whenever possible, design and maintain deep zones in excess of four feet (1.2 meters) to limit the spread of invasive emergent vegetation such as cattails. The edges below the water surface shall be as steep as practicable and uniform to discourage dense plant growth that may provide immature mosquitoes with refuge from predators and increased nutrient availability.

d. Use concrete or liners in shallow areas to discourage plant growth where vegetation is not necessary.

e. Whenever possible, provide a means for easy dewatering if needed.

f. Manage the spread and density of floating and submerged vegetation that encourages mosquito production (i.e., water hyacinth, water primrose, parrot's feather, duckweed, and filamentous algal mats).

g. If possible, compartmentalize managed treatment wetlands so the maximum width of ponds does not exceed two times the effective distance (40 feet [12 meters]) of land-based application technologies for mosquito control agents.

6. General Access Requirements for Stormwater Treatment Structures

a. All structures shall be easily and safely accessible, without the need for special requirements (e.g., Occupational Safety and Health Administration - OSHA requirements for "confined space"). This will allow for monitoring and, if necessary, abatement of mosquitoes.

b. If utilizing covers, the design should include spring-loaded or lightweight access hatches that can be easily opened.

c. Provide all-weather road access (with provisions for turning a full-size work vehicle) along at least one side of large aboveground structures that are less than seven meters wide, or both sides if shore-to-shore distance is greater than seven meters. Note: Mosquito larvicides are applied with hand held equipment at small sites and with backpack or truck mounted high-pressure sprayers at large sites. The effective swath width of most backpack or truck-mounted larvicide sprayers is approximately 20-25 feet (6-7 meters) on a windless day.

d. Build access roads as close to the shoreline as possible to allow for maintenance and vector control crews to periodically maintain, control and remove emergent vegetation and conduct routine mosquito monitoring and abatement. Remove vegetation and/or other obstacles between the access road and the structure that might obstruct the path of larvicides to the water.

e. Control vegetation (by removal, thinning, or mowing) periodically to prevent barriers to access.

(CDPH, 2012a; pgs. 4 to 5 and 16 to 17.)

3.7.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Implementation of the proposed project in addition to cumulative development associated with build out of the General Plan may result in cumulative hazardous risk impacts.

In the absence of mitigation, implementation of the proposed project could result in potential short-term impacts during construction activities associated with exposure to hazardous substances such as waste oil and hazards due to abandoned septic systems and water wells. However, hazardous materials impacts would be site-specific and are generally not affected by cumulative development in the region. As described in this section, with proper implementation of Mitigation Measures **MM 3.7-1 and 3.7-2**, the proposed project would not contribute to an increase in the potential impacts related to the creation of a hazard through upset or accident conditions involving the release of hazardous materials. Additionally, implementation of Mitigation Measures **MM 3.7-5** through **3.7-6** would reduce the likelihood of attracting vectors such as flies and other insects to the project site, and therefore reduce the potential cumulative increase of disease vectors to less than significant levels. The proposed project will not combine with any planned growth in the area to form an impact greater or more significant than the project impact alone. Therefore, the cumulative impact is considered **less than significant**.

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3.8 HYDROLOGY AND WATER QUALITY

This section of the DEIR discusses the hydrology, groundwater, and water quality in the Delano area and the project site. The potential changes in drainage patterns, flooding, erosion, and degradation of existing water quality are analyzed. Information provided in this section includes analysis from a preliminary drainage study prepared by Cornerstone Engineering (October 2013) and a hydraulic modeling/flood study prepared by West Consultants, Inc. (November 2013). These studies are included as Appendix 3.8 of the DEIR. Additional resources used include a Preliminary Geologic Hazards Evaluation and Geotechnical Engineering Investigation Report (BSK, 2013, Appendix 3.6) among other sources. Section 3.14, Utilities and Service Systems, includes additional discussion of groundwater, potable water demand, and expansion of wastewater collection and treatment systems.

3.8.1 EXISTING SETTING

Regional Setting

Regional Drainage Pattern

The City of Delano (City) is situated in the San Joaquin Valley, a valley whose main axis trends northwest-southeast and is bordered on the east by the Sierra Nevada range and on the west by the Coast Ranges (DWR, 2006; pg. 1 and BSK Associates, 2013; pgs. 3-4). The low alluvial plains and fans in the San Joaquin Valley floor are relatively flat and featureless, occupying most of the floor's area, including the Delano area (BSK Associates, 2013; pg. 4 and Figure 5). Delano has a Mediterranean climate characterized by warm and dry summers with little or no precipitation and cool and moist winters (Kern County, 1995; pg. V-1). Rainfall averages approximately 5.72 inches per year (City of Delano, 2013b). Besides open irrigation channels, there are no surface water features in the City.

The southern end of the San Joaquin Valley encompasses the Tulare Lake Hydrologic Region, which includes all of Kings and Tulare counties and most of Kern and Fresno counties. Drainage in this area is completely internal and inflowing water leaves the basin through evaporation and losses by plant transpiration. All of the rivers in the region terminate on the San Joaquin Valley floor in lakes or sinks; water does not find its way to the ocean from the basin, as it once did under natural conditions, except in extremely wet years. Runoff in the Delano area travels in a northwesterly direction to the historic Tulare Lake bed.

Flood Hazards

Areas subject to periodic flooding are categorized as Zone A on the Flood Insurance Rate Maps (FIRM) produced by the Federal Emergency Management Agency (FEMA). Zone A identifies areas subject to inundation by a 100-year flood event, but for which no detailed hydraulic analyses have been performed and no base flood elevation or depths are provided. Currently, the FIRM maps for the Delano area show a 100-year flood zone (Zone A) covering part of the southern portion of the City, including the project footprint (City of Delano, 2005; pgs. 4-9 to 4-10; Figure 4-2; and pgs. 9-7 to 9-8).

Groundwater

The City is located within the San Joaquin Valley Groundwater Basin within the Kern County Subbasin, which is approximately 3,040 square miles (DWR, 2006; pg. 1). The Kern River and Poso Creek are the principal waterways of the groundwater subbasin. The average subbasin groundwater level recorded in 2006 was approximately 200 feet above mean sea level (msl), which is approximately 115 feet below ground surface (bgs). However, during the period of 1970 to 2000, there was high variability in net water levels for different parts of the subbasin (Delano, 2011; pgs. 4-2 and 4-3). A major determining factor in the groundwater elevation of the Kern County subbasin is the amount of surface water that is available for agricultural use. During drought years, the agricultural entitlements from the State Water Project and the Central Valley Project are sharply curtailed, which requires farmers to exclusively use groundwater for irrigation purposes. Total groundwater storage is estimated to be 40 million acre-feet and drought aquifer storage to be 10 million acre-feet. Groundwater extraction between the period of 1926 and 1970 resulted in more than eight feet of subsidence in the north-central portion of the subbasin and nine feet in the southwestern subbasin (DWR, 2006; pg. 3). Typical well yields in the San Joaquin Valley range from 300 gallons per minute (gpm) to 2,000 gpm, with yields of 4,000 gpm possible. Well yields within the City's service typically range from 500 gpm to 2,100 gpm, with well depth ranging from 800 to 1,400 feet (Delano, 2011; pg. 4-3).

Project Site Setting

Water Service

The project site is located within the City's water service area. The City, as the water purveyor, provides domestic water service to residential, commercial, and industrial users within the City. As an urban community, the City is required to prepare an Urban Water Management Plan (UWMP) that develops long-term planning strategies and discusses the deliveries and uses of water including supply sources, efficiencies, and demands. The City developed the 2010 UWMP, dated June 2011, to comply with the Urban Water Management Plan Act (California Water Code section 10610) and the Water Conservation Bill of 2009 (SB X7-7) requirements (City of Delano, 2011b; pg. ix).

Water Supply and Distribution

The City water system consists of groundwater wells, a treatment facility, storage tanks, and distribution lines. Water is supplied entirely by groundwater, which is extracted from the Kern County subbasin groundwater aquifers and then is treated, stored, and delivered through a grid distribution system. At the time the UWMP was finalized in 2011, plans were to increase the 11 wells to 17 active wells, which will increase pumping capacity from 17.9 to 23 million gallons per day (mgd) by 2013 (UWMP, 2011; pgs. 4-6). The City estimates that at full capacity the operational wells will produce an estimated 16,300 gpm or 23.5 mgd (City of Delano, 2013b; pg. 3-2).

The City currently maintains five storage reservoirs within the distribution system for a total capacity of 10.6 million gallons and a total boosting capacity of 8,950 gpm (UWMP, 2011; pg. 2-4). Delano will need to supply 23.6 mgd to meet the water demands projected for 2025. Evaluating the 2010 production capacity of 23.5 mgd to 2025 water demands, the net water requirement is 0.1 mgd.

The City calculated that four new wells will be required by 2025 for new development, which assumes City obligations to supply water to the prison and the loss of the highest producing well (#25) (City of Delano 2013a. pg. 3-2).

To provide water service to the proposed project, the City Public Works Department would install 12-inch water mains by connecting to an existing 12-inch water main on Albany Street; additional water service infrastructure improvements will be constructed on-site. All water line installations shall be constructed in accordance with the City of Delano Subdivision Standards and to the satisfaction of the City Engineer. According to the City's Public Works Director/City Engineer, installation of the pipe to the water supply system will provide adequate water service to the project (City of Delano, 2013c).

Water Quality

Generally, the City's water quality is relatively of high quality. Shallow waters within the eastern portion of the subbasin contain calcium bicarbonate and are gradually replaced by sulfate and chloride in an east to west trend across the subbasin. Average total dissolved solids (TDS) are 400 to 450 milligrams per liter (mg/L) and can range as high as 5,000 mg/L. Elevated levels of arsenic are associated with lakebed deposits, including the Central Valley, and concentration within groundwater can exceed the maximum contaminant level (MCL) (DWR, 2006; pg. 4). MCLs are derived as health-based protective drinking water standards and are to be met by the public drinking water systems. California's revision of the arsenic MCL become effective in November 2008 and is equivalent to the federal MCL standard of 10 micrograms per liter (ug/L), effective in 2006.

Arsenic concentrations in all but two of the City's wells between the monitoring years of 2000-2003 exceeded the MCL standards. In October 2008, the U.S. Environmental Protection Agency (EPA), Water Division, ordered the City and ten other California public water systems to lower arsenic levels and comply with the federal drinking water standard (EPA, 2008). In response, an Arsenic Mitigation Study was completed that recommended well head treatment for nine wells and drilling new wells to augment the supply capacity (City of Delano, 2011b; pg. 4-4). The City's arsenic mitigation project was completed in 2012 and resulted in wellhead treatment on four existing wells (#21, #22, #24, and #26); rehabilitation on well #20, and drilling ten new wells (#27 through #35 and #38) (City of Delano, 2012).

Site Drainage Pattern

The project site contains no visible natural drainage channels. Under current conditions, stormwater runoff from the project site is minimal due to the fallow agricultural land that comprises the majority of the project site and the level topography. The one exception to the site's level topography is a temporary stormwater detention basin with a volume of approximately 25,300 cubic yards that currently exists on the site.

Flood Hazards

FEMA flood map panel 06029C0725E designates the site as being 75% within Zone A (Appendix 3.8, Cornerstone Engineering, 2013; pg. 1). FEMA maps use this zone designation for areas subject to

inundation by a 100-year flood event, but the maps do not incorporate detailed hydraulic analyses and do not display base flood elevation (BFE) or depths.

Groundwater

Groundwater is the primary source of domestic water for the City, and generally the quality of City groundwater is relatively high (City of Delano, 2005; pg. 4-11). Maintenance of water quality of the City groundwater is an identified objective of the City General Plan (City of Delano, 2005; pg. 4-18). Discussion of management and delivery of the City's groundwater supply is contained in Section 3.14, Utilities and Service Systems.

3.8.2 REGULATORY SETTING

Federal Regulations

Federal Clean Water Act

Section 303 of the Federal Clean Water Act (CWA) requires states to adopt water quality standards for all surface waters of the United States. Section 304(a) of the CWA requires the U.S. Environmental Protection Agency (EPA) to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in the water.

Water quality objectives for all waters in the state are established under applicable provisions of section 303 of the CWA and the state's primary water pollution control legislation, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The State Water Resources Control Board (SWRCB) is responsible for assuring implementation and compliance with the provisions of the CWA and the Porter-Cologne Act.

Federal Emergency Management Agency (FEMA)

FEMA publishes maps called Floor Insurance Rate Maps ("FIRM"). The purpose of a FIRM is to show the areas in the community that have a one percent or greater chance of flooding in any given year, known as Special Flood Hazard Areas (SFHAs). FIRMs are the result of engineering studies that are performed by engineering companies, other federal agencies, or the community, and are reviewed and approved by FEMA. As a participant in the National Flood Insurance Program (NFIP), special building requirements are applicable to the City and are defined in Title 44 of the Code of Federal Regulations (C.F.R.), sections 59 through 65.

According to Title 44 C.F.R., section 65.3, hydrologic and hydraulic data must be submitted to FEMA for a FIRM revision if the development changes existing SFHAs. This must be completed no later than six months after such data becomes available. This data must be submitted through a Flood Map Revision Application process by requesting a Conditional Letter of Map Revision or Letter of Map Revision (CLOMR or LOMR respectively).

Letter of Map Revision

When fill is authorized for placement in an SFHA to raise the surface of the ground to and/or above the base flood elevation, a request may be submitted to FEMA to revise the FIRM to indicate that the filled land is outside of the SFHA. When such revisions are warranted, FEMA usually revises the FIRM by issuing a LOMR. After FEMA has revised the FIRM to show that the filled land is outside the SFHA, the community is no longer required to apply the minimum NFIP floodplain management standards to any structures built on the land, and the mandatory flood insurance purchase requirements no longer apply.

Regional Regulations

Department of Water Resources (DWR)

DWR is responsible for preparing and updating the California Water Plan to guide development and management of the State's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a state drought water bank.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne), passed in 1969, acts in concert with the Federal CWA. The act established the State Water Resources Control Board (SWRCB) and divided the state into nine regions, each overseen by a RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine RWQCBs. The project is located within the Tulare Lake Basin and is located within the jurisdiction of the Central Valley RWQCB (Region 5).

Porter-Cologne provides for the development and periodic review of Water Quality Control Plans that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. These plans are primarily implemented by using the NPDES permitting system to regulate waste discharges to waters of the U.S. so that water quality objectives are met. One of the key differences between the Porter-Cologne and CWA is that Porter-Cologne also applies to discharges to land. Each RWQCB is responsible for updating their plans every 3 years which provides the technical basis for determining waste discharge requirements (WDRs), taking enforcement actions, and evaluating clean water grant proposals. Porter-Cologne also assigns responsibility for implementing CWA sections 401, 402, and 303(d) to the SWRCB and RWQCBs.

The Water Quality Control Plan for the Tulare Lake Basin (Basin Plan), revised January 2004 (with approved amendments), designates the following beneficial uses of surface water for westside streams within the basin: agricultural supply, industrial service and process supply, contact and noncontact water recreation, warm fresh water habitat, preservation of rare, threatened and endangered species,

and groundwater recharge. The Basin Plan also classifies the groundwater and spring water within one-half mile of the project site as having no beneficial uses (RWQCB 2004).

Department of Fish and Wildlife

The California Lake and Streambed Alteration Program, Section 1602 of the FGC, regulates activities that would "substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse" that supports wildlife resources. The CDFG have authority to review and regulate all proposed alterations of streambeds.

California Water Code Section 13260

California Water Code section 13260 requires that any person discharging waste or proposing to discharge waste that could affect the quality of the waters of the state, other than into a community sewer system, must submit a report of waste discharge to the applicable RWQCB. The RWQCB is responsible for issuing waste discharge requirements (WDRs) for any facility that discharges or proposes to discharge waste that may affect groundwater quality. This may include systems that have waste storage systems with land disposal, such as a seasonal storage and reuse. Potential dischargers must file a complete Report of Waste Discharge (RWD) with the RWQCB at least 120 days prior to discharging waste. Issuance of WDRs for a permit is based on information provided in the RWD. WDRs may set effluent standards for activities that do not pose a threat or nuisance to water quality.

Central Valley Regional Water Quality Control Board

The SWRCB and the nine Regional Water Quality Control Boards have the authority in California to protect and enhance water quality, both through their designation as the lead agencies in implementing the federal CWA section 319 non-point source program (which regulates pollution from diffuse sources, such as stormwater runoff) and under the state Porter-Cologne Act. The Central Valley Regional Water Quality Control Board (CVRWQCB) guides and regulates water quality in streams and aquifers of the San Joaquin Valley region through designation of beneficial uses, establishment of water-quality objectives, administration of the National Pollutant Discharge Elimination System (NPDES) permit program for stormwater and construction site runoff, and section 401 water-quality certification where development results in infill of jurisdictional wetlands or waters of the U.S. under section 404 of the CWA.

National Pollutant Discharge Elimination System

Pursuant to the 1987 Amendments to the CWA and 1991 regulations promulgated by the EPA, the SWRCB has adopted the NPDES with three general permits for stormwater dischargers. One permit applies to industrial dischargers, another permit relates to construction activities, and the third permit is a general permit for municipalities.

The NPDES was established by the CWA to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Section 401 and 402 of the CWA contain general requirements for NPDES permits. Section 307 of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants.

The purpose of the NPDES program is to establish a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of: 1) characterizing receiving water quality, 2) identifying harmful constituents, 3) targeting potential sources of pollutants, and 4) implementing a comprehensive stormwater management program.

The CVRWQCB is responsible for the issuance of NPDES permits under the CWA and on behalf of the SWRCB, and the EPA is responsible for activities that could cause water quality impacts to surface waters and groundwater.

NPDES General Permit for Construction Storm Water Discharges

The NPDES General Permit for Construction Storm Water Discharges applies to projects that disturb one or more acres of soil, which the proposed project would do. Thus, development of the project site would be required to comply with this permit. The permit requires that the following general measures be implemented during construction activity:

- Elimination or reduction of non-stormwater discharges to storm water systems and other waters of the U.S.
- Development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer identifying Best Management Practices (BMPs) the discharger will use to protect storm water runoff and incorporating visual, chemical, and sediment monitoring programs
- Inspections of storm water control structures and pollution prevention measures

(SWRCB, 2013a; and SWRCB, 2013b; section XIV.)

Under the permit, an SWPPP must be written and certified by a Qualified SWPPP Developer, and BMPs must be implemented by a Qualified SWPPP Practitioner (SWRCB, 2013b; sections VII.B.1 and VII.B.3.)

NPDES Waste Discharge Requirements for Small Municipalities

The SWRCB administers the General Permit for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). Under this permit, the SWRCB classifies the City as a New Traditional Small MS4 Permittee under the SWRCB order adopted on February 5, 2013 and effective on July 1, 2013 (SWRCB, 2013c; Attachment A, pgs. 1 and 2).

Stormwater Provisions

Under the General Permit for Waste Discharge Requirements, before July 1, 2015, the City must require operators of construction sites and commercial facilities to minimize the discharge of pollutants by implementing BMPs consistent with the California Storm Water Quality Association (CASQA) Best Management Practice Handbooks or equivalent (SWRCB, 2013c; pgs. 20-21). Although construction of the proposed project would likely be complete before the City institutes this requirement, the requirement would apply to commercial operations of the project no later than July 1, 2015.

Construction Plan Review and Approval

The General Permit for Waste Discharge Requirements also requires the City to establish construction plan review procedures by July 1, 2014 (SWRCB, 2013c; pg. 38, section E.10.b. (i)). Under these procedures, the operator of a construction activity will be required to submit an erosion and sediment control plan for the City's review and written approval prior to obtaining grading or building permits (SWRCB, 2013c; pg. 38). The plan must include site-specific construction BMPs that meet the minimum requirements of the City's construction site storm water runoff control ordinance (SWRCB, 2013c; pg. 38).

The construction planning of the proposed project is scheduled to be completed before the permit deadline for the City to institute the construction plan review procedures, and so these procedures may not be required for this project. The General Permit allows for a SWPPP developed for a construction general discharge permit to be substituted for the erosion and sediment control plan (SWRCB, 2013c; pg. 38, section E.10.b. (ii)(e)). At the City's discretion, in the event the City instituted this requirement before construction planning of the project was complete, the SWPPP developed for the project may be submitted to the City for construction plan review. For further discussion, see **MM 3.8-1b**.

Low Impact Development Standards

Under the General Permit for Waste Discharge Requirements, beginning July 1, 2014, the City must require all "Regulated Projects" to implement Low Impact Development (LID) standards to reduce runoff and treat storm water (SWRCB, 2013c; pg. 49, E.12.c.(i)). Regulated Projects are defined in the permit as "those that create and/or replace 5,000 square feet or more of impervious surface" (*Id*., p. 49, E.12.c.(iI)). The permit requires that the LID standards be applied to Regulated Projects, including "discretionary permit projects that have not been deemed complete for processing and discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals" by the second year of the permit (i.e., July 1, 2014). The LID standards will not apply to projects that have completed all discretionary permits before the City establishes the standards. In the event that there are discretionary permits for the project that have not been granted before the City institutes its LID standards, the project would be subject to the LID standards and would take actions to comply with them. For further discussion, see **MM 3.8-1c**.

Groundwater Quality

<u>California Water Code</u>

California Water Code section 231 requires the California Department of Water Resources (DWR) to develop well standards to protect California's groundwater quality. DWR published two bulletins that encompass the complete minimum requirements for constructing, altering, maintaining, and destroying water wells, monitoring wells, and cathodic protection wells. The standards in DWR Bulletin 74-81 (December 1981) and DWR Bulletin 74-90 (June 1991 supplement to 74-81) apply to all water well drillers in California and the local agencies that oversee them.

The Urban Water Management Plan (UWMP)

The Urban Water Management Planning Act (Water Code, section 10610 et seq.) requires urban water suppliers to develop an UWMP that describes and evaluates water deliveries and uses, water supply sources, efficient water uses, and demand management measures. Urban water suppliers are suppliers that have at least 3,000 customers; they must update the plans every five years. The UWMP is required to provide long-term resource planning that identifies the agencies' responsibilities to ensure that adequate water supplies are available to meet existing and future demands (Water Code section 10612, subd. 10612 (b)). Urban water suppliers are required to assess current demands and supplies over a 20-year planning horizon and consider various drought scenarios. The UWMP Act also requires water shortage contingency planning and drought response actions.

Local Regulations

Local regulation of water quality, hydrology, and flood protection is contained in the City General Plan, Municipal Code, and other planning documents.

City of Delano General Plan

The following policies from the City's General Plan are relevant to potential hydrology impacts of the proposed project:

Open Space and Conservation Element

4.11 Natural Resources Goals, Objectives, Policies

Objective A: To protect natural resources including groundwater, soils, and air quality, to meet the needs of present and future generations.

Objective B**:** Ensure that environmental hazards including potential flooding and impacts from agricultural practices are adequately addressed in the development process within the City.

Policy 1 Protect areas of natural groundwater recharge from land uses and disposal methods, which would degrade groundwater quality. Promote activities, which combine stormwater control, and water recharges.

(City of Delano, 2005; pg. 4-18)

Public Services and Facilities Element

8.4 Public Facility Improvement Goals, Objectives, Policies

Objective B: Provision of adequate services and facilities needed to support existing and planned land uses throughout the community.

Policy 7 Design storm water runoff drainage structures to decrease erosion.

Policy 8 Development in floodway areas shall be in accordance with regulations of the Federal Emergency Management Agency.

Safety Element Policies

9.9 Safety Element Goals, Objectives, and Policies

Objective A: Promote minimal loss of life, bodily injury, and property damage from seismic and other geologic occurrences, flooding, and other environmental hazards.

Policy 2 Protect community residents from the hazards of flooding.

a. In areas deemed by FEMA or the City Engineer as being within the 100-year flood zone, all proposed development must implement appropriate protective measures. These measures, subject to the approval by the City Engineer, shall not adversely affect drainage of surrounding properties, and shall not increase the flood potential in the area. One of the protective measures shall include a provision that the construction pad of the project shall be not less than one foot above flood elevation.

(City of Delano, 2005; pgs. 9-10 to 9-11)

City of Delano Municipal Code

The City Municipal Code contains a provision on floodplain management requiring that a development permit be obtained before construction in a flood hazard area (City of Delano, 1999; section 14.60.130). Another provision of the Municipal Code specifies that new construction in areas of flooding shall be elevated one foot above the base flood elevation (City of Delano, 1999; section 14.60.260).

Other City Planning Documents

Neighborhood Revitalization Plan for Southwest Delano

The Neighborhood Revitalization Plan for Southwest Delano was the product of a community-based planning process in late 2010 and included the area encompassing the project site. (Opticos Design, Inc., 2011; pg. 3-2.) The plan discusses the need for low-impact stormwater management techniques: "Wide medians or planter strips can be designed to function as bio-swales that clean, detain, and allow water to infiltrate into the ground. By using the excess right-of-way available for this purpose, the City may reduce the size of water detention ponds at the western edge of the city, providing an opportunity for more useable open spaces. New developments should also integrate similar stormwater management strategies in order to reduce the future need for large detention areas." (Opticos Design, Inc., 2011; pgs. 3-5).

3.8.3 IMPACTS AND MITIGATION MEASURES

Methodology

This hydrology and water quality analysis is primarily based on review of the drainage plan prepared by Cornerstone Engineering (2013) and the flood evaluation study prepared by West Consultants, Inc. (2013) found in Appendix 3.8, as well as information provided by the City.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are drawn from CEQA Guidelines Appendix G standards (OPR, 2013). The standards of significance for hydrology and water quality in this DEIR vary slightly from those listed in the NOP/IS. The NOP/IS was developed using standards of significance that were not consistent with the current Appendix G standards, had greater detail in some standards, and omitted one standard. Upon further analysis, it was determined that the additional detail did not provide additional environmental protection and did not warrant deviation from the guidance provided in CEQA Guidelines. Thus, this section of the DEIR relies upon CEQA Guidelines Appendix G for its standards of significance rather than those listed in the NOP/IS.

An impact to surface hydrology or water quality is considered significant if implementation of the proposed project will result in any of the following:

1. Violate any water quality standards or waste discharge requirements.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
4. 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.
5. 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.
6. Otherwise substantially degrade water quality.
7. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
10. Inundation by seiche, tsunami, or mudflow.

Effects Found Not to Be Significant

As analyzed in the NOP, several potential effects related to Hydrology and Water Quality were found not to be significant because the project will have no impacts in these areas (City of Delano, 2013c; pgs. 21 to 22.)

These effects are:

- Whether the project would result in an increase in any pollutant for which a water body is listed as impaired under section 303(d) of the CWA (In addition to the proposed project having no impact in this area, this effect is not among the CEQA Guidelines Appendix G standards of significance. See discussion above under Standards of Significance.)
- Whether the project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map
- Whether the project would result in inundation by seiche, tsunami, or mudflow

For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.8-1 The project could violate any water quality standards or waste discharge requirements.

Urban Non-point Source Pollution

The proposed project would generate urban non-point contaminants, which would be carried in stormwater runoff from the project site and could potentially affect groundwater quality.

<u>Construction</u>

Potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. The project applicant would implement measures to minimize and contain erosion and sedimentation in accordance with the City Grading Ordinance and would be required to submit a grading plan to the City for approval prior to commencement of any construction activities. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant following implementation of a SWPPP and best management practices (BMPs) required by the City (Mitigation Measures **MM 3.8-1a** and **MM 3.8-1b**).

Additionally, construction-related activities would involve the use of materials such as vehicle fuels, lubricating fluids, solvents, and other materials that could result in polluted runoff; however, the potential consequences of any spill or release of these types of materials are generally small due to the localized, short-term nature of such releases. The volume of any spills would likely be relatively small because the volume in any single vehicle or container would generally be anticipated to be minimal. Furthermore, implementation of the SWPPP would identify measures regarding the handling of these types of materials and the protocols for actions taken if a spill or release does occur (Mitigation Measure

MM 3.8-1b). Therefore, with implementation of Mitigation Measures **MM 3.8-1a** and **MM 3.8-1b**, impacts associated with these types of pollutants would be considered **less than significant**.

Operations

Once the project buildings and parking lots have been constructed and the landscaping is installed, typical urban runoff contaminants would include petroleum products, heavy metals, and sediment from vehicles, pesticides, fertilizers and plant debris from landscaped areas, and litter. These pollutants would be flushed by stormwater runoff and enter the storm drainage system, ultimately accumulating in an off-site detention basin where they could contribute to cumulative non-point contaminant loads and result in incremental deterioration of groundwater quality.

As noted above in Regulatory Setting, before July 1, 2014, the City will establish stormwater control measures to comply with NPDES requirements under the General Permit for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (SWRCB Order No. 2013-001-DWQ). Two of these measures could potentially apply to the project, depending on when the City adopts them and on how quickly the proposed project is constructed. One measure will establish construction plan review procedures which will require the operator of a construction activity to submit an erosion and sediment control plan for the City's review and written approval prior to obtaining a grading or building permit (SWRCB, 2013c; pg. 38). The other measure will require Regulated Projects (those creating 5,000 square feet or more of impervious surface) to implement LID standards to reduce runoff and treat storm water (SWRCB, 2013c; pg. 49, E.12.c.(i) and pgs. 52-55, section E.12.e.(ii)). In the event that the City adopts these measures, they would apply to the proposed project.

The SWPPP shall detail implementation of BMPs to control pollutants during the construction and post-construction phases of project development. The SWPPP shall demonstrate how the proposed project will effectively minimize soil erosion and sedimentation from the project site and shall also provide for the control of runoff from the site. Erosion control practices for the project might include such components as designation of restricted-entry zones, sediment tracking control practices, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, and provision for revegetation or mulching for soil stabilization. The plan would also describe BMP measures to trap sediment once it has been mobilized. These measures typically include inlet protection, straw bale barriers, straw mulching, straw wattles, silt fencing, check dams, terracing, and siltation or sediment ponds.

In addition to the erosion and sediment-control measures, the SWPPP shall include construction-phase housekeeping measures for control of contaminants such as petroleum products, paints, solvents, detergents, fertilizers, and pesticides. The SWPPP will also include housekeeping measures for vehicle and equipment fueling and maintenance practices, and for waste management and disposal control practices, among other measures. The SWPPP will also set forth the BMP monitoring and maintenance schedule and responsible entities during the construction and post-construction phases. Implementation of the above mitigation measure will reduce construction-related impacts to water quality impact to **less than significant**.

The proposed project will comply with all applicable water quality standards and waste discharge requirements after the application of the Mitigation Measures **MM 3.8-1a**, **MM 3.8-1b**, and **MM 3.8-1c**. Therefore, the proposed project would not violate water quality standards and/or waste discharge requirements and the impact will be **less than significant**.

Mitigation Measures

MM 3.8-1a The proposed project shall include the following post-construction BMPs in order to reduce non-point source pollutant loads:

1. The project applicant shall comply with all applicable federal, state, and local laws and regulations during the operational phase of the proposed project regarding non-point source discharges and obtain all necessary permits or approvals that may be required.
2. Impervious surfaces such as roads, parking lots, and driveways shall be cleaned on a monthly basis during both the "wet" and "dry" seasons to limit the accumulation of "first flush" contaminants.
3. Storm drain inlets shall be labeled with the phrase "No dumping," or a similar phrase, to discourage illegal discharges of pollutants to the storm drainage system.
4. Common landscaped areas shall be subject to a program of efficient irrigation and proper maintenance including minimizing use of fertilizers, herbicides, and pesticides.
5. The project applicant shall establish a trash management and litter control program to mitigate the impacts of gross pollutants on stormwater quality. This program shall include litter patrol, emptying trash receptacles in common areas, and reporting and investigating trash disposal violations.

MM 3.8-1b Prior to construction activities the project applicant shall submit to the City of Delano an approved copy of the following: a) Storm Water Pollution Prevention Plan (SWPPP); b) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES); and, c) Waste Discharge Requirements (WDRs) from the Central Valley Regional Water Quality Control Board to include the expansion area.

The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include but are not limited to the following:

1. Stockpiling and disposing of demolition debris, concrete, and soil properly.
2. Protecting existing storm drain inlets and stabilizing disturbed areas.
3. Implementing erosion controls.
4. Properly managing construction materials.
5. Managing waste, aggressively controlling litter, and implementing sediment controls.

MM 3.8-1c In the event the City institutes construction plan review procedures pursuant to SWRCB Order No. 2013-001-DWQ, sections E.12.c and E.12.e, before the project has been granted all

discretionary permits, or before the project has a vesting tentative map and has not requested and received an extension of previously granted approvals, the project applicant will comply with the City LID standards established under SWRCB Order No. 2013-0001-DWQ, section E.12.e. (i) and (ii).

Impact 3.8-2 The project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Groundwater will not be affected through runoff into wells because there do not appear to be any abandoned or out-of-service water wells at the site. Information supplied by the Kern County Department of Public Health, Environmental Health Division, indicates that four wells previously existed in the vicinity but have been removed (Kern County, 2013a). Environmental Health Division records do not indicate any abandoned or out-of-service wells at the project site.

Construction of the proposed project would result in an increase in impervious surfaces and loss of groundwater recharge on-site. However, as discussed in the City General Plan, the greatest influence on groundwater elevation is the amount of surface water that is available for agricultural use, which in turn is influenced by water supply conditions such as annual precipitation, water deliveries from the State Water Project and the Central Valley Project, and groundwater pumping for agricultural irrigation (City of Delano, 2005; pg. 8-5). Thus, the proposed project would not substantially deplete groundwater supplies or interfere with groundwater recharge to an extent that would result in a net deficit in aquifer volume or lowering of the local groundwater table. Therefore, the impact is considered **less than significant** and no additional mitigation is necessary.

Impact 3.8-3 The proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site.

Implementation of the proposed project would result in the eventual conversion of the approximately 44.64-acre site from undeveloped land to a regional commercial shopping center with over 2,000 parking spaces. The proposed project would result in the coverage of the majority of the project site with impervious surfaces, such as pavement, roofing, and walkways, and would therefore increase stormwater runoff from the project site, altering existing drainage patterns. Storm drainage from the proposed project will be directed to a new extension of an existing 60-inch line, which will empty into an existing unlined 100 acre-foot stormwater detention basin owned by the City, located at the southwest corner of the intersection of South Albany and Woollomes Avenue. As specified in Section 3.6, Geology and Soils, as well as in Section 3.14, Utilities and Service Systems, this City stormwater basin will be expanded to accommodate stormwater storage generated by the proposed project. Implementation of Mitigation Measure **MM 3.6-2, MM 3.14-2a, MM 3.14-2b,** and **MM 3.14-2c** will reduce project impacts to less than significant levels.

The City uses a storm basin design specification contained in the Kern County Hydrology Manual. This criterion requires one acre-foot of detention for every eight acres of developed commercial land (Appendix 3.8, Cornerstone Engineering, 2013, pg. 86;). According to calculations performed by Cornerstone Engineering, the City's existing stormwater basin would need to be expanded by an additional 7.7 acre-feet of basin capacity in order to accommodate stormwater flows generated by the proposed project (Appendix 3.8, Cornerstone Engineering, 2013; pg. 86). Excavated soil from this stormwater basin expansion will be moved to adjacent parcels owned by the project proponent. All stormwater drainage plans and design calculations will be subject to review and approval by the City.

A temporary stormwater detention basin of approximately 25,300 cubic yards presently exists on the site. The basin is used to accommodate stormwater flow generated during the construction phase of development for the Delano Marketplace project. The basin will be filled to grade with suitable fill soil prior to grading of the Grapevine project site as described in Mitigation Measure **MM 3.6-2.** Mitigation Measure **MM 3.14-2c** requires that the project applicant will fill in the existing stormwater drainage connection on the project site. Additionally, the project will be disconnected from the temporary basin and a new connection to the City's existing off-site detention basin will be established. The design features and implementation of **MM 3.6-2, 3.8-1a, MM 3.8-1b, MM 3.8-1c, MM 3.14-2a, MM 3.14-2b,** and **MM 3.14-2c** will ensure that development of the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner which could result in substantial erosion, siltation, or flooding on- or off-site, or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Therefore, the impact would be **less than significant**, and no additional mitigation is required.

Impact 3.8-4 The proposed project could 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 that would result in flooding on-site or off-site.

As discussed in Impact 3.8-1, potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. Soil disturbance associated with site preparation, grading, and construction activities resulting from the proposed project may cause soil erosion and sedimentation, and/or the release of other pollutants into groundwater.

Delivery, handling, and storage of construction materials and wastes, as well as use of construction equipment on-site during the construction phase of the project, will introduce a risk for stormwater contamination that could negatively impact water quality. Refueling and the parking of construction equipment and other vehicles on-site during construction may result in spills of oil, grease, or related pollutants that may discharge into on-site drainages. Improper handling, storage, or disposal of fuels and materials, or improper cleaning of machinery could also cause water quality degradation. Gross pollutants such as trash, debris, and organic matter are additional potential pollutants associated with the construction phase of the project. Potential impacts include health hazards and aquatic ecosystem damage associated with bacteria, viruses, and vectors, which can be harbored by pollutants.

Development of the proposed project would involve construction activities on the entire 44.64-acre site, such as site clearing, mass grading, excavation, and trenching, which can adversely affect water quality by increasing soil erosion rates in the area of the proposed project. The exposure of raw soil to the natural elements (e.g., wind, rain) during grading operations may impact surface runoff by increasing the amount of silt and debris carried by stormwater runoff. The project applicant would be required to request coverage under the NPDES General Permit, Order No. 2009-0009-DWQ, because the proposed project would result in one or more acres of land disturbance. As noted above, to conform to the requirements of the NPDES General Permit, a SWPPP would need to be prepared. The SWPPP would specify BMPs to prevent construction pollutants, including eroded soils (such as topsoil), from moving off-site. Implementation of the permit and BMP requirements would mitigate the potential for erosion of soils or siltation during construction activities. Implementation of Mitigation Measures 3.8-1 and MM 3.8-2 would reduce construction-related impacts to water quality to a **less than significant** level.

Impact 3.8-5 The proposed project could create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

As noted in Section 3.14 Utilities and Service Systems, accommodation of storm water drainage from the proposed project will require extension of an existing 60-inch line, which will empty into the existing City storm water detention basin located at the southwest corner of the intersection of South Albany and Woollomes Avenue, as required by **MM 3.14-2a**.

City Standard 48-2.01(b) requires that detention basin capacity be raised a minimum of one acre-foot for each eight acres of commercial development (City of Delano, 1995; pg. 4-8 to 4-9). The proposed project would be required to expand the City's existing storm water basin to provide 7.7 acre-feet of additional basin capacity in order to accommodate design storm water flows generated by the proposed project (Cornerstone Engineering, 2013; pg. 86), as required by **MM 3.14-2b**.

A temporary storm water detention basin of approximately 25,300 cubic yards currently exists on the site of the proposed project. The basin is used to accommodate storm water flow generated during the construction phase of development for the existing Delano Marketplace project. The basin will be filled to grade with suitable fill soil prior to grading of the site as described in Mitigation Measure **MM 3.6-2c** (Section 3.6, Geology and Soils). In order to avoid the receipt of further storm water flows from the existing commercial site, this storm water connection must be replaced by another storm water connection (**MM 3.14-2c**). As noted above, impacts related to stormwater drainage, as well as construction-related erosion and sedimentation would be further reduced with implementation of **MM 3.8-1a** and **MM 3.1-1b**, which call for an approved SWPPP and best management practices (BMPs) required by the City.

Implementation of City requirements, Mitigation Measures **MM 3.14-2a**, **MM 3.14-2b** and **MM 3.14-2c**, as well as **MM 3.6-2** and **MM 3.8-1a** and **MM 3.1-1b,** would reduce any potential impacts related to storm water drainage facilities to a **less than significant** level.

Impact 3.8-6 The project would otherwise substantially degrade water quality.

As discussed above, construction activities could potentially degrade water quality through the occurrence of erosion or siltation at the project site. Additionally, accidental release of potentially harmful materials, such as engine oil, diesel fuel, or other substances used in operation of the facilities, could potentially degrade water quality on-site or of downstream waterbodies from stormwater runoff.

Construction

Construction of the proposed project would include soil-disturbing activities that could result in erosion and sedimentation, as well as the use of harmful and potentially hazardous materials required to operate vehicles, equipment, and project components. The transport of disturbed soils or the accidental release of potentially hazardous materials could result in water quality degradation; however, as previously discussed under Impact 3.8-1 and Impact 3.8-5, the potential for water quality impacts to occur would be minimized through implementation of design specifications, BMPs, and discharge prohibitions, as required by applicable water quality related regulations and/or permitting.

The project applicant would be required to request coverage under the NPDES Construction General Permit. A SWPPP would be prepared to specify BMPs to prevent construction pollutants, including eroded soils (such as topsoil) from moving off-site. Implementation of the permit and BMP requirements would reduce the potential for construction activities to substantially degrade water quality to less than significant.

Operations

As stated in Impact 4.8-1, above, the handling, use, and disposal any potentially hazardous substances (e.g. solvents, paints, fuels) and use of project-related vehicles and equipment during operation would occur in conformance with local, State, and federal regulations, as applicable. Additionally, as noted in Section 3.Hazards and Hazardous Materials, the proposed project would be subject to all requirements related to an approved Hazardous Materials Business Plan (HMBP) by the Kern County Environmental Health Services Division/Hazardous Materials (**MM 3.7-2**). The hazardous materials business plan will identify hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill. ; Adherence to the existing HMBP would reduce the potential for any significant hazards to the public or the environment through an accidental spill of hazardous materials to less than significant. Further, the project operator would be required to prepare and submit a drainage plan to the City that would include post-construction structural and non-structural BMPs.

The proposed project will comply with all applicable water quality standards and waste discharge requirements. Implementation of existing local, State, and federal regulations, BMPs, City of Delano regulations, as well as Mitigation Measures **MM 3.7-2**, **MM 3.8-1a**, **MM 3.8-1b**, and **MM 3.8-1c** would reduce impacts to water quality to less than significant levels. Therefore, the proposed project would not violate water quality standards and/or waste discharge requirements and the impact will be **less than significant.**

Impact 3.8-7 The project would be placed within a 100-year flood hazard area structures that would impede or redirect flood flows

Development of the proposed project could potentially place within a 100-year flood hazard area structures that would impede or redirect flood flows.

According to the FIRM for the area including the proposed project, the majority of the project site was designated as being within Zone A. The FIRM maps do not incorporate detailed hydraulic analyses and do not display base flood elevation or depths. However, the implementation of MM 3.8-5 would require the applicant to prepare an Engineering Study to determine the base flood elevation, subject to FEMA approval (City of Delano, 2013a, pg. 2). After further investigation by West Consultants, found in Appendix 3.8, it was determined that the project site is above the base flood elevation (Appendix 3.8, West Consultants, Inc., 2013; pgs. 4 to 6).

Since the project site is currently designated by the FIRM as being within Zone A, the Mitigation Measure 3.8-6 will require the project applicant to obtain a LOMR prior to recordation of the final map in order to ensure that development does not proceed within Zone A.

With approval of an Engineering Study to determine base flood elevations, and a LOMR to be approved by FEMA to adopt this base flood elevation, the project site will be identified outside of the 100-year flood zone. In addition, implementation of Mitigation Measures **MM 3.14-2a** through **MM 3.14-2b** (see Section 3.14, Utilities and Service Systems) would ensure that storm water generated on the project site is captured and conveyed to the City's storm water detention basin to reduce the potential for on-site flooding. Therefore, the exposure to flood hazards would be reduced to a **less than significant** level.

Mitigation Measures

MM 3.8-7a Prior to the issuance of grading or building permits, an Engineering Study by a qualified engineer to determine the Base Flood Elevation of the project site shall be performed. The study shall be approved by FEMA and a copy of the approval provided to the City of Delano.

MM 3.8-7b Prior to recordation of a final map, or as otherwise determined by the City, the project applicant is required to obtain a LOMR from FEMA for project site areas currently zoned within Zone A. The LOMR shall identify the area of the proposed development that has been removed from the "Zone A" FEMA designation and shall be submitted to the City.

Impact 3.8-8 The project could expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

The project site is located approximately 50 miles west of Lake Isabella Dam and would not be subject to significant inundation should Lake Isabella Dam fail (Kern County, 2013b; and Kern County, 2008). Therefore the proposed project would have **no impact** with respect to the exposure of people or structures as a result of a failure of a dam.

3.8.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

The proposed project, in combination with future development in the area, could incrementally contribute to a cumulative effect with regard to drainage and water quality. Each of the cumulative projects may include designs for stormwater drainage systems to capture and discharge waters from project sites, as required by the City of Delano. Thus, some of the cumulative projects in the area would transmit stormwater into retention facilities that would be developed as part of the respective projects, which would then percolate water back into groundwater aquifers.

Development of the project site would contribute to cumulative local and regional drainage flows and surface water quality impacts when combined with future growth and development in the project vicinity. However, the City requires that new development mitigate storm drainage impacts through the construction or expansion of detention basins with adequate capacity to contain projected flows generated by each development. To this end, the project applicant will be required to expand the City's stormwater detention basin to accommodate project stormwater drainage system from the project as specified in **MM 3.14-2a**, **MM 3.14-2b** and **MM 3.14-2c** in Section 3.14, Utilities and Service Systems.

Additionally, these cumulative projects may alter drainage conditions and increase the amount of urban pollutants, which could ultimately affect surface water and groundwater. Stormwater pollutants may include grease, oil, rubber, silt, pesticides, fertilizers, and/or general debris. As part of new development projects, these types of uses would be subject to the requirements of the CWA, which are implemented by Kern County statewide NPDES requirements, as well as the City of Delano Grading Code and floodplain management requirements. Water quality standards are achieved through the implementation of BMPs during design, construction, and post-construction operations. Similar to other projects, the proposed project would be subject to these requirements. **MM 3.8-1** and **MM 3.8-2** would reduce cumulative impacts of the project to a less than significant level.

The proposed project will be subject to requirements of the RWQCB regarding short-term and long-term water quality impacts. Short-term construction impacts to water quality will also be mitigated to a less than significant level by **MM 3.8-1b**. Once the project is operational, compliance with **MM 3.8-1a** and **MM 3.8-1b** will ensure that non-point source pollutant loads from project runoff are mitigated to a less than significant level. **MM 3.8-7a and MM 3.8-7b** will ensure that the proposed project does not result in any development in a FEMA Special Flood Hazard Zone.

The application of these standards, practices, and implementation of Mitigation Measures **MM 3.6-1b**, **MM 3.7-2, MM 3.8-1** through **MM 3.8-7b**, as well as **MM 3.14-2a** through **MM 3.14-2c** to the proposed project would reduce the project's incremental contribution to a less than significant level. Therefore, the project's cumulative storm water runoff, drainage, and water quality impacts would be considered **less than significant**.

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3.9 LAND USE PLANNING

This section of the DEIR describes the existing land uses of the project site and the surrounding area and evaluates the consistency of the proposed project with local land use policies. Analysis of potential impacts to land use planning focuses on compatibility of the proposed project with surrounding land uses and with adopted environmental plans and policies. This examination is based on the City of Delano General Plan, the Zoning Ordinance contained in the City Municipal Code, site reconnaissance in January 2013, and additional information provided by the City of Delano (City).

3.9.1 EXISTING SETTING

Regional Setting

The project site is located in the City, in northern Kern County, California. Delano is located along State Route (SR) 99, approximately 30 miles northwest of the City of Bakersfield and approximately 30 miles south of the City of Tulare. Located in the southern portion of California's agriculturally rich San Joaquin Valley, the City is 10 miles from the western foothills of the Sierra Nevada Mountains and approximately 25 miles from the Coast Range to the west.

Project Site

The project site is approximately 44.64 acres in area and is comprised of one parcel, identified as Assessor's Parcel Number (APN) 521-010-21, located east of Albany Street, west of Dover Parkway (currently an unimproved and incomplete street), north of Woollomes Avenue, and south of Morse Boulevard (also currently an unimproved and incomplete street). Existing use at the project site includes undeveloped agricultural land with no structures. A temporary stormwater detention basin with a volume of approximately 25,300 cubic yards was constructed on the site to accommodate stormwater flow generated during construction of the nearby Delano Marketplace project.

The project site has a land use designation of “Commercial” by the City General Plan (City of Delano, 2011a). The site is currently zoned as “Community Retail Commercial” and “General Commercial” (City of Delano, 2011a; and City of Delano, 2011b).

Surrounding Land Uses

The Grapevine Project will be located on Woollomes Avenue, near SR 99. The project site is located on the southwestern edge of Delano’s City limits, where it is clustered with residential, as well as other commercial centers that share public infrastructure. To the north are Tracts 6326 and 6327 consisting of 261 approved, but undeveloped single family residential lots. To the south is undeveloped agricultural land that is designated as Commercial in the City General Plan (City of Delano, 2011a). Across Woollomes Avenue to the southeast is the Delano Marketplace, a regional shopping center currently under construction, located at the southwest corner of the intersection of Woollomes Avenue and SR 99. The adjacent property to the east includes vacant land and a Home Depot store. These adjacent eastern parcels are designated as “Commercial” in the General Plan (City of Delano, 2011a). The area

bordering the project site on the west is undeveloped agricultural land that is designated as Medium Residential in the General Plan (City of Delano, 2011a).

Prior Land Uses

Historic use of the site was agricultural: aerial photographs indicate that farming took place on the property from about 1946 to 1994, the latest period documented in photographs (EDR, 2013; pgs. 3 to 12).

3.9.2 REGULATORY SETTING

Local Regulations

City of Delano General Plan

The General Plan is a statement of community goals, policies, and implementation programs that guides the growth and development of the City and serves as a blueprint for land use and development activities in the Delano planning area. Within the General Plan, the Land Use Element (Section 2) is the primary document used by the City to provide guidance for future development. The Land Use Element reflects the values of the community with respect to development, redevelopment, and preservation of public and private properties through the year 2020 (City of Delano, 2005a; pg. 2-1). It encompasses the goals, objectives, policies, and programs of other elements of the plan and provides City officials with a comprehensive basis for decision-making for long-range growth.

The following objectives and policies from the General Plan are relevant to the proposed project.

Land Use Element

2.8 General Plan, Zoning Consistency and Plan Administration

Objective: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land uses which will create and maintain a high quality environment and a fiscally sound community.

Policy 1 New development shall be consistent with the adopted land use map and policies of the General Plan.

Policy 2 All development shall conform to the land use density and intensity standards depicted in the General Plan.

(City of Delano, 2005a; pgs. 2-9 and 2-11.)

Objective: Ensure the provision of adequate commercial shopping opportunities and office space locations to meet anticipated needs.

Policy 1 Establish the following commercial land use designations:

<u>Commercial.</u> The Commercial land use designation provides for the development of neighborhood commercial uses within 5-10 acre clusters to serve the everyday convenience

goods and personal service needs of a defined neighborhood. The service radius of a neighborhood commercial use is generally 1/2 mile. The Commercial land use designation also provide [sic] for the development of 10-acre or larger cluster of commercial establishments serving needs similar to the neighborhood commercial centers, but serving larger areas. These community commercial areas are intended to be clustered along State Route 99 and along arterial roadways within the community. The community commercial center generally serves a market area as large as ten miles, depending upon the its [sic] specific uses. Such facilities should be located along State Route 99, with center providing supermarkets within in each residential quadrant of the community to minimize cross-town traffic. The Commercial land use designation also provides for mixed use activity in the downtown area and within Block H between the downtown and State Route 99. It is intended to provide for a wide range of uses and to promote feasibility in the reuse of downtown buildings. Mixed use development, including residential development may be permitted within the downtown area and Block H, subject to approval of a specific plan by the City Council. The maximum allowable development intensity shall be a floor area ratio of 1.0 within the downtown and Block H area, 0.50 in other portions of the City.

Policy 3 Community Commercial, in areas of 10 acres and larger, should be located along major traffic ways in consolidated centers that utilize common access and parking for commercial uses. Strip commercial uses are to be discouraged. Adequate pedestrian links to residential areas shall be required. New centers are proposed for Woollomes Avenue/State Route 99 and at Garces Highway and Browning Road. While adequate land needs to be reserved for community commercial use, care needs to be taken not to provide more commercial land than can reasonably be developed.

Policy 6 Commercial and office site planning shall be compatible with the surrounding neighborhood, signage, and landscaping.

(City of Delano, 2005a; pgs. 2-16 to 2-18.)

Economic Development Element

10.4 Economic Diversification

Objective: The promotion and facilitation of economic diversification to encourage the creation of employment opportunities, increase revenue through the local economy and decrease dependency upon any one sector of the economy.

Policy 1 Target specific industries compatible with the community and labor force for recruitment, including industries that can provide employment for local residents, generate sales tax income directly or indirectly, and can be developed in a manner that fits in with the residential nature of the community.

Policy 2 Enhance the community's role as the regional commercial and industrial center for both northern Kern County and southern Tulare County.

Policy 3 Develop and implement a marketing and promotion plan focused on maintaining a positive business climate in the city.

Policy 6 Encourage new and continuing economic growth at specific geographic sites within the city, including but not limited to: the downtown area; Block H (the Delano Redevelopment Agency's 16-acre project); Industrial Parks; and the State Route 99 interchange at Woollomes Avenue.

Policy 7 Attract, expand and retain businesses within the City limits.

Policy 9 Develop State Route 99 as an integral corridor through the community, emphasizing land uses and architectural designs that portray an economically successful community.

Policy 11 Capture transient dollars flowing along the State Route 99 corridor to the greatest extent possible by providing lands for and encouraging the development of highway-oriented commercial use and large-scale retail uses serving Delano and surrounding areas.

(City of Delano, 2005a; pgs. 10-3 to 10-4.)

10.7 Strategic Economic Development Plan Policies

Objective: The support and implementation of the Strategic Economic Development Plan

Policy 1 Annually prioritize the strategies of the Strategic Economic Development Plan: provide leadership; instill high community standards; build infrastructure through sound fiscal policy; invest redevelopment increments; target geographic sites for business development; encourage interagency collaboration, attract, retain and expand business; and develop the workforce.

(City of Delano, 2005a; pg. 10-5.; City of Delano, 2005b; pgs. 30 to 53)

City of Delano Zoning Ordinance (Municipal Code Title 20)

As discussed above, the project site is zoned Community Retail Commercial (CRC) with a western portion zoned as General Commercial (GC).

As set forth in the City of Delano Municipal Code, the GC zone district "is to provide sites for commercial uses that will serve a large segment of the population with a wide variety of retail, wholesale, service, and office uses" (City of Delano, 2008a; section 20.5.20 Commercial development districts). Uses permitted in this district include, but are not limited to apparel stores, department stores, drug stores, furniture stores, appliance stores, barber and beauty shops, book stores, variety stores, food stores and supermarkets, offices, restaurants, service stations and other retail sales and services of a similar character (City of Delano, 2008a; section 20.5.30 Commercial use regulations).

The City Municipal Code states that the CRC "zone district is to provide appropriate regulations and suitable locations for light industrial, research and development, warehouse and distribution office based firms seeking pleasant and attractive working environments, business support services and commercial uses requiring large parcels" (City of Delano, 2007; section 20.6.20 Employment districts).

Uses permitted in this district include uses either permitted or conditionally permitted in commercial districts (City of Delano, 2007; section 20.6.30, Use regulations for employment districts).

City of Delano Design Review

Under the City of Delano Zoning Ordinance, the Planning Commission reviews applications for design review "for projects that otherwise require approval by the Planning Commission" (section 20.2.80). The Planning Commission is authorized to approve or deny design review applications and to impose reasonable conditions upon such approval. Conditions may include, but are not limited to, requirements for open space; screening and buffering of adjacent properties; fences and walls; landscaping; installation and maintenance of landscaping and erosion control measures; vehicular ingress and egress; traffic circulation; signs; grading requirements; establishment of development schedules or time limits for performance or completion of improvements; and such other conditions as the Planning Commission may deem necessary. (City of Delano, 2008b; section 20.2.80 Design Review).

City of Delano Airport Compatibility Review

The following City General Plan objective and policy is relevant to the project:

Land Use Element

2.12 Public and Institutional Land Use

Objective C: Ensure that land uses in the vicinity of the airport are compatible with airport operations.

Policy 1 Land use intensity and use shall be in accordance with City of Delano Airport compatibility criteria indicated on Table 2-2 for the zones indicated on Figure 3-5 [referring to Table on Compatibility Criteria, Kern County Airport Land Use Compatibility Plan].

Note 5: [Uses] May be modified by airport-specific policies or decision of local governing body with appropriate adopted findings based upon evidence in the record.

(City of Delano, 2005a; pgs. 2-20, 2-22, and 2-23.)

In compliance with the State Aeronautics Act (SAA), the Kern County Airport Land Use Compatibility Plan provided the basis for the initial adoption of the City of Delano's airport planning requirements, including the General Plan provisions above and the Delano Municipal Airport Master Plan (Kern County, 2011; pgs. 1 to 2). The SAA requires local airport planning to incorporate the height, use, noise, safety, and density airport compatibility criteria contained in the Caltrans Airport Land Use Planning Handbook. (Public Utilities Code Section 21670.1, subd. (d)(2); and Caltrans, 2011; pg. vii.)

The airport safety zones outlined in the Kern County ALUCP are based on an older, superseded 1993 edition of the Caltrans Handbook, rather than the newer safety zones appearing in more recent editions of the Handbook published since 2002 (City of Delano, 2011d; pgs. 9-5 to 9-8; see also Caltrans, 2011; Ch. 3). To remain compliant with current airport safety standards, the City has updated its Airport Master Plan and its Municipal Code Zoning Ordinance to reflect the current safety zones and density

airport compatibility criteria in the Caltrans Handbook (City of Delano, 2011c; and City of Delano, 2011d; pgs. 9-5 to 9-8).

For further discussion of the City airport compatibility review process, see Section 3.7, Hazards and Hazardous Materials.

3.9.3 IMPACTS AND MITIGATION MEASURES

Methodology

The evaluation of potential land use impacts is based on-site reconnaissance, the City of Delano General Plan (City of Delano, 2005a), the City of Delano Development Code (i.e., zoning ordinance), the applicant's project description, and application materials.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines Appendix G (OPR, 2013b). For the purposes of this DEIR, impacts are considered significant if the following would result from implementation of the proposed project:

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

Effects Found Not to Be Significant

As analyzed in the Notice of Preparation (NOP), one potential effect related to Land Use Planning was found not to be significant because the project will have no impacts in this area. This effect is whether the project would physically divide an established community (City of Delano, 2013; pgs. 23 to 24).

For additional discussion, see Section 6.2 Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.9-1 Implementation of the proposed project could conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

The proposed project will include applications for a tentative subdivision parcel map (Subdivision Parcel Map No. 2014-01), conditional use permit (CUP No. 2014-02), and a site plan review to establish a precise development plan for a 328,500-square-foot community shopping center on an approximately 44.64 acre site. Future discretionary actions may be necessary as new commercial uses are proposed for build-out of the property. However, these proposals will be subject to City staff review for General

Plan and Zoning Ordinance consistency, compliance with all applicable codes and regulations, as well as public comment and approval by decision-makers at a public hearing.

The majority of the project site is zoned CRC, with a portion on the western side of the property zoned GC. One of the primary purposes of the CRC zone district is to provide suitable locations for commercial uses requiring large parcels (City of Delano, 2007; section 20.6.20 Employment districts). The primary purpose of the GC zone district is to provide sites for commercial uses that will serve a large segment of the population with a wide variety of retail, wholesale, service, and office uses (City of Delano, 2008a; section 20.5.20 Commercial development districts). According to these zoning guidelines, the proposed project would be consistent with the allowed uses for the zoning district.

Various uses within the CRC and GC zone districts are only allowable with a Conditional Use Permit. These include uses that may be part of the proposed project such as: convenience stores (including alcohol sales), drive-in/through businesses (including restaurants), hardware stores (outdoor storage), restaurants other than fast food serving alcoholic beverages, theaters, and tire sales and service (City of Delano, 2008a; section 20.5.30 Commercial use regulations; and City of Delano, 2007; section 20.6.30, Use regulations for employment districts). Impacts related to potential uses being in conflict with existing planning and zoning regulations would be **less than significant** upon submittal and approval of appropriate Conditional Use Permits.

The proposed project is consistent with the City General Plan's designated land use of "Commercial," which provides for a 10-acre or larger cluster of commercial establishments serving needs similar to neighborhood commercial centers, but also includes grocery, drug, general merchandise, variety and specialty stores. The proposed project would be subject to design review, which will ensure that the proposed project meets the General Plan goals and policies for high quality commercial development.

Additionally, applicable General Plan objectives and policies are listed in each of the individual DEIR topic areas, and the project's relationship to the General Plan has been analyzed. With the implementation of mitigation measures identified within this EIR, the proposed project would be consistent with applicable General Plan objectives and policies. Therefore, the project's impacts related to conflicts with the General Plan and Zoning Ordinance would be considered **less than significant**.

Airport Land Use Plan

The Delano Municipal Airport is located approximately one-half (0.61) mile east of the project site, and the proposed project is located within the "Airport Influence Area" of the Delano Municipal Airport, as determined by the Kern County Airport Land Use Compatibility Plan and the Delano Municipal Airport Master Plan. As discussed in Section 3.7, Hazards and Hazardous Materials, the proposed project would be consistent with the density and open space requirements for the airport compatibility zone covering the project site. The proposed project would be subject to regulations found within the Zoning Ordinance Section 20.3.30, Airport Approach Height Combining (H) District (City of Delano, 2011c). See Impact 3.7-4 for further discussion of airport compatibility review for the project. This impact is considered **less than significant**.

Impact 3.9-3 Implementation of the proposed project could conflict with an applicable habitat conservation plan or natural community conservation plan.

The project site is not subject to any habitat conservation plan or natural community conservation plan**.** Therefore, **no impact** is expected.

3.9.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Land Use Planning Impacts

The proposed project is consistent with land use as outlined in City of Delano land use plans, policies, and ordinances.

Land uses proposed for the project are consistent with the overall direction of the City's plans for the future as expressed in the City's General Plan as noted above. As analyzed above, the Project is also consistent with the City Municipal Code (including its Zoning Ordinance), the City airport compatibility review process, and the City Strategic Economic Development Plan (City of Delano, 2005b). No physical disruption of an existing developed portion of the community will occur under the project, and there will be no conflict with any applicable Habitat Conservation Plan. Therefore, because the proposed project would not contribute incrementally to adverse land use effects or inconsistency with applicable land use plans and provisions, there would be **no cumulative impact** on land use as a result of the project.

3.9.5 REFERENCES

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3.10 NOISE

This section of the DEIR discusses the existing noise environment of the project area and identifies predicted changes to that environment that may result from the proposed project. The analysis quantifies noise levels caused by project-generated traffic and by associated on-site activities and compares those levels to City standards. The analysis is based primarily on a noise impact Technical Memorandum prepared for the project (BSK Associates, December 2013), as well as data from the traffic impact analysis completed by Omni-Means (2014; see Appendix 3.13). Ambient noise conditions at and near the project area, as well as noise prediction modeling results, are included in Appendix 3.10 of this DEIR.

3.10.1 EXISTING SETTING

Acoustic Fundamentals

Noise is typically defined as unwanted sound. Sound is energy transmitted by pressure waves in the air and is generally characterized by two parameters: amplitude (loudness) and frequency (tone).

Amplitude

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude corresponds to perceived loudness. It is measured in decibels (dB) on a logarithmic scale. For example, a 10 dB sound is 10 times the pressure difference of a 1 dB sound; a 20 dB sound is 100 times the pressure difference of a 1-dB sound. Another feature of the decibel scale is the way in which sound amplitudes from multiple sources add together. A 65 dB source of sound, when joined by another identical 65 dB source, results in an amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A 10 dB increase in amplitude has a perceived doubling of loudness and a 3 dB change in amplitude is considered the minimum audible difference perceptible to the average person.

Frequency

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz), with one Hz equaling one cycle per second. The human ear is not equally sensitive to sounds of different frequencies and even this range is different between men and women and decreases with aging. Sound waves below 16 Hz or above 20,000 Hz typically cannot be heard at all. There are three standard scales, A, B and C, with approximate human sensitivity to environmental sound measured in *A-weighted* decibels (dBA). On this scale, the normal range of human hearing extends from approximately 10 dBA at the lowest detectable end to approximately 140 dBA at the highest with potential permanent hearing loss.

Noise Descriptors

The intensity of environmental noise fluctuates over time, and several descriptors of time-averaged noise levels are used (L_{eq}, L_{dn}, and CNEL). The relative timing of each noise event or peak can have subjective differences in the perception of noise. The energy-equivalent noise level, L_{eq}, is a measure of

the average energy content (intensity) of noise over any given period. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level, L_{dn}, is the 24-hour average of the noise intensity, with a 10 dBA "penalty" added for nighttime noise (10 p.m. to 7 a.m.) to account for the greater sensitivity to noise during this period. The community equivalent noise level (CNEL), is similar to L_{dn} but adds an additional 5 dBA "penalty" factor for evening noise (7 p.m. to 10 p.m.). Noise analyses also use measurements of L_{max}, the maximum instantaneous noise level during a specific period of time (sometimes referred to as the "peak noise level"), and L_{min}, the minimum instantaneous noise level during a specific period.

Characteristics of Sound Propagation and Attenuation

Noise can be generated by a wide variety of sources, including mobile sources (automobiles, trucks, and airplanes), and stationary sources (generators and industrial operations). Noise generated by mobile sources is typically muffled or reduced (attenuated) at a rate of 3.0 to 4.5 dBA per doubling of distance, depending on the ground surface and the number or type of objects between the noise source and the listener. For example, hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of approximately 4.5 dBA per doubling of distance.

Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver. Buildings, concrete walls, and berms can all act as effective noise barriers or sources of noise reflection. Wooden fences or broad areas of dense foliage also can reduce noise but are less effective than solid barriers.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual as described in the introduction. Noise in the community is considered a nuisance in terms of inhibiting general well-being and contributing to undue stress and annoyance. The effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels, found during construction, but rarely in operations and maintenance activities.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the hearers. Regarding increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding this noise assessment:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected

- A 10 dB change is subjectively heard as approximately a doubling in loudness and would almost certainly cause an adverse change in community response

Noise-Sensitive Land Uses

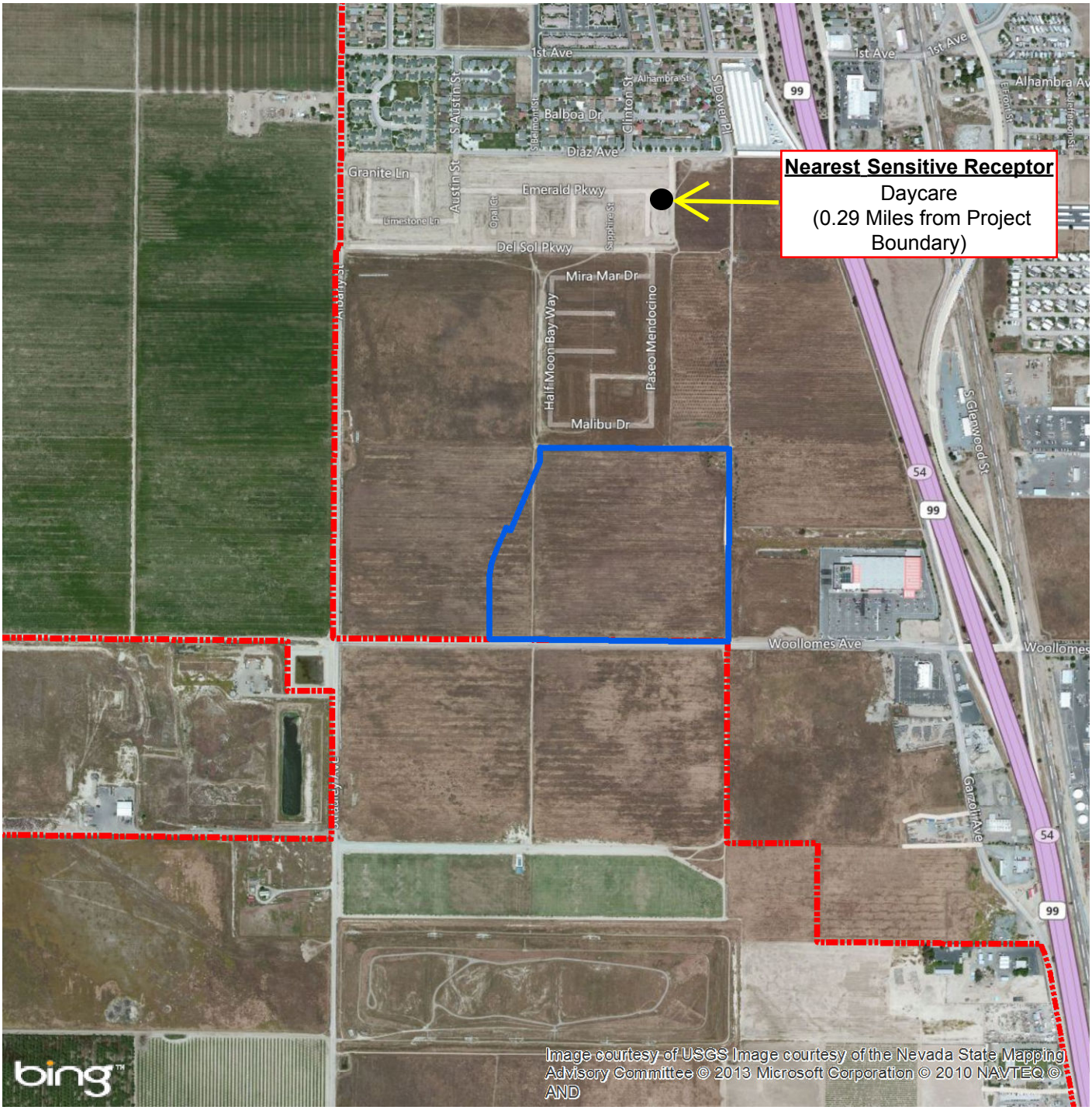
Noise-sensitive land uses are generally considered to include those uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for exposure of individuals to disturbing noise levels from project activities. Additional land uses such as parks, historic sites, cemeteries, and recreation areas can also be considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

Existing Noise Environment

Land uses adjacent to the project site consist primarily of agricultural land, as well as various commercial and light industrial land uses. Commercial and light industrial land uses are primarily located north of the project site, across Woollomes Avenue, and east of the project site, along Garzoli Avenue. The Delano Municipal Airport is approximately one-half (0.61) mile east of the project site. The nearest existing noise-sensitive receptors are occupied residential dwellings and a slightly closer small day care facility. The day care facility is the closest existing noise-sensitive receptor and is located approximately 0.29 mile north of the project site.

Based on the sound study, the existing noise environment in and surrounding the project site is influenced primarily by surface transportation noise emanating from vehicular traffic on State Route 99. To a lesser extent, additional noise sources, including planes flying overhead and vehicle traffic on area roadways (e.g., Woollomes and Garzoli Avenues), contribute to the existing background noise levels. The day care facility also added some noise during the play breaks.

To document the existing noise environment in the vicinity of the project site, an ambient noise survey was conducted by BSK on May 30, 2013. Measurement locations and ambient noise levels are depicted in Appendix 3.10. Based on the measurements conducted, average daytime noise levels (in dBA L_{eq}) within the project area generally range from the 40s to the mid-60s, dependent primarily on distance from nearby roadways, including State Route 99. The average L_{eq} for this study was 52.6 dBA. This survey also identified the nearest sensitive receptor to the proposed project, a day care center located approximately 0.29 mile north of the project boundary. The receptor is identified in Figure 3.10-1 and the average ambient sound levels are provided in Figure 3.10-2 below.



N
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0 500 1,000 2,000 Feet

Legend

Site Area

Delano City Limits

The Grapevine Project
NW Corner of Woollomes and S. Dover
Delano, California

FIGURE 3.10-1
Nearest Sensitive Receptor
BSK Project E1300901S

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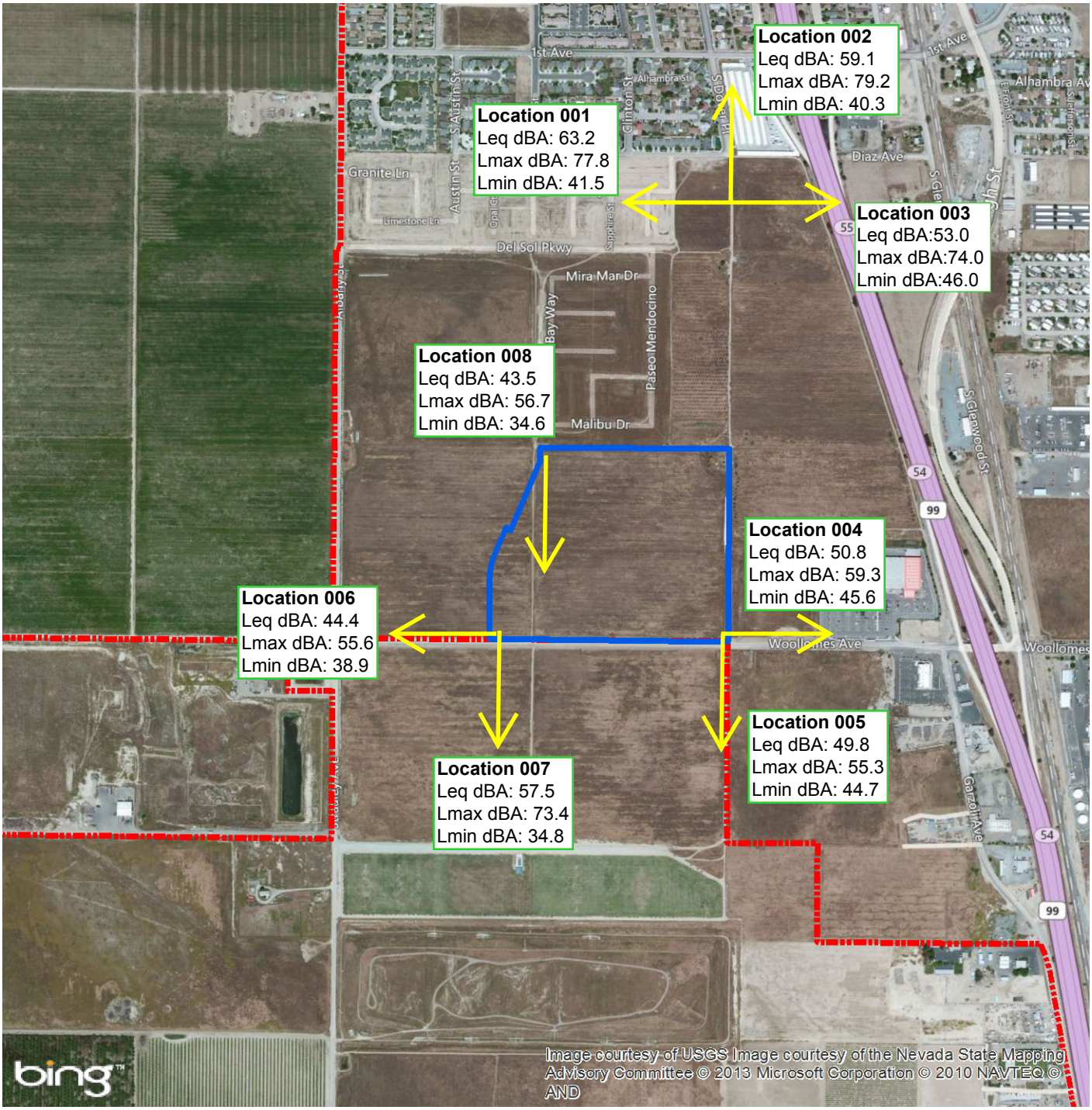

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Project Site Noise Sampling Existing Conditions 5/30/2013
Leq dBA=Energy-Equivalent Noise Level
Lmax dBA=Maximum Instantaneous Noise Level
Lmin dBA=Minimum Instantaneous Noise Level

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W E
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0 500 1,000 2,000 Feet

Legend

Site Area

Delano City Limits

The Grapevine Project
NW Corner of Woollomes and S. Dover
Delano, California

FIGURE 3.10-2
AMBIENT SOUND LEVELS
BSK Project E1300901S

3.10.2 REGULATORY SETTING

State Regulations

State of California General Plan

The State of California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours (OPR, 2013; pgs. 88 to 89 and pgs. 250-254). Table 3.10-2, State of California Land Use Compatibility Guidelines, summarizes acceptable and unacceptable community noise exposure limits for various land use categories. Generally, residential uses are considered to be acceptable in areas where exterior noise levels do not exceed 60 dBA CNEL/L_{dn}. Residential uses are normally unacceptable in areas exceeding 70 dBA L_{dn} and conditionally acceptable within 55 to 70 dBA L_{dn}. Schools are normally acceptable in areas up to 70 dBA CNEL and normally unacceptable in areas exceeding 70 dBA CNEL. Commercial uses are normally acceptable in areas with sound levels up to 70 dBA CNEL. Between 67.5 and 77.5 dBA CNEL, commercial uses are conditionally acceptable, depending on the noise insulation features and the noise reduction requirements. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Local Regulations

City of Delano General Plan

The Noise Element of the City of Delano General Plan (2005) establishes specific policies to ensure an acceptable noise environment for each land use. Applicable policies include the following:

Policy 1 Table 7-1 [shown in this DEIR as Table 3.10-1, State of California Land Use Compatibility Guidelines] depicts the ranges of noise exposure from transportation noise sources, which are considered acceptable, conditionally acceptable, or conditionally unacceptable for the development of different land uses. Table 7-1 shall be used to determine whether mitigation is needed for development of land uses near major transportation noise sources.

a. In areas where the noise environment is acceptable, new development may be permitted without requiring noise mitigation.

b. For areas where the noise environment is conditionally acceptable, new development will be required to define the site's precise noise environment, and if needed incorporate appropriate mitigation into the design of the project to reduce noise exposure to the levels specified by the Noise Element.

c. For areas where the noise environment is conditionally acceptable, it may not be feasible for new development to provide appropriate mitigation to achieve compliance with applicable noise standards. In such cases, other, more noise tolerant land uses would be more appropriate for the site and its noise environment.

Policy 2 New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed the noise levels specified in Table 7-1 [in DEIR as Table 3.10-1, State of California Land Use Compatibility Guidelines] for the given land use, unless appropriate mitigation is provided.

Policy 3 Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated where feasible so as not to exceed the noise levels specified in Table 7-1 [in DEIR as Table 3.10-1, State of California Land Use Compatibility Guidelines].

Policy 4 New development of noise-sensitive land uses shall be consistent with the noise level standards of Table 7-2 [in DEIR as Table 3.10-2, Maximum Allowable Noise Exposure-Transportation Noise Sources], following the implementation of appropriate mitigation measures.

Policy 5 New proposed stationary noise sources, or existing stationary noise sources which undergo modifications, shall not be permitted where the noise level exceeds the standards of Table 7-2 [in DEIR as Table 3.10-2, Maximum Allowable Noise Exposure-Transportation Noise Sources]. The Delano Municipal Code shall be amended to conform to these quantitative standards.

Policy 6 The preferred method of noise control is thoughtful site design. Secondarily, noise control should be achieved through the use of noise barriers. Site and building design guidelines may include:

a. Commercial and industrial structures shall be designed so that noisy equipment is located far as possible from noise-sensitive land uses, and/or is shielded by structures.

b. Loading and unloading activities for commercial uses that are located near noise-sensitive uses should be conducted in an enclosed loading dock with a positive seal between the loading dock and trucks, and should be screened by a noise barrier and dense landscaping.

Policy 7 Prior to approval of the proposed development in a noise impacted area, or the development of an industrial, commercial or other noise generating land use in or near an area containing existing or planned noise-sensitive land uses, an acoustical analysis may be required if:

a. The existing or projected future noise exposure at the exterior of the buildings, which will contain noise sensitive uses, or within proposed outdoor activity areas (patios, decks, backyards, pool areas, recreation areas, etc.) may exceed 65 dBA Ldn (or CNEL).

b. Interior residential noise levels resulting from offsite noise may exceed 45 dBA.

(City of Delano, 2005; pgs. 7-4 to 7-6.)

TABLE 3.10-1
STATE OF CALIFORNIA LAND USE COMPATIBILITY GUIDELINES

Land Use	Community Noise Exposure (Ldn CNEL, dBA)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential – Low Density Single Family Duplex, Mobile Home	<60	55-70	70-75	75+
Residential Multiple Family	<65	60-70	70-75	75+
Transient, Lodging, Motel, Hotel	<65	60-70	70-80	80+
School, Library, Church, Hospital, Nursing Home	<70	60-70	70-80	80+
Auditorium, Concert Hall, Amphitheater		<70	65+	
Sports Areas, Outdoor Spectator Sports		<75	70+	
Playground Neighborhood Park	<70		67.5 - 75	72.5+
Golf Courses, Stable, Water Recreation, Cemetery	<75		70-80	80+
Office Building, Business Commercial & Professional	<70	67.5 - 75	72.5+	
Industrial, Manufacturing, Utilities, Agricultural	<75	70-80	75+	

Sources: State of California Governor's Office of Planning and Research, 2002; and City of Delano, 2005; pg. 7-5, Table 7-1.
Notes:
[1] Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
[2] New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
[3] New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.
[4] New construction or development should generally not be undertaken.

TABLE 3.10-2 MAXIMUM ALLOWABLE NOISE EXPOSURE TRANSPORTATION NOISE SOURCES		
Land Use	**Outdoor Activity Areas**	**Interior Spaces**
	L_{dn}/CNEL, dBA	L_{dn}/CNEL, dBA
Residential (except temporary dwellings)	65*	45
Hotels & Motels	65*	45
Hospitals, Nursing and Personal Care	65*	45
Churches, Meeting Halls	--	45
Schools-Preschool to Secondary, College and University, Specialized Education and Training, Libraries and Museums	--	45

Source: City of Delano, 2005; pg. 7-8, Table 7-2.
Notes: *Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the boundary of planned or zoned noise-sensitive uses.

TABLE 3.10-3 CITY OF DELANO AMBIENT NOISE LEVELS		
Zone	**Ambient Noise Level**	
	10 p.m. to 7 a.m.	**7 a.m. to 10 p.m.**
R-1 and R-2 and other residential	50	55
Commercial	55	60
Manufacturing	60	65
Heavy industry Airport district	65	75

Source: Delano Municipal Code, section 9.36.040.

City Municipal Code

The Municipal Code includes additional provisions related to the control of noise:

Section 9.36.040 Ambient noise level. Where the ambient base noise level is less than designated in this section, the ambient noise level in this section shall govern.

Section 9.36.050 Noise level violation. It is unlawful for any person to wilfully make or continue, or cause to be made or continued any noise at a level which exceeds by more than five dB the ambient or the ambient base level as set forth in Section 9.36.040, whichever is greater, when measured at the adjacent property line of any property within the city.

Section 9.36.110 Construction of buildings and projects. It is unlawful for any person within a residential zone, or within a radius of three hundred feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures or projects or to operate any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist, or other construction type device in such a manner that noise is produced which would constitute a violation of Section 9.36.040, unless beforehand a permit therefor has been duly obtained from the building division. No permit shall be required to perform emergency work as defined in Article I of this chapter.

Section 9.36.210 Standards. The standards which may be considered in determining whether a violation of the provisions of this chapter exists shall include, but not be limited to, the following:

a. The loudness of the noise.

b. The intensity of the noise.

c. Whether the nature of the noise is usual or unusual.

d. Whether the origin of the noise is natural or unnatural.

e. The loudness and intensity of the background noise, if any.

f. The proximity of the noise to residential sleeping facilities.

g. The nature and zoning of the area within which the noise emanates.

h. The density of the inhabitation of the area within which the noise emanates.

i. The time of the day or night the noise occurs.

j. The duration of the noise.

k. Whether the noise is recurrent, intermittent, or continuous.

l. Whether the noise is produced by a commercial, industrial or residential activity.

Section 20.12.120 establishes maximum allowable noise exposure levels for stationary sources associated with commercial and industrial land uses. In accordance with the City's Zoning Ordinance, all commercial and industrial uses shall be operated so that no loudspeakers, bells, gongs, buzzers, or other noise attention or attracting devices exceed seventy (70) dBA in nonresidential areas or fifty-five (55) dBA in residential areas at any one time beyond the boundaries of the property (City of Delano, 2007a; section 20.12.120).

3.10.3 IMPACTS AND MITIGATION MEASURES

Methodology

This analysis is based primarily upon a noise impact assessment Technical Memorandum prepared for the project (BSK Associates, December 2013, Appendix 3.10), as well as data from the traffic impact analysis completed by Omni-Means (2014, Appendix 3.13). The noise analysis included examination of

existing literature, an ambient noise level survey, construction noise prediction model, and application of accepted traffic noise prediction models to predict changes in ambient noise levels resulting from implementation of the proposed project. These models include the Federal Highway Administration (FHWA) Roadway Construction Noise Model version 1.0 (RCNM), and the FHWA Traffic Noise Model version 2.5 (TNM). The RCNM model was used because it uses and accounts for the same construction equipment required for the proposed project construction. Project-related noise components that were identified include automobile traffic, operational characteristics of proposed commercial uses, and construction activities. Noise impacts for each of these sources are described below.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines Appendix G (OPR, 2013; City of Delano, 2013; pg. 26). Noise impacts resulting from the implementation of the proposed project could be considered significant if they cause any of the following to occur:

1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
6. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

Effects Found Not to Be Significant

As analyzed in the NOP, a potential effect related to noise was found not to be significant because the project will have no impacts in these areas. This effect is: for a project within the vicinity of a private airstrip, whether the project would expose people residing or working in the project area to excessive noise levels. For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.10-1 Implementation of the proposed project could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Based on the sound study (Appendix 3.10), the existing noise environment in and surrounding the project site is influenced primarily by surface transportation noise emanating from vehicular traffic on State Route 99. To a lesser extent, additional noise sources, including planes flying overhead and vehicle traffic on area roadways (e.g., Woollomes and Garzoli Avenues), contribute to the existing background noise levels. The day-care facility also added some noise during the play breaks.

To document the existing noise environment in the vicinity of the project site, an ambient noise survey was conducted by BSK on May 30, 2013. Measurement locations and ambient noise levels are depicted in Appendix 3.10. Based on the measurements conducted, average daytime noise levels (in dBA L_{eq}) within the project area generally range from the 40s to the mid-60s, dependent primarily on distance from nearby roadways, including State Route 99. The average L_{eq} for this study was 52.6 dBA. This survey also identified the nearest sensitive receptor to the proposed project. The receptor is a day care center located approximately 0.29 miles north of the project boundary.

The proposed project would include development of various commercial land uses, including large anchor stores, a movie theater, retail shops, and restaurants. The primary noise sources associated with the proposed project include parking lot activities, loading dock operations, and the operation of mechanical equipment, including trash compactors. Noise levels and resultant impacts associated with these sources are discussed separately, as follows:

Parking Lots

Major sources of noise from parking lot activity associated with the proposed project would include moving vehicles, starting engines, slamming doors, and people talking. The occasional sounding of car alarms can generate the loudest noise levels of approximately 90 dBA L_{max} at 10 feet. Assuming a maximum noise level of 90 dBA, predicted noise levels at the nearest noise-sensitive land use, located approximately 0.29 mile from the project site, would be less than 46 dBA L_{max} and would not exceed the City's most restrictive nighttime noise standard of 70 dBA L_{max}. The Traffic Noise Model cannot predict the movements within parking lots and thus cannot compute the noise from within them. However, noise within the parking lots is lower compared to nearby roadways due to decreased speeds and fewer accelerating movements (FHWA, 2004; pg. 64). Given the sporadic nature of parking lot noise and distance to the nearest noise-sensitive receptor, projected increases in average-hourly and average-daily noise levels at nearby receptors would not be reasonably anticipated.

Loading Docks

Loading docks are proposed along the northern end of the major retail buildings close to the property line of the project site. Noise from delivery trucks is dependent on truck type and delivery frequency. Based on data provided by the project applicant and a review of EIRs prepared for similar projects both inside and outside Kern County (i.e., Lowe's, Home Depot, and Wal-Mart) the daily number of delivery vehicles associated with such land uses can vary from day to day, ranging from a maximum of approximately 4 to 25 trucks per day. On-site land uses would generate a maximum total of approximately 50 delivery trucks/day (City of Delano, 2007b; pg. 3.10-17).

Noise sources associated with loading dock operations are most commonly associated with delivery truck operations. For instance, based on measurements conducted for similar facilities, large diesel truck movements typically generate maximum noise levels of 60 to 70 dBA L_{max} at 150 feet. Smaller panel trucks and vans would generate noise levels of approximately 50 to 60 dBA L_{max} at 150 feet. Truck refrigeration equipment would generate a maximum noise level of approximately 67 to 70 dBA L_{max} at 150 feet. Additional sources of maximum single-event noise include backup beepers on forklifts, operation of roll-up doors, and pallet drops, which can reach levels of approximately 90 dBA L_{max} at 50 feet. Based on measurements conducted at similar facilities, averaging approximately two truck deliveries per hour, average-hourly noise levels at loading docks can reach approximately 60 dBA L_{eq} at 50 feet.

Mechanical Equipment and Trash Compactors

Mechanical equipment includes heating, ventilation, and air conditioning (HVAC) units and refrigeration equipment. External mechanical ventilation equipment is typically found on the rooftops of commercial uses and can generate noise levels of 60 to 70 dBA L_{eq} at 15 feet. Mechanical sources of maximum intermittent noise levels are most commonly associated with commercial land uses and include the operation of trash compactors. Trash compactors are typically located in the vicinity of the loading dock and can generate maximum noise levels of up to 75 dBA L_{max} at 50 feet, depending on the specific power rating and enclosure characteristics of the compactor (Ambient Air Quality and Noise Consulting, 2007, as cited in City of Delano, 2007b; pgs. 3.10-18 to 3.10-19).

Based on the above noise levels, projected noise levels at the nearest noise-sensitive land use would be less than 50.7 dBA L_{dn}. Additionally, the project would implement the City General Plan Noise Element Policy 6 and Municipal Code section 20.12.120, discussed above, to keep noise at a low level (City of Delano, 2005; pgs. 7-4 and 7-6; and City of Delano, 2007a; section 20.12.120). Thus, operational noise levels associated with mechanical equipment would not exceed the City's noise standard of 70 dBA L_{dn} at the nearest noise-sensitive receptor. Increases in long-term, operational stationary-source noise associated with proposed project would not exceed applicable noise standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact is considered **less than significant**.

Traffic

The FHWA Traffic Noise Model version 2.5 was used by BSK to calculate traffic noise levels along affected roadways for existing plus project and cumulative plus project condition scenarios based on data obtained from the traffic analysis prepared for the proposed project by Omni-Means (2014, Appendix 3.13). Input data used in the model included average daily traffic levels for nearby area roadways, fleet mixes (percentages of automobiles, medium-duty trucks, and heavy-duty trucks during daytime, evening, and nighttime hours), vehicle speeds, ground attenuation factors, and roadway widths also provided by Omni-Means (2014, Appendix 3.13). Acceleration and different type of vehicles create different ranges of noise. Heavy duty trucks create the loudest amount of noise. The TIAR for the

project listed different percentages of heavy truck traffic for different road segments bordering the project. Taking a conservative approach, the noise modeling utilized the largest of these percentages of heavy duty trucks to determine levels of transportation-related noise.

This model allows the user to input buildings and their relative locations precisely. Following a conservative approach, the heights for every building are set at 20 feet using barriers within the model, including the Cinemark movie theater. Barriers are used in this model in place of buildings due to the lack of separation between buildings (FHWA, 1998; pg. 82). The project's buildings will likely be larger than 20 feet, and will reduce noise from "spilling" over the top of the building, adding to the conservative approach of the model. Finally, a five-foot masonry wall combined with landscape planting would be positioned along the northern boundary of the project site, as specified by the City General Plan and Municipal Code (City of Delano, 2005; pg. 2-18, Policy 1b and 1c; and City of Delano, 2007a; section 20.12.140). This wall would have an entrance to allow vehicles to enter and exit from Morse Boulevard. The wall would act to reduce heavy truck sounds and noise associated with loading docks. The predicted noise levels for these scenarios are summarized below in Table 3.10-4, Predicted Traffic Noise Levels for Existing, Existing Plus Project, and Cumulative Project Condition Scenarios.

TABLE 3.10-4
PREDICTED TRAFFIC NOISE LEVELS FOR
EXISTING, EXISTING PLUS PROJECT, AND CUMULATIVE PLUS PROJECT CONDITION SCENARIOS

TNM 2.5 Model Predicted Traffic L_{dn} dBA Noise Results for Multiple Project Condition Scenarios		
Sensitive Receiver	**Day Care** Approximately 0.29 mile from Project Boundary	
	No Barrier L_{dn} dBA	Barrier L_{dn} dBA
Existing Conditions	51.2	not applicable
Existing Plus Project Conditions	52.6	51.2
Cumulative Plus Project Conditions	56.9	55.2

Source: BSK Associates, 2013 Appendix 3.10
Note: *Traffic noise levels were modeled using the FHWA Traffic Noise Model version 2.5) based on traffic information (e.g., average daily traffic, vehicle speeds, roadway width) obtained from traffic data prepared for this DEIR (see Section 3.13, Transportation/Traffic, and Appendix 3.13).

Relative to the nearest sensitive receptor, the predicted traffic noise levels will not exceed the standard of 70 L_{dn} dBA set forth in Table 7-1 and Policy 7.3-4 in the City of Delano General Plan Noise Element (City of Delano, 2005; pgs. 7-4 to 7-5). The noise created by transportation from this project is considered **less than significant**.

Impact 3.10-2 Implementation of the proposed project could result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

There are no major sources of vibration or vibration-associated noise from the proposed project operations. There may be temporary and brief potential construction-associated vibration from heavy equipment. However, the significant distances to potential receivers are too far to be of concern given

the natural dampening effect of native soils. The proposed project location is separated from the nearest railroad by State Route 99. The baseline sound study found the highway did not produce significant groundborne noise levels or obvious vibration. Furthermore, the nearest railroad to the project is separated by State Route 99 and therefore groundborne vibration or objectionable noise will not reach the project site. Implementation of the proposed project will not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels and the project will have a **less than significant** impact. Finally, as discussed in Section 3.7, Hazards and Hazardous Materials, the project's location relative to the airport will not result in noise impacts. Therefore, project impacts related to groundborne vibration or groundborne noise would be **less than significant**.

Impact 3.10-3 Implementation of the proposed project could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

The sound study conducted for the project site indicated that increases in stationary-source noise associated with the proposed project would not be substantial or exceed applicable noise standards (BSK Associates, 2013, pgs. 1, 3, and 5). The primary sources of potential ambient noise increase at the project site would be transportation based. That said, as shown in Table 3.10-4, the traffic related noise is under the threshold established by of the General Plan (City of Delano, 2005; pg. 7-8, Table 7-2). Furthermore, compared to the measurements conducted in May, 2013, the proposed project has the potential to reduce ambient noise levels perceived by the nearest sensitive receptor. This is because the buildings themselves, as well as the wall along the project's northern boundary, will dampen the noise produced from the roadways surrounding the project (BSK Associates, 2013, pg. 5). Therefore, implementation of the proposed project will not result in substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and the project will have a **less than significant** impact.

Impact 3.10-4 Implementation of the proposed project could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Depending on the activities being performed, as well as the duration and hours during which activities occur, temporary construction-generated noise levels at nearby residences could result in increased levels of annoyance and sleep disruption for occupants of nearby residences. The standard of significance is 5 dBA above ambient noise (see Table 3.10-3). In this instance, construction in the daytime must exceed 60 dBA when measured at the adjacent property line to violate the City of Delano Municipal Code (City of Delano, 1986; sections 9.36.050, 9.36.110).

Construction noise typically occurs intermittently and varies depending on the nature of the construction activities being performed. Noise generated by construction equipment, including excavation equipment, material handlers, and portable generators, can reach high levels for brief periods.

When noise levels generated by construction operations are being evaluated, activities occurring during the more noise-sensitive evening and nighttime hours are of particular concern. Because exterior ambient noise levels typically decrease during the late evening and nighttime hours as community activities (e.g., industrial activities, vehicle traffic) decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased levels of annoyance and potential sleep disruption for occupants of nearby residential dwellings.

The U.S. Environmental Protection Agency (EPA) has found that the average noise levels associated with construction activities typically range from approximately 76 dBA to 84 dBA L_{eq}, with intermittent individual equipment noise levels ranging from approximately 75 dBA to more than 90 dBA L_{max} for brief periods. The Roadway Construction Noise Model calculated predicted noise levels from construction activities to the nearest sensitive receptor. This receptor is a day care facility located approximately 0.29 mile north of the project boundary. The results from the study are summarized in Table 3.10-5 below. The total results assume the worst-case scenario that every piece of equipment is in use at once.

TABLE 3.10-5
PREDICTED CONSTRUCTION NOISE RELATIVE TO DAY CARE FACILITY (0.29 MILE AWAY)

	Calculated (dBA)	
Equipment	*Lmax	Leq
Compressor (air)	47.9	44
Crane	50.8	42.9
Excavator	51	47
Generator (<25KVA, VMS signs)	43.1	40.1
Grader	55.3	51.3
Dozer	51.9	48
Scraper	53.9	49.9
Tractor	54.3	50.3
Front End Loader	49.4	45.4
Backhoe	47.8	43.9
Welder / Torch	44.3	40.3
Total	**55.3**	**57.6**

Source: BSK Associates; Appendix 3.10

Noise from localized point sources (such as construction sites) typically decreases by approximately 6 dBA with each doubling of distance from source to receptor. Given this inverse square noise attenuation rate and assuming a maximum noise level of 90 dBA L_{max} at 10 feet, the maximum predicted noise level at the nearest noise-sensitive receptor would be approximately 46 dBA L_{max} for a single piece of heavy equipment. The predicted temporary construction total average-hourly noise levels at the nearest sensitive receptor would be approximately 55.3 dBA or less. However, although predicted

construction-generated noise levels are not anticipated to exceed City noise standards, activities occurring during the quieter nighttime hours could result in a substantial increase in ambient noise levels at the identified sensitive receptor. Activities occurring during the quieter evening and nighttime hours, when people are more sensitive to noise, could result in increased levels of annoyance and sleep disruption to occupants of nearby residences just beyond the day care facility. Implementation of Mitigation Measures **MM 3.10-4a** and **3.10-4b** would reduce this impact to a **less than significant** level.

Mitigation Measures

MM 3.10-4a During construction, the project applicant shall limit construction activities to the least noise-sensitive daytime hours of 7 a.m. to 10 p.m. Construction activities shall not be allowed on Sundays and legal holidays. These limitations shall be specified in all construction contracts and specifications entered into by the project applicant.

MM 3.10-4b During construction, the project applicant shall ensure that all construction vehicles or equipment, fixed or mobile, are equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' recommendations.

Implementation of the above mitigation measures would limit construction activities to the less noise-sensitive periods of the day and would ensure that equipment is operated in accordance with manufacturers' recommendations to reduce noise generated by individual equipment. Implementation of these mitigation measures would ensure that construction activities would not significantly affect sensitive receptors in the vicinity of the project site.

Impact 3.10-5 For a project located within the Kern County Airport Land Use Compatibility Plan (ALUCP), would the project expose people residing or working in the project area to excessive noise levels?

As noted in Section 3.7, Hazards and Hazardous Materials, the Delano Municipal Airport is approximately one-half (0.61) mile east of the project site. The project site is located in Zone C of the Kern County ALUCP and Safety Zone 6 of the Delano Municipal Code Municipal Airport Compatibility Measures (Kern County, 2011; pg. p. 4-23, Figure 4-11; and City of Delano, 2011b). In both the City and County zones, commercial and residential uses are permitted based on State Aeronautics Act noise and safety protection requirements (Kern County, 2011; p. 2-2, Table 2A; and City of Delano, 2011b).

The Delano Municipal Airport Master Plan notes that noise contours for the Delano Airport in the Kern County ALUCP overestimate potential noise generation by the airport:

> Community Noise Equivalent Level (CNEL) noise contours were prepared for Delano Municipal Airport as part of the Kern County ALUCP, amended March 2004. The noise contours were based on 38,000 annual operations, which is 35 percent more than forecast for the year 2030 in this Master Plan . . . . Since aircraft operations are forecast to be substantially less than those reflected by the ALUCP noise contours, the future area of noise exposure is expected to be less than shown in the ALUCP. Thus, noise

impacts are not expected as a result of the forecast aircraft operations. (City of Delano, 2011a; pg. 9-14.)

Additionally, recent sound data and observations made at the site indicate that the area is relatively quiet and unaffected by airport noise, showing that the project would not expose the public to excessive sound due to airport noise (Appendix 3.10).

The project impact resulting from airport-related noise is considered **less than significant**.

3.10.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Predicted noise levels at residential dwellings located along primarily affected roadways would not exceed the transportation noise source standard of 65 L_{dn} dBA for the City's land use compatibility standards (Table 3.10-2), and operations will not exceed the land use compatibility guidelines Conditionally Acceptable level of 60-70 dBA (Table 3.10-1) at nearby residential dwellings.

In the cumulative project scenario, the nearest sensitive receptor will be a future residential development located approximately 175 feet (0.03 mile) north of the northern boundary of the project site. The noise modeling conducted used the cumulative scenario traffic volumes to determine the impact from traffic-related noise. The future residential development would experience approximately 49.4 L_{dn} with the full project buildout and the barrier wall along the northern project boundary. This is within the City's Land use standards. Due to the localized nature of noise impacts and the distance of sensitive receptors from the project sites, the proposed project would not contribute to significant cumulative noise impacts. Construction activities associated with other projects in proximity to the project site could occur at the same time as the proposed project. These related projects would also be subject to local noise standards and established thresholds pertaining to increased noise at the locations of sensitive receptors, as well as similar mitigation measures. Given the remote nature of the project site, and the distance from sensitive receptors, project-related noise impacts would be **less than significant**. No significant cumulative noise impact is anticipated to occur. Therefore, noise impacts of past, present, and reasonably foreseeable projects would have a **less than significant** cumulative impact.

3.10.5 REFERENCES

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3.11 POPULATION AND HOUSING

This section of the DEIR describes the existing population of the project site (site) and its surroundings as well as the potential for the proposed project to induce substantial population growth in the area either directly, by proposing new homes or businesses, or indirectly, through road extensions or other infrastructure. An evaluation of growth inducement potential was conducted for planned growth in the project study area. The City of Delano (City) demographics were evaluated using a combination of U.S. Census data, the City-Data demographic website, other available demographic information, and review of existing policies in the City's General Plan (City of Delano, 2005a).

3.11.1 EXISTING SETTING

Local Setting

The project site is located in the City of Delano, in northern Kern County, California. Delano is located along State Route 99, approximately 30 miles northwest of the City of Bakersfield and approximately 30 miles south of the City of Tulare. Located in the southern portion of California's agriculturally rich San Joaquin Valley, the City is 10 miles from the western foothills of the Sierra Nevada Mountains and approximately 25 miles from the Coast Range to the west. The City is a low-to-medium density residential community with a grid street network, surrounded by agricultural fields and bisected by State Route 99 (SR 99) (Cal Poly San Luis Obispo, 2009; pg. 11). Heavy industrial and heavy to light industrial and commercial uses line the highway through the City. The central downtown district of the City lies to the east of SR 99, while newer commercial development is concentrated west of the highway. A number of elementary schools and the Delano Campus of Bakersfield Community College are located within the city limits, as are public facilities related to fire and police protection. Due to the surrounding productive farmland and gentle topography, agriculture is a significant economic activity in the Delano region, and the area can be characterized as an agricultural-based community. Delano is a regional commercial and service destination. Over 90,000 residents live in the city's retail trade area, and Delano serves as the commercial hub for much of southern Tulare County and the eight communities within a 15-mile radius, including Earlimart, Wasco, and McFarland (City of Delano, 2005b; pgs. 8 and 21). Tulare to the north is approximately 30 miles away and contains approximately 60,000 people (U.S. Census, 2013d).

Population Characteristics of the City and the Surrounding Area

Delano is an ethnically diverse and economically challenged community with predominantly low- and moderate-income populations. The region's economy was and continues to be based on agriculture and is well known for growing table grapes (Cal Poly San Luis Obispo, 2009; pg. 10). Two California state prisons, the North Kern State Prison and Kern Valley State Prison, are located in Delano, with a combined population of nearly 11,000. Delano's population in 2012 was 52,426 (including prison inmates), which is 1.2% less than in 2010; however, City population has risen 35% since 2000 (City of Delano, 2013a; pg. 1). City demographics include significantly more males (60.3%), due to state prisons housing more males than females (39.7%). The City has a significantly younger population with a

median resident age of 28.8 years, compared to the California median age of 35.1 years (U.S. Census, 2013a; pg. 1). The younger population increases the number of potential employees. Three-quarters of its residents are self-classified as Hispanic (72.6%), followed by Asian (12.9%), white alone (7.3%) and black (5.4%) (U.S. Census, 2013a; pg. 5). Despite the population growth since 2000, Delano faces significant challenges, including 29.7% unemployment, compared to California's average of 9.3% in 2013 (City-Data, 2013a; pg. 5). The percentage of all people in the community living below the poverty level is 28.3% (U.S. Census, 2013b; pg. 3). The median household income in 2011 was $35,608, which is significantly higher than the City's 2000 median of $28,143; however, it is substantially lower than the California median income level of $57,287 (City-Data, 2013a).

Housing and Employment Demands

Compared to many parts of the Central Valley, Delano is affordable, with estimated house or condominium values of $129,095, compared to Bakersfield values of $170,400 (City-Data, 2013b), or the statewide value of $355,600. The mean gross rent is $729. Home sales, as with much of California, have been stagnant with the recent economic recession. Generally, the City's primary housing concern is the unmet potential demand for affordable housing in the community for very low and low income households. The current housing stock consists of 10,944 housing units. With 93.6% occupied housing units, the City has a homeowner vacancy rate of 2.3% and a rental vacancy rate of 3.7%, slightly below the California average (U.S. Census, 2013c; pg. 1).

The most common occupation is agricultural work, which makes up 30% of the workforce. Other occupations that range from 3% to 6% of the remaining workforce include other production occupations, driver/sales workers and truck drivers, laborers and materials movers, law enforcement, building and grounds cleaning and maintenance workers, and farmers and farm managers (City-Data, 2013a).

According to the Delano's Strategic Economic Development Plan, the City vision is for the City to emerge as a retail hub for the surrounding communities. However, 2003 figures reveal that retail leakage of $258 million dollars is being lost to Bakersfield and Tulare (City of Delano, 2005b; pg. 27). Retail leakage occurs predominantly in the areas of automotive groups, general merchandising, and food groups. Over 70% of sales from specialty stores are purchased outside the trade area, while eating and drinking places, home furnishings, and building materials combined show leakage over 66% of the total demand. The City's strategic plans for economic strength will return sales tax revenues to the community by building new and clean stores that offer desired goods and services that are high quality and competitively priced (City of Delano, 2005b; pg. 26).

Project Characteristics Related to Population and Housing

The project applicant has applied to the City to develop a 328,500-square-foot community shopping center on an approximately 44.64-acre site located east of Albany Street, west of Dover Parkway, south of Morse Boulevard, and north of Woollomes Avenue, west of the intersection of State Route 99 and Woollomes Avenue. The project site is vacant and the proposed project will not displace any existing housing. The proposed project would include a 12-screen theater; a lifestyle component to include

retail shops and restaurants (sit-down and fast-food); mid-size retailers between 10,000 to 25,000 square feet and outparcels for fast food; and drive-through and sit-down restaurants, with proposed building sizes ranging from 2,500 to 10,000 square feet. The project will provide employment for approximately 617 full-time equivalent jobs (City of Delano, 2013c; pg. 5). During construction, temporary jobs will be created that will require special trades and technically trained and unskilled workers. Activities include, but are not limited to, the following services: site preparation and clearance; geotechnical, building foundation and construction; lighting, plumbing and electrical; infrastructure, engineering and project management; roofing; HVAC and ventilation; painting and decorating; pavement; and signage.

3.11.2 REGULATORY SETTING

State Regulations

Sustainable Communities and Climate Protection Act (SB 375)

With SB 375 (Steinberg), the State Legislature made it mandatory for local planning to incorporate sustainable in-fill development to address the negative environmental impacts of sprawl development. As discussed in Section 3.3, Air Quality and Greenhouse Gas Emissions, the Air Resources Board (ARB) is required to develop regional greenhouse gas emission reduction targets for passenger vehicles. Each of the Metropolitan Planning Organizations (MPOs) is required to prepare a sustainable communities strategy (SCS) (ARB, 2013). The MPO related to the proposed project is the Kern Council of Governments (KCOG). The goal behind SB 375 is to develop strategic plans to develop more livable communities that offer more housing and transportation choices, higher quality of life, and a vibrant economy.

A responsibility of the KCOG is to work with local governments and stakeholders on the Regional Housing Need Allocation (RHNA) and allocate housing units within the region consistent with the development pattern included in the SCS (KCOG, 2013; pgs. 1 to 2).

Regional Regulations

Government Code Section 65584: Department of Housing and Community Development (HDC)

HDC provides a determination of the region's projected housing needs to KCOG. Out of the total state housing allocation to Kern County for the period January 2006 to June 2013, Delano has been allocated 1,817 housing units (KCOG, 2013; pg. 6).

Local Regulations

City of Delano General Plan

The consideration of population growth and its potential impact is addressed in the Economic Development Element of the City's Delano General Plan. Population growth is expected to increase by 5% annually, so that by 2020 the population will increase to 62,000 residents (City of Delano, 2005a; pg. 10-1).

The City's General Plan objectives, policies, and standards for its Economic Development Element Policies include:

Objective: Ensure that all commercial development is attractive and of high-quality design, to enhance the image of the City (Section 10.4 Economic Diversification Policies, pgs. 10-3 to 10-4). The promotion and facilitation of economic diversification to encourage the creation of employment opportunities, increase revenue through the local economy and decrease dependency upon any one sector of the economy.

Policy 1. Target specific industries compatible with the community and labor force for recruitment, including industries that can provide employment for local residents, generate sales tax income directly or indirectly, and can be developed in a manner that fits in with the residential nature of the community.

Policy 2. Enhance the community's role as the regional commercial and industrial center for both northern Kern County and southern Tulare County.

Policy 3. Develop and implement a marketing and promotion plan focused on maintaining a positive business climate in the city.

Policy 6. Encourage new and continuing economic growth at specific geographic sites within the city, including but not limited to: the downtown area; Industrial Parks; and the State Route 99 interchange at Woollomes Avenue.

Policy 7. Attract, expand and retain businesses within the City limits.

Policy 9. Develop State Route 99 as an integral corridor through the community, emphasizing land uses and architectural designs that portray an economically successful community.

Policy 11. Capture transient dollars flowing along the State Route 99 corridor to the greatest extent possible by providing lands for and encouraging the development of highway-oriented commercial use and large-scale retail uses serving Delano and surrounding areas.

Objective: The adoption and implementation of plans and financing for infrastructure to support future growth and development. (Section 10.5 - Infrastructure Policies, pg. 10-4).

Policy 1. Maximize the use of existing infrastructure, underutilized sites, and vacant properties.

City of Delano Zoning Ordinance

The City's zoning ordinance focuses on implementing the City's General Plan by guiding and regulating development. The following standards and requirements in the zoning ordinance describe standard conditions to assure availability of commercial uses that should be conveniently located, efficient, attractive, and designed to serve retail and service commercial needs of City residents and other businesses.

Section 20.5.20 – Commercial Development Districts (pgs. 5-2 to 5-3)

1. General Commercial (GC) – The purpose of the general commercial district is to provide sites for commercial uses that *will serve a large segment of population with a wide variety of retail, wholesale, service and office uses*. (emphasis added.)

(City of Delano, 2013b.)

Section 20.5.30 - Commercial Use Regulations (pgs. 5-3 to 5-9)

The Regulations identify, in table format, the land use activities that may be permitted in the commercial districts and are permitted in certain specific commercial districts (but not in others). The Table also provides development procedures and approval types for each land use or activity that may be permitted in each commercial zone district. All commercial activities identified in the project description are permitted activities for the district in which the project is located.

(City of Delano, 2013b.)

3.11.3 IMPACTS AND MITIGATION MEASURES

Methodology

The analysis of potential population impacts is based upon a field review of the project site and surrounding areas and review of background documents from the City, including the City of Delano General Plan and City of Delano Zoning Ordinance as well as data from the U.S. Census Bureau.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines Appendix G standards recognized by the City (OPR, 2013). For the purposes of this DEIR, a significant impact will occur if the project will result in one or more of the following:

1. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Effects Found Not to Be Significant

As noted in the Notice of Preparation (NOP), two potential effects related to Population and Housing were found not to be significant because the project will have no impacts in these areas. These effects are:

1. Whether the project would displace substantial numbers of existing houses, necessitating the construction of replacement housing elsewhere.

2. Whether the project would displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.11-1 Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).

Direct impacts

While the proposed project does not include residential development, the projected addition of 617 full-time jobs could affect population or housing in the City if the employment demand requires employees from outside the area. Potential growth-related impacts could result if the jobs generated by the proposed project required a significant number of highly skilled or trained personnel currently not available in the community, and there was insufficient and affordable housing stock to match the demand in comparison to the wage earning potential for the population migrating to the community. However, the 617 new jobs created by the project will likely include non-technical retail sales jobs that are typically minimal-skill positions with hourly pay rates (City of Delano, 2013c; pg. 5). Thus, it is unlikely that the jobs created by the project would require personnel from outside the community. Moreover, current unemployment of 29.7% would easily absorb the retail jobs generated from the development, especially with a community such as Delano with a much younger workforce than the state average. Additionally, the Project Description features an initiative to promote local employment: several career days hosted by the City and the project applicant to match applicants to specific job opportunities. This project feature will help encourage placement of local residents in jobs created by the project. The initiative also includes a leadership and worker skills building training program developed by the City, project applicant, and commercial tenants of the project. This training program would encourage the successful recruitment and retention of the local labor force.

To summarize, the project would not directly induce substantial population growth because most of jobs created by the project would be minimal-skill, hourly pay retail sales jobs that could be filled by the large supply of available workers in the local community. The project's focus on hiring local employees, reflected in the project's initiative to recruit local residents, further supports the conclusion that the project would not directly induce substantial population growth. Therefore, **no impact** will occur, and no mitigation is required.

Indirect impacts

The project will not indirectly induce substantial population growth. No substantial extensions or upgrades to infrastructure that could indirectly induce population growth are required for the proposed project since its location had previously been identified by the City in its General Plan for commercial use precisely because of its proximity to existing infrastructure. Several short street sections would be constructed along the project perimeter on Morse Boulevard, Belmont Street, and Dover Parkway. The purpose of the road construction would be to provide ingress to and egress from the project site and is

not projected to indirectly induce population growth. Therefore, **no impact** will occur, and no mitigation is required.

3.11.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Because the proposed project would not cause an increase in population and there is a relatively high unemployment rate in the City, the proposed project is not anticipated to result in a direct or indirect impact on population and housing.

The proposed project, combined with other similar projects in the area, is unlikely to result in a cumulative impact due to the limited growth-inducing impacts of the project. Thus, the cumulative impacts of past, present, and reasonably foreseeable future projects would be less than cumulatively considerable.

As analyzed above, the project will provide approximately 617 new jobs that are likely to be filled largely by local residents, minimizing growth-inducing impacts on the population in the City. No new off-site roads or housing are proposed as part of the project (other than short segments to provide ingress to and egress from the project), nor will the project trigger the building of new roads or housing elsewhere. Given the project's minimal potential to induce growth, the proposed project would not contribute to a cumulative increase in population and housing impacts. The proposed project will not combine with any planned growth in the area to form an impact greater or more significant than the project impact alone. Therefore, the cumulative impact is considered **less than significant**. No mitigation is required.

3.11.5 REFERENCES

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3.12 PUBLIC SERVICES

This section of the DEIR addresses existing public services and facilities within the City of Delano (City) and evaluates the potential impacts to these services with implementation of the proposed project. Services examined for potential impacts include law enforcement, fire protection, parks, and education. The analysis is based primarily on information contained in the City's General Plan (City of Delano, 2005; pgs. 8-1 to 8-12-A), and other information provided by the City.

3.12.1 EXISTING SETTING

The City provides law enforcement services, parks, and recreation programs and facilities for the citizens of Delano. Fire protection is contracted with the Kern County Fire Department (KCFD), headquartered in Bakersfield, California. The Delano Union Elementary School District and the Delano Union High School District are the local public school districts serving the City.

Police

The City Police station is located two miles from the proposed project at 1022 12th Avenue and the City is patrolled on a 24-hour/7-day basis by the City-operated police force (City of Delano, 2005; pg. 8-1). Based on 2011 data, the police force includes approximately 73 full-time law enforcement employees and 44 patrol officers (City-data, 2013; City of Delano, 2013a; and City of Delano, 2011). The number of officers per 1,000 residents is 0.84, which falls short of the City's goal of providing a staffing ratio of 1.4 equivalent officers per 1,000 residents (City-data, 2013). The California average is 2.4 officers per 1,000 residents (City-data, 2013). According to the Delano Police Department, uniform crime reporting to the Federal Bureau of Investigation (FBI) for the period of January to May 2012 was 773 events, which is a 12.3% decrease from the same period in 2011 (City of Delano, 2013b). FBI statistics confirm an overall downward trend in crime in Delano from 2011 to 2012 (FBI, 2011; and FBI, 2012.) The City operates under a mutual aid agreement with the Tulare and Kern County Sheriff's Departments.

Parks and Recreation

The City provides parks and recreational facilities and services to the citizens of Delano. The City has thirty-five acres of parkland in its eight existing parks, which feature playgrounds, open space areas, and picnic shelters. The parks range from three to eight acres in size. Other facilities provided to the community include tennis courts, lighted ball fields, a skate park, 40-acre soccer field, basketball courts, golf course, two spray parks, a gym and fitness center, one senior center, and racquetball courts. The City park system is supplemented by the playing fields, tot lots, and open space areas found on several elementary schools and three high schools in the community.

Fire

The City contracts with the KCFD for fire prevention and protection services. The KCFD is a full-service professional department for fire prevention and protection services. The KCFD staffs 46 full-time fire stations and one seasonal station (Kern County, 2013). The fire department is broken into seven

battalions for operational management and oversight. Each battalion covers a large geographical area and includes seven to nine fire stations. Battalion 3 includes the area of Glenville, Woody, Lost Hills, Shafter, Wasco, McFarland, and Delano (Kern County, 2012).

The City's General Plan states that two stations are located near the proposed project and are adequate to serve the current population (City of Delano, 2005; pg. 8-5). Kern County Fire Station #34 is located at 1001 12th Avenue, approximately 1.75 miles north of the proposed project, and its response area is 66 square miles. Delano West Station #37 is located at 132 West 11th Avenue, approximately 1.5 miles north of the proposed project. It covers a response area of 84 square miles (Kern County, 2013). In 2012, Station #34 responded to 1,435 calls, while station #37 responded to 1,325 calls (Kern County, 2012). The joint Kern County/Bakersfield City Dispatching Facility provides dispatch and emergency communications for the City and unincorporated Kern County. More sophisticated services provided by the KCFD, such as hazardous materials response, technical and high-angle rescue, arson investigation, helicopters, and wildland bulldozers are available for dispatch to the Delano area upon request.

Schools

The Delano Union Elementary School District and the Delano Joint Union High School District provide educational services to approximately 4,335 K-5 students; 1,884 6-8 grade students; and 2,933 9-10 grade students. The Paramount Bard Academy, a public charter school on the model of early college high schools, serves up to 700 students in grades 6-12, with 100 seats per grade (Paramount Academy, 2014a; and Paramount Academy, 2014b). In response to overcrowding conditions in the 1990's, the school district justified a developer's fee. In addition, two landmark pieces of legislation, SB 1777 and SB 1789, provided financial incentives to schools to reduce class size to 20 students per teacher for grades K-3 (City of Delano, 2005; pg. 8-3). Future student enrollment projections indicate that new school sites will be needed to accommodate future development and increased student enrollment. Current and future expansions will be funded through the State of California, local property taxes, and developer fees levied in accordance with state law. The creation of the Education Protection Account by Proposition 30 temporarily increased the sales tax rate and revenues will be deposited into a new fund (Delano Union School District, 2013).

Transit Network

The City public transportation system provides responsive fixed route bus and demand responsive/reservation public transportation services to the City and surrounding areas as discussed in Section 3.13, Transportation/Traffic.

3.12.2 REGULATORY SETTING

State Regulations

School Facilities Act of 1998

The School Facilities Act of 1998, known as SB 50, provides state funding for new school construction projects that can satisfy certain criteria, including eligibility due to growth, plan approval by the Division of the State Architect, and site approval by the California Department of Education. However, the Act limits the maximum amount of impact fees that can be charged by school districts as mitigation for new residential, commercial, and industrial construction. The Act also prohibits local agencies from denying a development application on the basis of refusal to provide school facilities mitigation that exceeds the fee amount and refusing to approve any legislative or adjudicative act on the basis that school facilities are inadequate.

Local Regulations

City of Delano General Plan and Ordinances

Construction and maintenance of public services and utilities in the City is enabled and regulated by the City's General Plan and municipal ordinances. The following policies from the City of Delano General Plan (2005) are relevant regarding consideration of public services and facilities improvements:

Public Facility Improvement

Objective A: Ensure that new development pays its own way, including both needed facilities and incremental demands on existing facilities.

Objective B: Provision of adequate services and facilities needed to support existing and planned land uses throughout the community.

Policy 5. Require the extension and construction of infrastructure to proposed developments according to adopted elements and master plans. The City shall use reimbursement agreements or other financing techniques to reimburse developments for any oversizing cost, which may be required.

Policy 9. Development fee credit may be given for public improvements made by a builder but shall not exceed the amount of fees.

Policy 10. Developers shall construct all tributary facilities necessary to connect major facilities, whether or not the major facilities have yet been constructed.

(City of Delano, 2005; pg. 8-8 to 8-9.)

Safety Element

Objective B: Provide adequate fire protection services throughout the Delano Planning Area.

Policy 1. Promote and encourage adequate fire control within the Delano Planning Area.

a. Ensure that all sectors of the City maintain adequate water pressure and water supply for firefighting purposes.

b. Maintain an effective and well-trained Fire Department that will protect the community from fire danger, meeting the KCFD standard of one fire company for every 14,000 residents.

Objective C: Provide adequate law enforcement services to the City.

Policy 1. Maintain police staffing ratios of 2.0 equivalent officers for every 1,000 persons to the extent feasible. An equivalent officer includes non-sworn field staff.

(City of Delano, 2005; pgs. 9-11 to 9-12.)

3.12.3 IMPACTS AND MITIGATION MEASURES

Methodology

The analysis of potential public services impacts is based upon the project applicant's plans, information supplied by the City and Kern County service providers, and other technical documents.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines (OPR, 2013). Public service impacts may be considered significant if implementation of the project will result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

1. Fire protection
2. Police protection
3. Schools
4. Parks
5. Other public facilities

Effects Found Not to Be Significant

As analyzed in the Notice of Preparation (NOP), several potential effects related to Public Services were found not to be significant because the project will have no impacts in these areas. These effects are:

Whether the project will result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

- Schools
- Parks
- Other public facilities

(City of Delano, 2013c; pgs. 29 to 30.)

For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.12-1 The proposed project could theoretically result in the need for new or physically altered governmental facilities related to fire protection.

The KCFD will provide fire protection services to the project site. Emergency response to the project site is dependent upon adequate emergency access and water flows for fire protection services. There are two stations in Delano, Station #34 and Station #37, which are both located approximately just under two miles from the proposed project. These stations have a response time of roughly four minutes to the project site. According to the KCFD, the Fire Department has no immediate concerns regarding the provision of fire protection services to the project site.

The proposed project will have to meet all state and local codes for providing adequate fire flows, fire sprinklers, emergency vehicle access, and other fire prevention requirements. The City Public Works Department will install 12-inch water mains along the frontage of Dover Parkway and Morse Boulevard. The 12-inch water main on Morse Boulevard will be extended and connected to the existing 12-inch water main on Albany Street in order to provide a loop for adequate water service to the project (City of Delano, 2013d). The City has an existing development impact fee to offset the cost of providing additional fire protection facilities and equipment necessitated by new development. Ordinance No. 928 amended the City Municipal Code, allowing impact fees to be established by resolution. Resolution No. 2013-59 adopted the current impact fee structure, which incorporated fire facilities fees of $2,674.29 per gross development acre for commercial uses (City of Delano, 2013e). Payment of these fees, along with installation of the 12-inch water mains, would ensure that the proposed project would have a **less than significant** impact on fire protection services. No mitigation measures are required.

Impact 3.12-2 The proposed project could theoretically result in the need for new or physically altered governmental facilities related to police protection.

The City Police Department will provide law enforcement services to the project site. Due to the commercial nature of the proposed project, law enforcement services will increase due to calls typical of a regional shopping center, the hours of operation, and proximity to State Route 99. The Police Department's concern for the project is limited to typical response demands that growth brings (City Police Chief DeRosia, 2013). However, the increase in service demands at this time does not require construction of a new or physically altered government facility. The construction of new government facilities is the standard for significance under the CEQA Guidelines. Police staffing levels do not have

physical impacts on the environment under the CEQA Guidelines, and so the project's impact on law enforcement services will be **less than significant.**

Although CEQA Guidelines do not require mitigation for additional services, other means are available to provide support for additional demands on police services generated by the project. For instance, the City charges development impact fees to offset the cost of additional police protection facilities and equipment needed due to new development. Ordinance No. 928 amended the City Municipal Code, allowing impact fees to be established by resolution. Resolution No. 2013-59 adopted the current impact fee structure, which incorporated police facilities fees of $1,685.55 per gross development acre for commercial uses (City of Delano, 2013e). Standard development impact fees would provide funds for the acquisition of additional equipment, such as patrol cars. Additionally, given the relatively low existing officer-to-population ratio of approximately 1.0 officer for every 1,000 residents, the project would include as a design feature the use of specific security support to reduce service calls (see Section 2.0, Project Description).

3.12.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

The proposed project, in addition to anticipated cumulative development in the project vicinity, may result in the need for increased public services and facilities.

The proposed project's incremental contribution to cumulative public services and facilities impacts will be addressed by payment of existing applicable development impact fees, which would also be assessed on any future development in the City. Additionally, all planned projects in the vicinity of the proposed project would be subject to environmental review and the possible preparation of separate environmental documents. As currently proposed, the project, as well as past, present, or reasonably foreseeable projects would not contribute to any cumulative impact for public services and are considered **less than significant**.

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3.13 TRANSPORTATION/TRAFFIC

This section of the DEIR examines how implementation of the proposed project could potentially impact transportation, traffic, and circulation at the site and the surrounding area. Descriptions and analysis are based on resources including the City General Plan, the City Bicycle Master Plan, and the Traffic Impact Analysis Report (TIAR) prepared by Omni-Means, Ltd. (Omni-Means, March 2014), included as Appendix 3.13.

3.13.1 EXISTING SETTING

Project Site Setting

The project site is approximately 44.64 acres in area and is comprised of one parcel, identified as Assessor's Parcel Number (APN) 521-010-21, located east of Albany Street, west of Dover Parkway, north of Woollomes Avenue, and south of Morse Boulevard (currently an unimproved and incomplete street). The project site is served by a circulation system illustrated in Figure 3.13-1, Study Intersections and Road Segments. The main roadways serving the project site are discussed below.

Figure 3.13-1: Study Intersections and Road Segments

Roadway Network

Description of major roadways in the proposed project vicinity is presented below.

State Route 99 (SR 99) extends north-south through the center of City of Delano (City) and is a major freeway connection between Northern and Southern California. This freeway provides for regional movement and inter-regional access from Tehama County in the north to Kern County in the south, connecting the San Joaquin Valley metropolitan areas of Sacramento, Stockton, Manteca, Modesto, Merced, Fresno, Visalia, and Bakersfield. SR 99 is a six-lane divided freeway with access to the proposed project provided at the Woollomes Avenue interchange.

Woollomes Avenue is a two-lane, undivided arterial (high-capacity urban road) that runs east-west along the southern boundary of the proposed project. It is currently being improved to a four- to six-lane cross section between Dover Parkway and the SR 99 northbound ramp terminal (Omni-Means, 2014; pg. 3; Appendix 3.13). According to the City of Delano General Plan, major arterials shall be developed with a minimum 110-foot right-of-way and incorporate four travel lanes, a two-way left center turn lane or median, and parking (City of Delano 2005; pg. 3-37). Where the Public Works Director determines that a 110-foot right-of-way is not required to meet applicable level of service standards, arterials may be developed within a 90-foot right-of-way, eliminating either the center median or on-street parking.

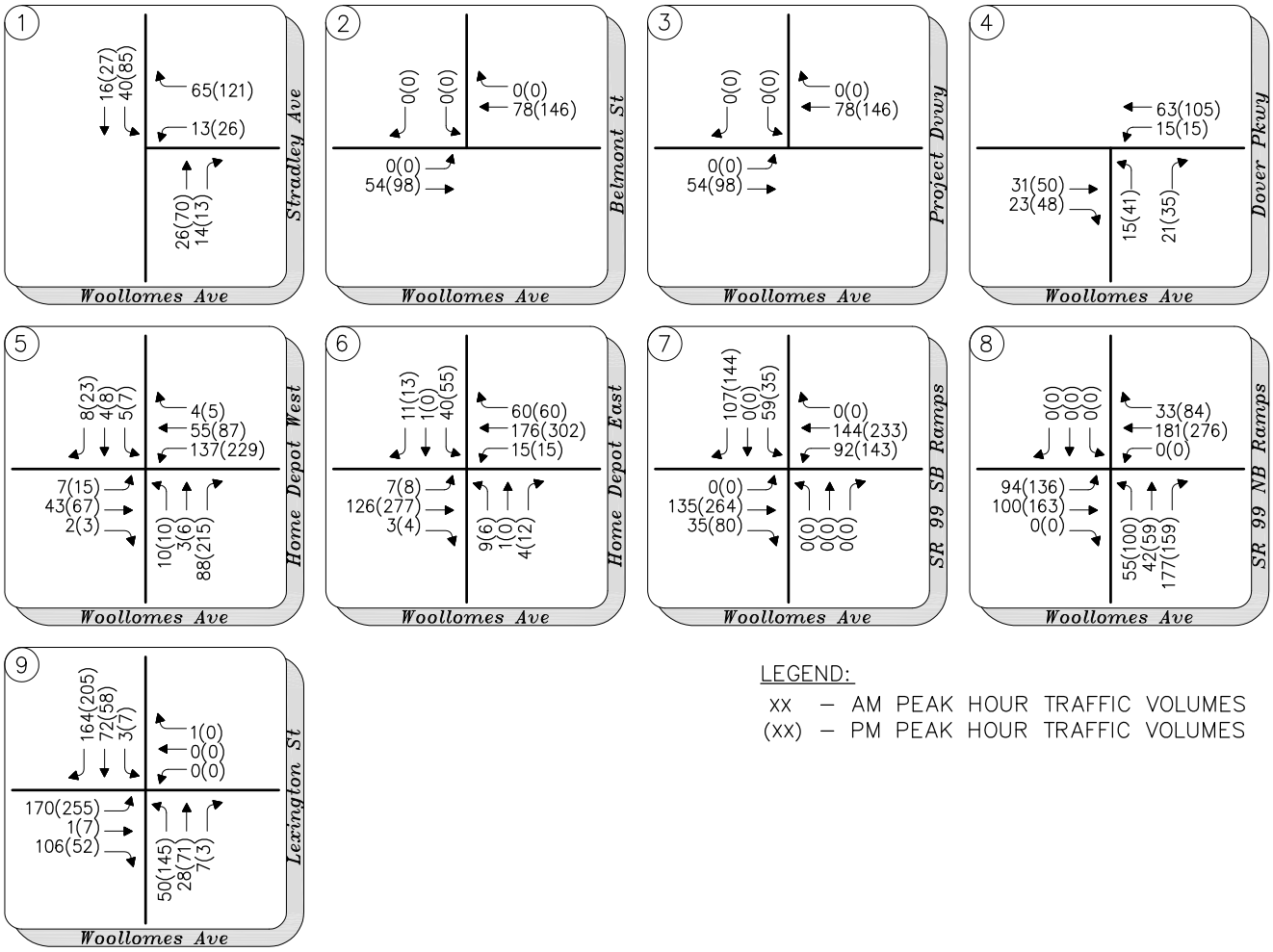
Albany Street/Stradley Avenue is a north-south, two-lane, undivided arterial that intersects Woollomes Avenue west of the project site. It connects the City to the north to the City of McFarland to the south. This road is named Albany Street north of Woollomes Avenue and Stradley Avenue south of Woollomes Avenue. Through the City, Albany Street is the principal north-south roadway on the west side of SR 99.

Dover Parkway is a north-south two-lane residential collector (low-to-moderate-capacity road which moves traffic from local streets to arterial roads) that will be extended to connect existing residential development to the north of the project site to an intersection at Woollomes Avenue when the proposed project is developed. Once this connection is made, Dover Parkway will be a viable local north-south alternative to SR 99 between Woollomes Avenue and the residential areas to the north. South of Woollomes Avenue, Dover Parkway is being extended to serve the approved Delano Market Place I development and will redirect traffic to Garzoli Avenue (which previously intersected Woollomes Avenue as a SR 99 frontage road) (Omni-Means, 2014; pg. 3; Appendix 3.13).

High Street is a north-south two-lane arterial that extends through the City mostly on the east side of SR 99 between County Line Road to the north and Woollomes Avenue to the south. The High Street intersection with Woollomes Avenue has recently undergone reconstruction as part of the Woollomes Avenue interchange project. High Street now no longer provides southbound traffic onto Woollomes Avenue and is not identified in Figure 3.13-1. Traffic previously using High Street to reach Woollomes Avenue will be redirected mostly to Lexington Street (Omni-Means, 2014; pg. 3; Appendix 3.13).

Lexington Street is a north-south two-lane collector that connects Cecil Avenue to the north in central Delano to Woollomes Avenue and continues further south to Schuster Road. Between Garces Highway (State Route 165) and Woollomes Avenue, Lexington Street is a four-lane roadway. Since the

southbound traffic on High Street is no longer able to access Woollomes Avenue, southbound traffic from Delano to Woollomes Avenue originating from the east side of SR 99 is likely to use Lexington Street as the primary alternate route (Omni-Means, 2014; pg. 3; Appendix 3.13).



LEGEND:

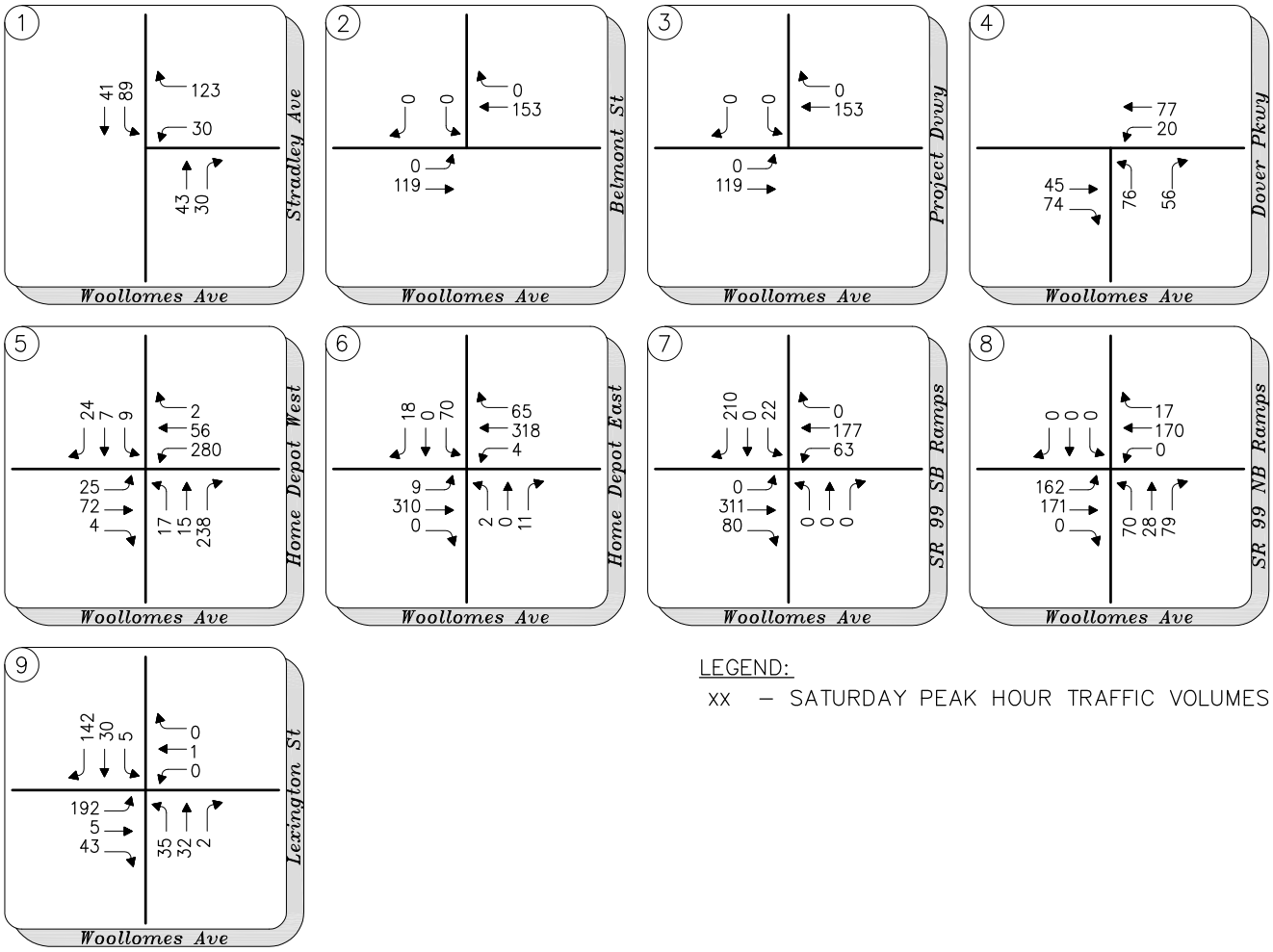
xx – AM PEAK HOUR TRAFFIC VOLUMES
(xx) – PM PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-2

Existing Peak Hour Volumes

3/11/2014 3:46 PM K:\PRJ\1726\T1726\T1726TG003.DWG



LEGEND:

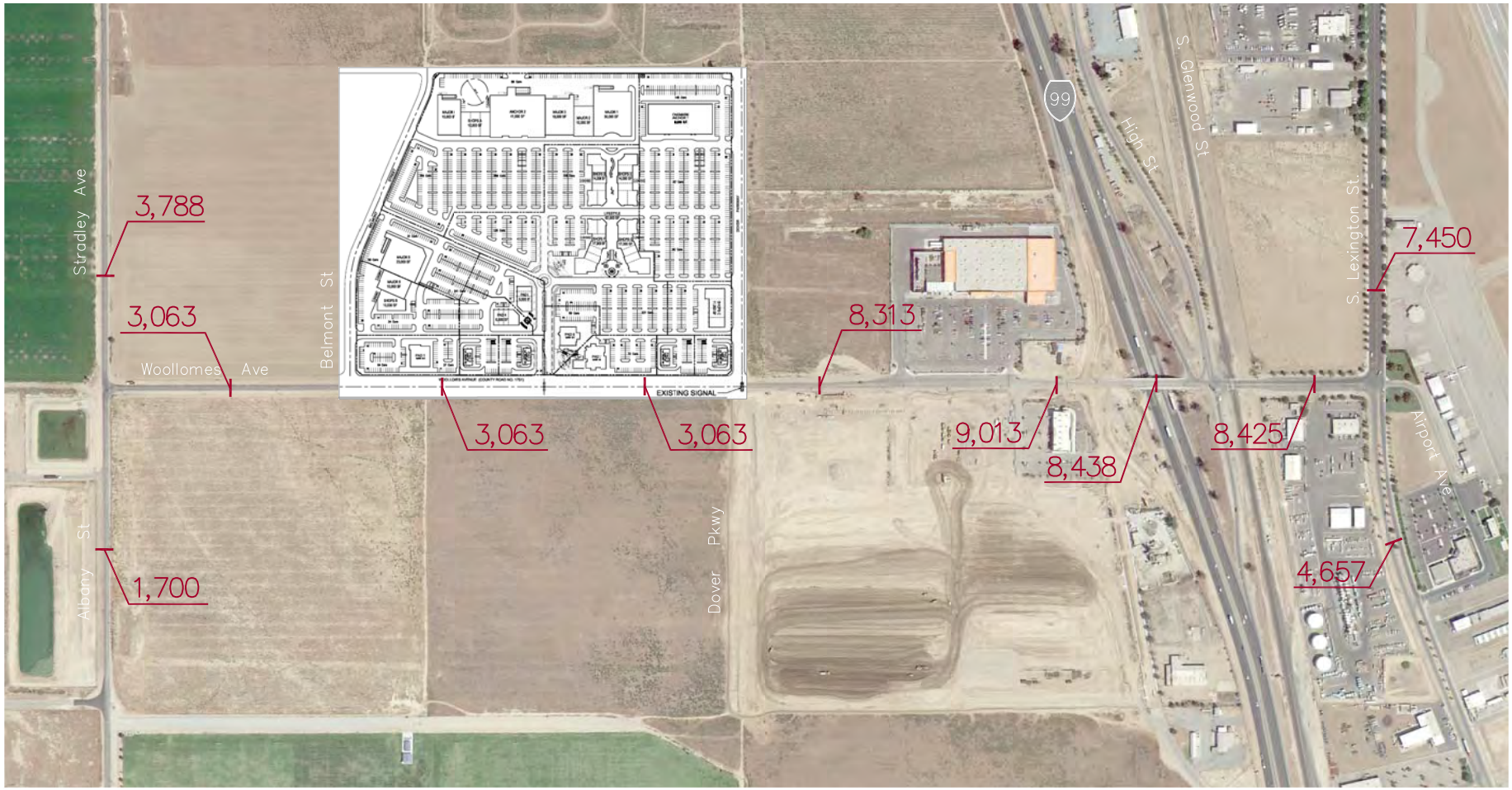
XX – SATURDAY PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-3

Existing Saturday Peak Hour Volumes

3/11/2014 3:47 PM K:\PRJ\1726\T1726\T1726TG003.DWG



Grapevine Commercial TIAR

Figure 3.13-4

Existing Daily Roadway Volumes

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Job No: 25-1691-02

Intersection Level of Service Operations

The Transportation Research Board Highway Capacity Manual, 2000, defines the Level of Service (LOS) ratings that are a qualitative measure describing the operational characteristics within a traffic stream based on several measures. Measurements are reported using an "A" through "F" letter rating system to describe travel delay and congestion, with LOS A representing the best operating conditions, and LOS F the worst. LOS characteristics for unsignalized and signalized intersections are presented below in Table 3.13-1 LOS Criteria and Definitions for Intersections. Intersection LOSs were calculated using methods documented in the 2000 Transportation Research Board, Highway Capacity Manual (Omni-Means, 2014; pg. 10; Appendix 3.13). Analyses performed included delay, LOS, and 95th percentile queue lengths (Omni-Means, 2014; pg. 10; Appendix 3.13). (The 95th percentile queue estimates the maximum queue length likely to occur during a given time period.)

TABLE 3.13-1
LEVEL OF SERVICE CRITERIA AND DEFINTIONS FOR INTERSECTIONS

LOS	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle		
				Signalized	Un-signalized	All-way Stop
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	<10.0	<10.0	<10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10.0 and <20.0	> 10.0 and <15.0	> 10.0 and <15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20.0 and <35.0	>15.0 and <25.0	>15.0 and <25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35.0 and < 55.0	>25.0 and <35.0	>25.0 and <35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55.0 and <80.0	>35.0 and <50.0	>35.0 and<50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume to capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	>80.0	>50.0	>50.0

Source: 2000 Highway Capacity Manual (Omni-Means, 2014; pg.9; Appendix 3.13)
LOS= Level of Service

Roadway Level of Service Operations

Traffic analysis methodologies and analysis parameters used to quantify existing operations at crucial study areas include the Florida Department of Transportation publication Florida's Level of Service Standards and Guidelines Manual for Planning (Omni-Means, 2014; pg. 10; Appendix 3.13), which is consistent with the Circulation Element of the City of Delano General Plan (City of Delano, 2005; pg. 3-10). The Florida's LOS Guidance Manual was used to evaluate roadway segment LOS ratings on a volume-to-capacity basis (Omni-Means, 2014, pg. 10; Appendix 3.13).

Existing Operations

The Existing Conditions analysis investigated current traffic operations within the study area. New traffic counts were obtained by Omni-Means on August 27, 2013 and August 31, 2013 after major construction in the project vicinity was completed, in order to realistically simulate existing traffic conditions at all study locations. Existing traffic volumes on SR 99 were obtained from data supplied by Caltrans (Omni-Means, 2014; pg. 1; Appendix 3.13).

Traffic conditions in the study area vary, with intersections located further east within the study area performing at a better LOS than those located closer to SR 99. Peak hour operating conditions at all of the study intersections and roadways currently meet the applicable City or Caltrans LOS standards (Omni-Means, 2014; pg. 12; Appendix 3.13). Detailed discussion of existing operating conditions appears below in subsection 3.13.3.1, Project Impacts and Mitigation Measures.

Traffic Signal Warrants

A supplemental traffic signal warrant analysis was completed to determine whether unsignalized study intersections may require or benefit from the installation of a traffic signal if an unsignalized intersection is determined to operate at unacceptable service levels. The term "signal warrant" refers to any of the eight established methods used by Caltrans to quantify the need for a traffic signal at an unsignalized intersection. The eight signal warrant methods are described in the latest edition of the California Manual on Uniform Traffic Control Devises (MUTCD). (See Omni-Means, 2014; pg. 11; Appendix 3.13).

The California MUTCD indicates that the installation of a traffic signal should be considered only if one or more of the eight signal warrants are met. The TIAR for the Proposed Project performed the peak hour volume-based Warrant 3 on study intersections projected to operate below acceptable service levels (Omni-Means, 2014; pg. 11; Appendix 3.13).

Local Transportation

Public Transit Network

The Delano Area Rapid Transit (DART) provides responsive fixed-route bus service and demand responsive/responsive public transportation services (Dial-A-Ride) to Delano and areas surrounding the City. The fixed route system features four routes that depart from the Delano Station at 1120 Glenwood Street at the corner of 11th Avenue. Buses stop at all bus stops every 30 minutes, and bus service operates Monday through Friday from 7 a.m. to 5 p.m. and Saturday from 8:30 a.m. to 4 p.m. DART is accessible to all passengers and buses are equipped with wheelchair lifts and bike racks. DART's active

fleet is fueled with gasoline or with clean burning, compressed natural gas (CNG) (City of Delano, 2013a; pg. 1). Route Number 2 services the general area of the proposed project located on Woollomes Avenue; the route currently terminates at the location of the Home Depot. According to City staff comments to the NOP, the City anticipates adding a new a stop at the proposed project (City of Delano, 2013b, pg. 1). Kern Regional Transit provides bus service between Delano, McFarland, Wasco, Shafter, and Bakersfield. Tulare County Area Transit (TCaT) provides bus service between Delano, Richgrove, Earlimart, and Tulare. Greyhound provides regional and national bus transportation with access to Fresno in the north, Bakersfield to the south, and points beyond.

Bicycles and Pedestrians

The Delano Bicycle Master Plan of 2007 includes proposed bike lanes or routes connecting Woollomes to areas of Delano north of the proposed project site via Albany Street-Stradley Avenue west of SR 99, and South Lexington Street and South Glenwood Street east of SR 99 (City of Delano, 2007; pg. 9). Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian crossing lights. There are no existing sidewalks along Woollomes Avenue on the proposed project site; however, the Home Depot located on Woollomes Avenue east of the proposed project site includes a sidewalk along the site frontage. According to the Circulation Element of the City of Delano General Plan (City of Delano, 2005; pg. 3-27), curb cuts and ramps are required for new construction.

Air Transportation

The Delano Municipal Airport, owned and operated by the City, is located approximately 0.61 mile east of the proposed site. The airport has undergone new construction as part of the runway overlay program to improve lighting and other safety features. Additional details related to the proposed project and the airport operations are discussed in Section 3.7, Hazards and Hazardous Materials, of this DEIR.

Rail

Delano is not currently served by passenger service (AMTRAK); the closest service is in the City of Wasco (City of Delano, 2005; pg. 3-26). The main line of Union Pacific Railroad runs parallel to SR 99. Seven railroad crossings are located within the City, with the closest crossing near SR 99 and Woollomes Ave, located approximately 0.44 mile from the project site. Temporary traffic congestion problems are associated with these crossings at certain times of the day (City of Delano, 2005; pg. 3-27).

3.13.2 REGULATORY SETTING

Regional Regulations

State

California Department of Transportation

The California Department of Transportation (Caltrans), which has jurisdiction over state highways, sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on state

highways. The Caltrans regulations below apply to the potential transportation and traffic impacts of the proposed project.

California Vehicle Code, Division 15, Chapters 1 through 5 (Size, Weight, and Load) include regulations pertaining to licensing as well as the size, weight, and load of vehicles that operate on state highways.

California Street and Highway Code Sections 660–711 require permits from Caltrans for any roadway encroachment. The sections also include regulations pertaining to the care and protection of state and county highways and provisions for the issuance of written permits, which are required when a load exceeds Caltrans' weight, length, or width standards for public roadways and state highways.

Regional Transportation Planning

The Kern Council of Governments (Kern COG) is an association of city and county governments created to address primarily regional transportation issues. Member agencies include Kern County and the eleven incorporated cities within Kern County. Pursuant to California law, the Kern COG has been designated the Regional Transportation Planning Agency (RTPA) for the Kern region. Acting in this capacity, the Kern COG is responsible for developing and adopting several transportation planning documents and studies, including the Regional Transportation Plan (RTP). The RTP is a long-term (20-year) general plan for the region's transportation network, and encompasses projects for all types of travel, including aviation and freight movement. The plan assesses environmental impacts of proposed projects and establishes air quality conformity as required by federal regulations. The document also discusses inter-modal and multi-modal transportation activities. As the federally designated Metropolitan Planning Organization and the state-designated RTPA for Kern County, the Kern COG is also responsible for developing and updating a variety of transportation plans and for allocating federal and state funds to implement them.

Kern Council of Governments Congestion Management Program

All urbanized areas with populations of more than 200,000 are required to have a congestion management system, program, or process. The Kern Council of Governments (Kern COG) refers to its congestion management activities as the CMP. Kern COG has been designated as a congestion management agency.

The CMP provides a systematic process for managing congestion and information regarding (1) transportation system performance and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. The purpose of the CMP is to ensure that a balanced transportation system is developed that relates population growth, traffic growth, and land use decisions to transportation system level of service (LOS) performance standards and air quality improvement. The program attempts to link land use, air quality, transportation, and advanced transportation technologies as integral and complementary parts of the region's plans and programs.

The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. At a minimum, all state highways and principal arterials must be

designated as part of the Congestion Management System of Highways and Roadways. Kern County has 18 designated state highways.

Local Regulations

City of Delano General Plan

The City uses the General Plan, Zoning Ordinance, and permit process to regulate land development within the City's incorporated boundaries. Traffic and circulation issues are addressed in the Circulation Element and Community Design Element of the General Plan (City of Delano, 2005; pgs. 3-1 and 6-1). According to state law, the Circulation Element of the General Plan should coordinate the transportation and circulation system with planned land uses; promote the efficient transport of goods and the safe and effective movement of all segments of the population; make efficient use of the existing transportation facilities; and protect environmental quality and promote the wise and equitable use of economic and natural resources.

General Plan Section 3.5, Circulation Policies, and Section 6.7, Commercial and Industrial Development, contain the following objectives, policies, and standards regarding traffic and circulation impacts that are relevant to the proposed project.

<u>Circulation Element</u>

Objective A (Establish a Safe and Efficient Transportation System that Provides Adequate Access Throughout the City): Achieve and maintain Level of Service "C" at all intersections throughout the City, with the exception of freeway interchanges and high volume intersections where the City's objective is to achieve and maintain Level of Service "D."

Objective A (Roadway Classification, Standards): Develop a circulation network of local roads, collectors, arterials and major arterials that will meet projected traffic needs.

Policy 1 All street and roadway improvements shall be consistent with the Circulation Element of the General Plan.

Policy 4 Apply consistent standards for new street development, based on traffic carrying capacity and classification.

Policy 7 Actual design and improvements to ultimate standards shall be achieved through inclusion of facilities as part of the City-wide Capital Improvements Program, or by new developers as areas adjoining the designated circulation system are developed, with allowances for bicycle lanes, in locations adopted by the City Council.

Policy 9 Standards for new street development can be altered or refined through the specific plan or planned unit development process when it can be demonstrated that projected traffic flows can be accommodated.

Policy 10 New street developments in areas of urban expansion should not be limited to a "grid system." More efficient and varied street layouts shall be encouraged, wherever possible.

Policy 11 New arterials and collector streets shall be designed to operate at Level of Service "C" level or better for a period of at least 20 years following their construction, wherever feasible. Freeway interchanges and high volume intersections where it is not feasible to achieve and maintain LOC "C" shall be designated to achieve and maintain LOC "D" for a period of at least 20 years following their construction.

Policy 16 All land development proposals shall be reviewed to assure consistency with this Circulation Element.

Policy 17 Woollomes Avenue is a proposed arterial street within Delano's urban area. Major arterials shall be developed with a minimum right-of-way of 110 feet, to include four travel lanes, parking, and a two-way left center turn lane or median. Where the Public Works Director determines that a 110 foot right-of-way is not required to meet applicable level of service standards, arterials may be developed within a 90-foot right-of-way, eliminating either the center median or on-street parking, as determined appropriate by the Public Works Director.

Policy 18 The primary purpose of arterials is to carry traffic. Parking should be discouraged on such streets and eliminated where it now exists, along existing arterials as traffic safety conditions warrant.

Policy 19 Arterials shall be built in areas where traffic demand warrants the development of this facility to meet the adopted level of service standard.

Policy 30 Driveway access to major activity centers should be provided with adequate separation from the adjacent intersection of a collector or arterial street, measured from the curb return to the nearest edge of the driveway. If driveways must be provided near intersections for facilities (such as service stations) these driveways shall not be serviced by median breaks.

Policy 31 Adequate separation shall be maintained between driveways along commercially developed arterials. Where minimum spacing pursuant to City standards is not practical, the development shall provide acceptable traffic mitigation measures in addition to those already required.

Policy 33 Driveway consolidation shall be encouraged through joint access agreements along arterials.

(City of Delano, 2005; pgs. 3-35 to 3-39.)

Objective A (Goods Movement): Provide for the safe transport and delivery of goods in and out of the City.

Policy 3 Provide adequate access to busy destination points such as shopping centers, recreational sites and employment centers.

Objective B (Safety Standards): Promote traffic safety throughout the City by enforcement of speed limits, installation of appropriate traffic control devices, and construction of pedestrian facilities.

Policy 5 Carefully design ingress and egress to shopping centers and employment centers to minimize traffic hazards.

Policy 6 In order to promote safe and efficient traffic flow throughout the City, traffic signals shall be spaced no closer than 1/4 mile on arterials except in unusual circumstances. The intersections of arterial and collector streets and the access driveways to major traffic generators shall be located so as to maintain this minimum spacing.

(City of Delano, 2005; pgs. 3-40 to 3-41.)

Objective C: Maximize the use of site planning techniques to improve traffic safety.

Policy 2 Left hand-turn lanes shall be provided where necessary for access from arterials into high traffic commercial or multi-family developments.

Policy 6 Promote design standards that allow for safe and efficient transport, delivery, loading, and unloading of goods, from service vehicles within commercial and industrial areas.

Policy 7 Where major new activity centers are proposed along arterial streets, designs shall be encouraged which minimize construction along the property line or along the adopted set-back line, whichever is appropriate.

Policy 8 Developers shall mitigate traffic impacts associated with their projects.

Policy 11 Due to the traffic congestion which results from numerous points of ingress and egress along commercial streets, future commercial developments or modifications to existing developments shall be master planned with limited points of ingress and egress onto a major street. Ingress and egress to shopping centers should be carefully designed in order to promote traffic safety. Left-hand movements into and out of commercial areas should be minimized and existing points of ingress and egress shall be consolidated whenever possible.

(City of Delano, 2005; pgs. 3-41 to 3-42.)

Objective A (Transportation Systems And Congestion Management): Maximize the efficiency of the existing street system.

Policy 3 Promote the long term shifting of peak hour commute trips from the single occupant automobile to ridesharing, buses, pedestrian, and bicycles.

Policy 4 Large development shall be encouraged to incorporate transit passenger facilities, bicycle racks or lockers, shower facilities, as well as on site services (eating, mail, banking, etc.) as ways to encourage alternative modes for commute trips.

Objective A: Promote a parking program that meets the needs of each land use.

(City of Delano, 2005; pgs. 3-43 to 3-44.)

Policy 1 Adequate off-street parking shall be required of all commercial and industrial land uses to accommodate parking demand. Off-street parking shall also be required of multi-family residential land uses to accommodate tenants.

Policy 4 Provide adequate parking areas at activity centers along major arterials.

(City of Delano, 2005; pg. 3-45.)

Objective B (Bicycle Facilities): Provide various types of transportation modes throughout the City.

Policy 4 On street parking is prohibited on all new or improved sections of major streets planned for bike lanes where adequate street width is not available to accommodate both on street parking and a bike lane.

Policy 5 Secure bicycle parking facilities shall be required as conditions of approval for all new major activity centers, public and private places of assembly, and commercial or industrial developments.

(City of Delano, 2005; pg. 3-45 to 3-46.)

Objective C: Provide a safe and convenient public transit system that meets the needs of all the economic segments of the community.

Policy 6 Provide benches, telephones and shaded areas at major transit destinations so people can utilize the transit system safely and comfortably. The City shall determine such need based on site plan review procedure and other planning implementation methods.

Policy 8 Transit centers/stops shall be established to encourage the interface between commercial centers, high density residential uses and the transit system.

(City of Delano, 2005; pg. 3-48).

<u>Community Design Element</u>

Objective A (Commercial and Industrial Development): Ensure that all commercial development is attractive and of high-quality design, to enhance the image of the City.

Policy 21 Site planning should emphasize a strong relationship to the adjoining street(s) and encourage pedestrian circulation and access. Pedestrian access shall be separate from vehicular access, where feasible.

Policy 22 Site plans shall provide safe and well-defined pedestrian connections from buildings to parking areas, from buildings to the adjoining street(s), and among buildings on the same site. Pedestrian connections between commercial development and surrounding residential neighborhoods should also be provided.

Policy 23 Buildings, sidewalks, and parking lots should be located to minimize conflicts between pedestrian and vehicular circulation on a site.

(City of Delano, 2005; pgs. 6-5 to 6-7.)

City of Delano Development Impact Circulation Fee

The City maintains a development impact fee program that levies fees on new development, on a one-time basis, as a condition of approval (COA) to cover the cost of infrastructure or facilities needed by that development as authorized by section 66000(b) of the Government Code (City of Delano, 2013c; pg. 1-1). Under the program, new local streets are constructed by developers as a COA for new developments (City of Delano, 2013c; pg. 5-1). The program is one of several sources of funding used to maintain and develop streets. Other funding sources include federal and state gas tax revenues, transportation development act funds, industrial park assessment district funds, and other improvements provided by individual developers (City of Delano, 2013c; pg. 5-6).

Ordinance No. 928 amended the City Municipal Code, allowing impact fees to be established by resolution. The City adopted the current impact fee structure with Resolution No. 2013-59, which specifies a circulation fee of $11,236.55 per gross development acre for general retail uses (City of Delano, 2013d, pg. 7).

City of Delano Traffic Impact Mitigation Fee

A traffic mitigation fee program is maintained by the City that collects fair-share fees from development projects to fund development of traffic control measures and road maintenance objectives throughout the City. These objectives are outlined in the City of Delano General Plan and the City of Delano Public Works Standard Manual.

Delano Bicycle Master Plan

The Delano Bicycle Master Plan (2007) was developed to: 1) set a proactive course toward making bicycling an integral part of daily life in Delano, and 2) enhance the safety of bicyclists (City of Delano, 2007; pg. 1). In the area of the proposed project, the Master Plan indicated that bike lanes or routes should connect Woollomes Avenue to areas of Delano north of the proposed project site via Albany Street-Stradley Avenue west of SR 99, and South Lexington Street and South Glenwood Street east of SR 99 (City of Delano, 2007; pg. 9).

City of Delano Zoning Ordinance

The City of Delano Zoning Ordinance focuses on implementing the City's General Plan by guiding and regulating development (City of Delano, 2007). The following standards and requirements in the Zoning Ordinance describe standard conditions of design review for non-residential construction.

Section 20.2.80 – Design Review

5) Design Criteria (Non-Residential)

b. New, renovated, or remodeled development shall demonstrate that the following general design criteria have been integrated into the design and layout of the proposed development.

(2)(b) Setbacks from the street and adjacent properties relate to the scale of structure and the function of the street and encourage pedestrian scale and uses.

(City of Delano, 2007; pg. 2-20.)

Kern County Airport Land Use Compatibility Plan

The Kern County Airport Land Use Compatibility Plan (ALUCP) establishes procedures and criteria to assist Kern County and affected incorporated cities in addressing compatibility issues between airports and surrounding land uses.

3.13.3 IMPACTS AND MITIGATION MEASURES

Methodology

The impact evaluation is based primarily on the TIAR prepared in March 2014 by Omni-Means. The methods used in the technical analysis are fully explained in the traffic impact study and are summarized in the following discussion of impacts associated with the proposed project. The complete report is provided in Appendix 3.13. Omni-Means prepared the analysis in consultation with the City and considered the timing of approved and cumulative projects in the vicinity of the project site. The traffic impact analysis evaluated four conditions: Existing Conditions, Existing Plus Project Conditions, Cumulative No Project Conditions, and Cumulative Plus Project Conditions.

This DEIR's analysis of the project's potential traffic impacts focuses on three scenarios:

1. Existing conditions: traffic conditions existing in the area as of August, 2013.
2. Immediate post-project conditions: projected traffic conditions as of the date of completion of full build-out of the project, with all project infrastructure completed.
3. Cumulative conditions: projected, reasonably foreseeable traffic conditions in the project vicinity after build out of the adopted City of Delano General Plan, along with traffic increases due to regional growth. These conditions are based on build out model outputs from the Kern COG travel demand model obtained and compared to historical Caltrans growth rates, expected growth due to approved/pending and future City projects, and forecasts in the recently approved Delano Marketplace development traffic study (Omni-Means, 2014; pg. 27).

This approach is reasonable because it allows project-related impacts to be compared to current conditions, and allows the project's incremental contribution to cumulative impacts to be identified. This approach is also consistent with CEQA legal requirements (see *Pfeiffer v. City of Sunnyvale* (2011) 200 Cal.App.4th 1552, 1570-1574).

As the TIAR explains, although daily roadway LOS analysis is helpful to identify possible capacity issues on a travel corridor, the intersection operations analysis supersedes roadway segment-level analysis. Therefore, the intersection analyses were used to identify improvements and recommend mitigation (Omni-Means; 2014; pg. 26).

Study Intersections and Roadway Segments

The TIAR evaluated the operations of nine key intersections for weekday morning (AM), evening (PM), and weekend mid-day, peak hour conditions, as well as turning movements on 11 roadway segments simulating anticipated weekday AM and PM peak hours (Omni-Means, 2014; pg. 5; Appendix 3.13). The following studied intersections and roadway segments are illustrated above in Figure 3.13-1, Study Intersections and Road Segments.

Intersections

1. Woollomes Avenue/Albany Street-Stradley Avenue
2. Woollomes Avenue/Belmont Street
3. Woollomes Avenue/Project Driveway
4. Woollomes Avenue/Dover Parkway
5. Woollomes Avenue/Home Depot West
6. Woollomes Avenue/Home Depot East
7. Woollomes Avenue/SR 99 Southbound Ramps
8. Woollomes Avenue/SR 99 Northbound Ramps
9. Woollomes Avenue/South Lexington Street

Roadway Segment Turning Movements

1. Woollomes Avenue – Albany Street-Stradley Avenue to Belmont Street
2. Woollomes Avenue – Belmont Street to Project Driveway
3. Woollomes Avenue – Project Driveway to Dover Parkway
4. Woollomes Avenue – Dover Parkway to Home Depot East
5. Woollomes Avenue – Home Depot East to SR 99 Southbound Ramps
6. Woollomes Avenue – SR 99 Southbound Ramps to SR 99 Northbound Ramps
7. Woollomes Avenue – SR 99 Northbound Ramps to South Lexington Street
8. Albany Street-Stradley Avenue – north of Woollomes Avenue
9. Albany Street -Stradley Avenue – south of Woollomes Avenue
10. Lexington Street –north of Woollomes Avenue
11. Lexington Street – south of Woollomes Avenue

Figure 3.13-2, Figure 3.13-3, and Figure 3.13-4 represent the existing AM/PM Peak Hour, Saturday Peak Hour, and Traffic volumes, respectively.

Standards of Significance

The following standards for measuring a project's environmental impacts are based on CEQA Guidelines Appendix G (OPR, 2013). For the purposes of this DEIR, impacts are considered significant if the following would result from implementation of the proposed project:

1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
    a. Delano General Plan:
        i. arterial and collector streets to operate at LOS C
        ii. freeway interchanges and high volume intersections to operate no lower than LOS D
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Regarding thresholds 1 and 2, the City General Plan establishes thresholds for acceptable operations on roadway segments and intersections in the City (City of Delano, 2005; pg. 3-35 to 3-36, Objective A and Policy 11). The General Plan requires arterial and collector streets to operate at LOS C and freeway interchanges and high volume intersections to operate no lower than LOS D. Consistent with the General Plan, this DEIR considers LOS D as the minimum acceptable LOS standard at study locations within the City right-of-way on Woollomes Avenue since it is being developed as a high-volume commercial corridor (Omni-Means, 2014; pg. 11; Appendix 3.13). Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities" and so this DEIR considers LOS C as the minimum acceptable LOS standard at study locations within the Caltrans right-of-way, according to Caltrans District 06 (Omni-Means, 2014; pg. 11; Appendix 3.13).

Project Impacts

Project Trip Generation

Project trip generation was estimated by Omni-Means by using the ITE Trip Generation Manual 9th Edition (ITE 820) (Omni-Means, 2014; pg. 15; Appendix 3.13). A shopping center trip generation rate was applied to the site, to include all proposed uses. This methodology was selected over generating trip estimates for individual project components because it accounts for the internal trip capture dynamics between complimentary land uses observed in similar centers. Table 3.13-2 presents the trip generation estimates for the proposed project. As presented in the table, the proposed project is projected to generate a total of 14,712 daily trips, 322 AM peak hour trips, 1,329 PM peak hour trips, and 1,894 Saturday mid-day peak hour trips. The majority of the trips are expected to be from SR 99 and not local streets.

TABLE 3.13-2
PROPOSED PROJECT TRIP GENERATION ESTIMATE

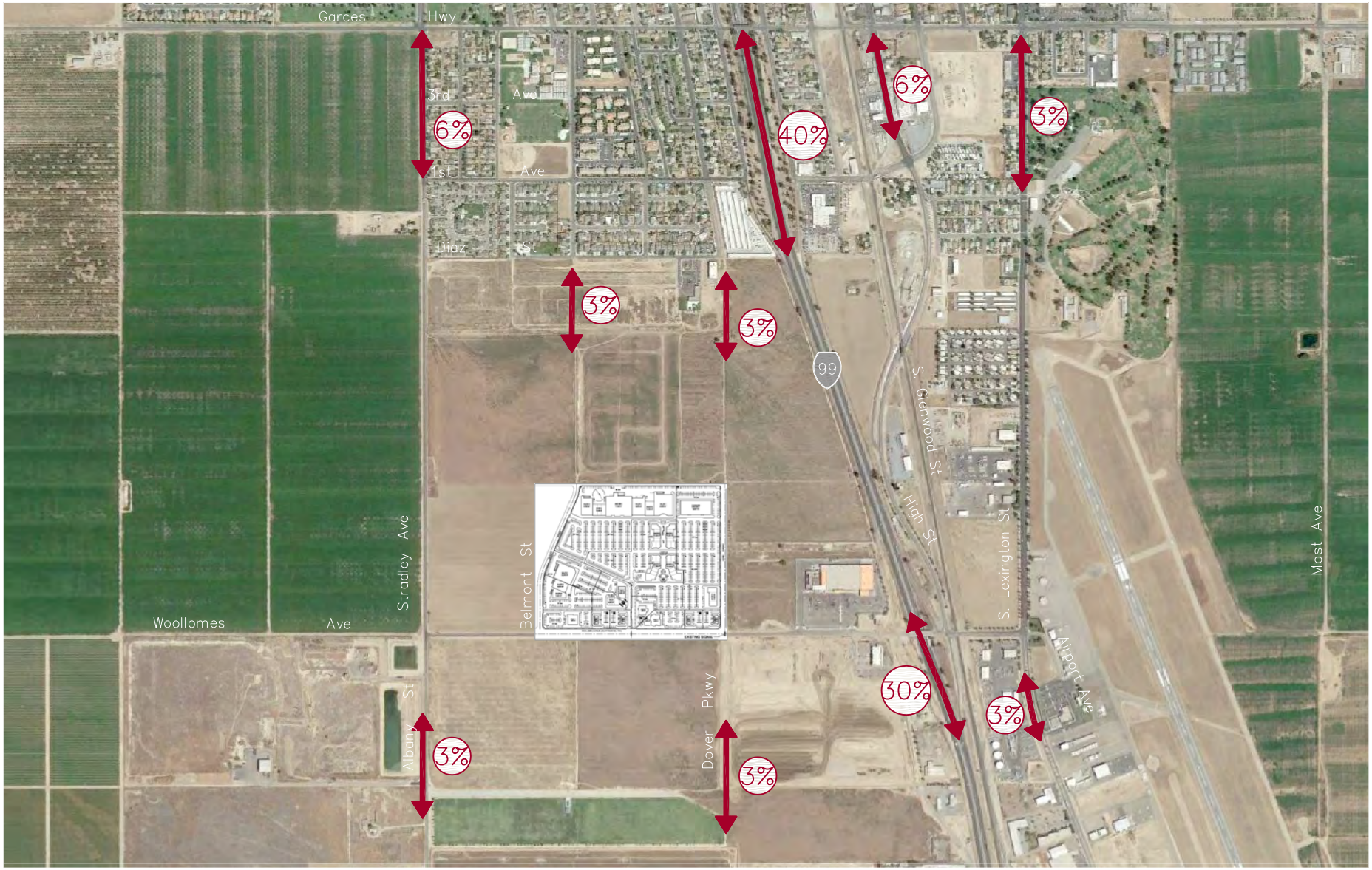
Land Use Category (ITE Code)	Unit[1]	Daily Trip Rate/ Unit[2]	AM Peak Hour Trip Rate/Unit			PM Peak Hour Trip Rate/Unit			SAT Peak Hour Trip Rate/Unit		
			Total	In %	Out	Total	In %	Out	Total	In %	Out
Shopping Center (ITE 820)	KSF	44.79	0.98	62%	38%	4.05	48%	52%	5.77%	52%	48%
Project Name	**Quantity Units**	**Daily Trips**	**AM Peak Hour Trips**			**PM Peak Hour Trips**			**PM Peak Hour Trips**		
			Total	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Grapevine Center	**329**	**14,712**	322	200	122	1329	638	691	1894	985	909

Source: Omni-Means, 2014; pg. 15; Appendix 3.13
1 ksf= 1,000 square feet
Trip rates based on ITE Trip Generation Manual 9th Edition Fitted Curve Equations

Trip Distribution

Directional project trip distribution was developed based on an understanding of existing and projected future land uses and circulation patterns within the project vicinity. Figure 3.13-5 presents the proposed project directional trip distribution estimate.

As presented in Figure 3.13-5, the majority of project trips are expected to be to and from SR 99 rather than local surface streets. Only a small component of project traffic is expected to come from local surface streets via South Albany Street/Stradley Avenue and Lexington Street. The proposed Belmont Street and Dover Parkway extensions will provide ancillary local access to residential areas west of SR 99 and north of the project. Figure 3.13-6 presents the “Plus Project” intersection lane geometrics. Figures 3.13-7 and 3.13-8 present the “Project Only” traffic volumes for AM and PM weekday peak hour conditions and Saturday mid-day peak hour conditions respectively.



Grapevine Commercial TIAR

Figure 3.13-5

Proposed Project Trip Distribution

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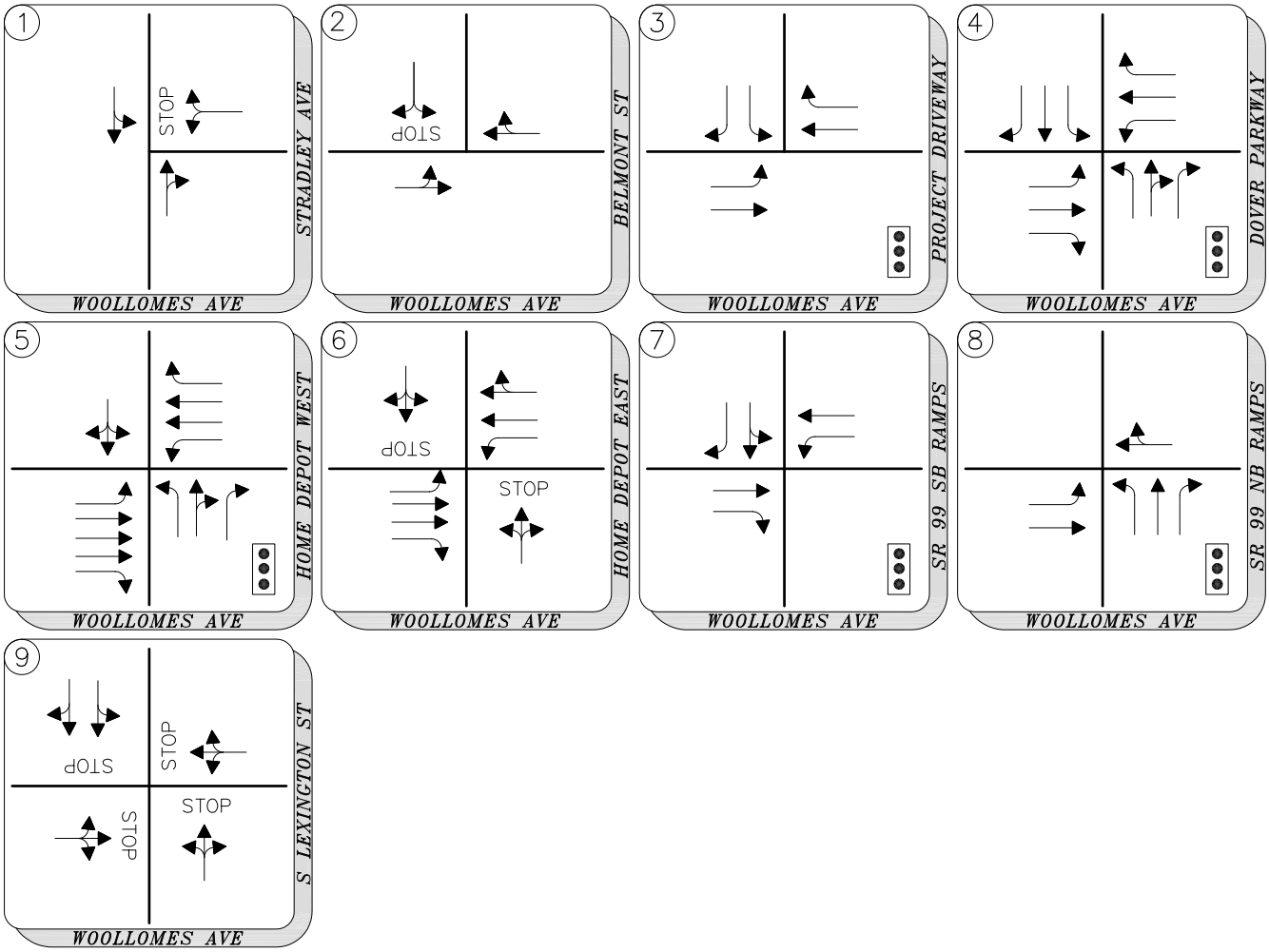

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Figure 3.13-6

"Plus Project" Intersection Lane Geometrics and Control Types

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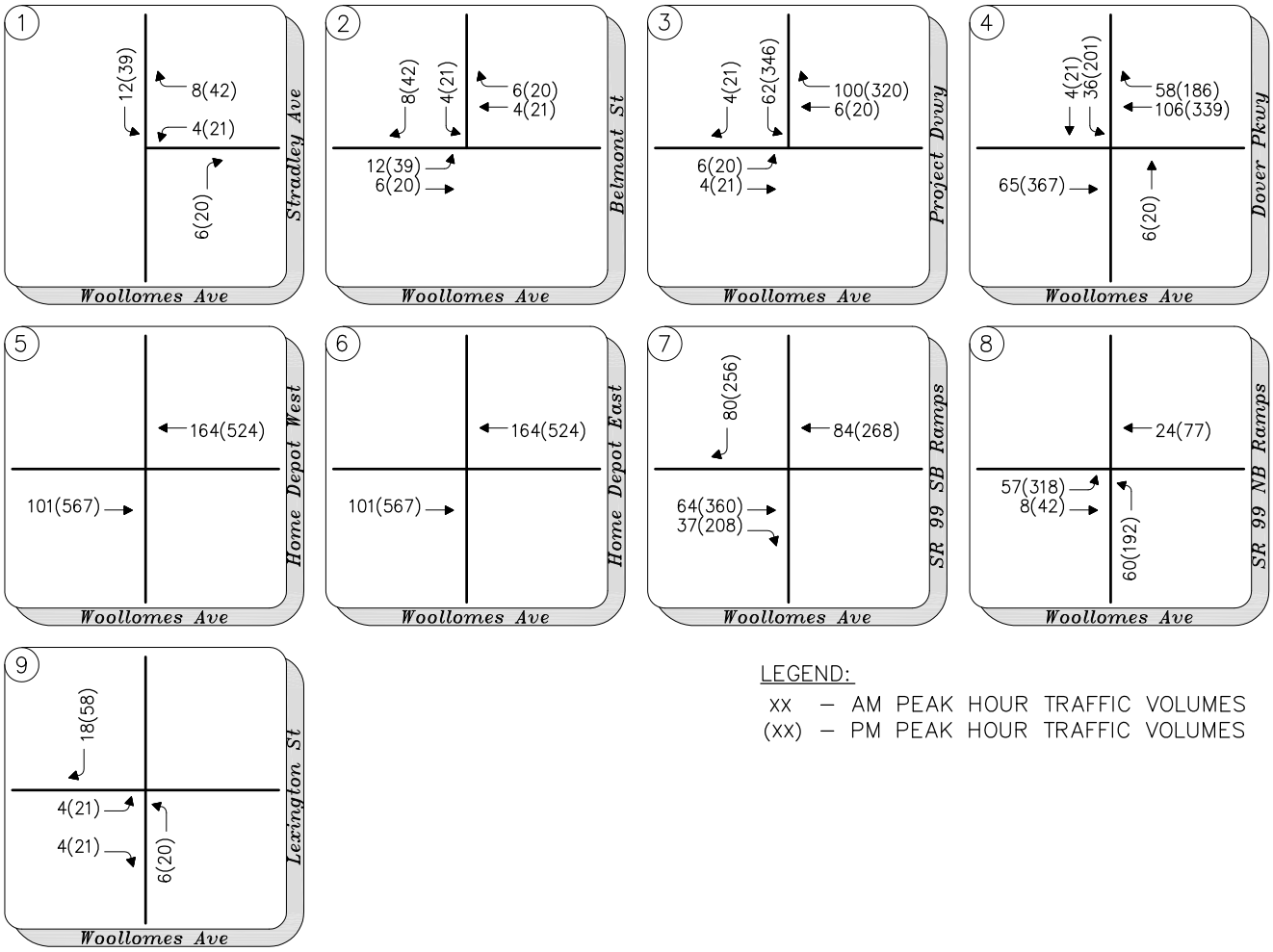

LEGEND:

xx – AM PEAK HOUR TRAFFIC VOLUMES
(xx) – PM PEAK HOUR TRAFFIC VOLUMES

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Figure 3.13-7

"Project Only" AM & PM Peak Hour Volumes

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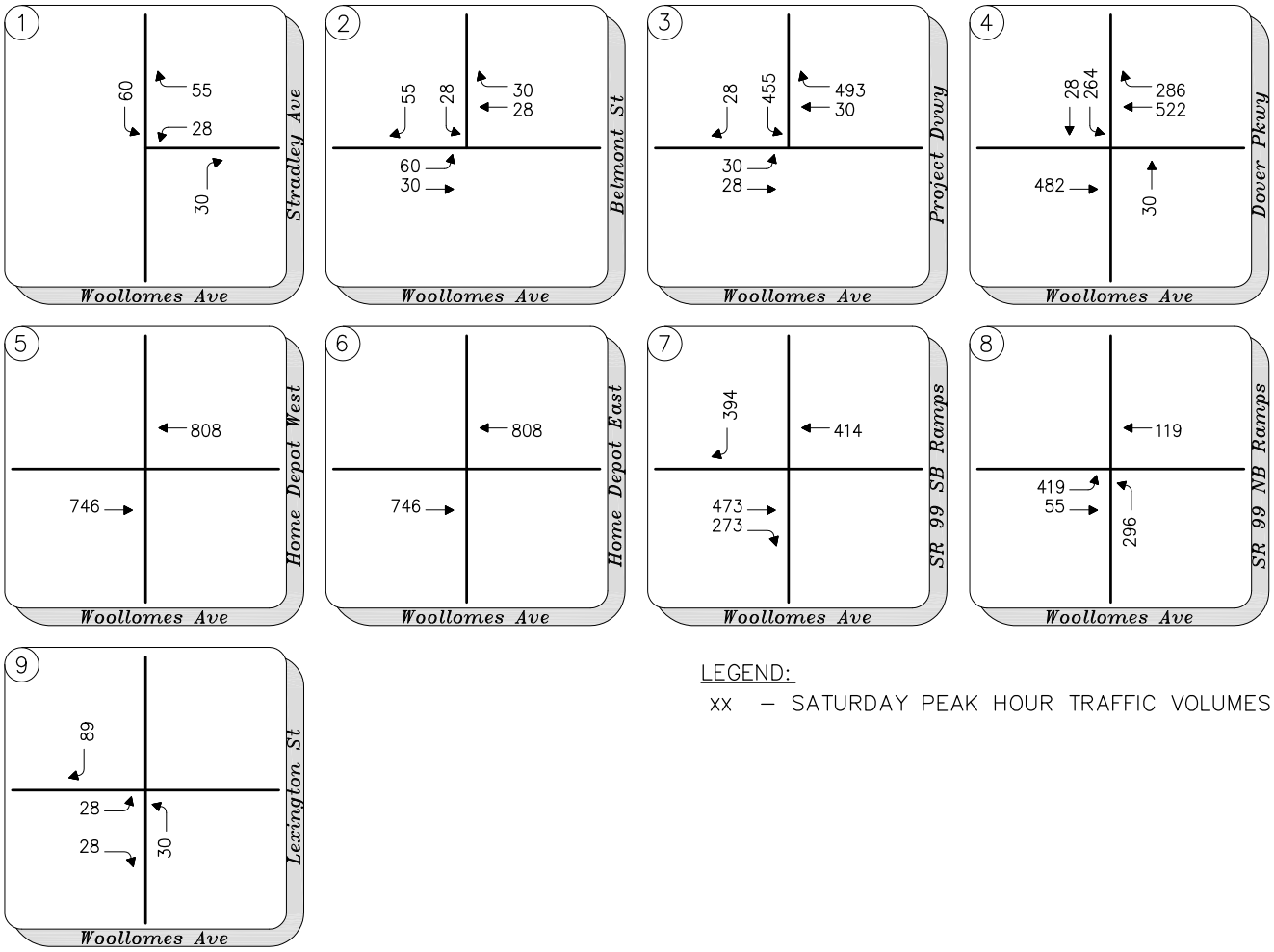

LEGEND:

xx – SATURDAY PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-8

"Project Only" Saturday Peak Hour Volumes

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Existing AM and PM, and Saturday peak hour intersection traffic operations (Figure 3.13-2 and Figure 3.13-3) were quantified utilizing the existing intersection lane geometrics and control and the existing traffic volumes.

Existing daily roadway volumes determined for Woollomes Avenue in the project area appear in Figure 3.13-4. Table 3.13-3 below, contains a summary of the existing intersection LOS conditions. As the table indicates, no LOS-based intersection deficiencies were observed during existing conditions analysis.

TABLE 3.13-3
EXISTING CONDITIONS: INTERSECTION LOS

#	Intersection	Control Type[1,2]	Target LOS	AM Peak Hour		PM Peak Hour		Sat Peak Hour	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Woollomes Ave. / Stradley Ave	TWSC	D	9.0	A	9.9	A	9.9	A
2	Woollomes Ave. / Belmont St.	Plus-Project Conditions Only							
3	Woollomes Ave. / Project Parkway								
4	Woollomes Ave. / Dover Parkway	Signal	D	3.8	A	4.2	A	4.1	A
5	Woollomes Ave. / Home Depot West	Signal	D	9.1	A	9.2	A	10.9	B
6	Woollomes Ave. / Home Depot East	TWSC	D	11.3	B	14.6	B	15.1	C
7	Wollomes Ave. / SR 99 SB Ramps	Signal	D	10.7	B	11.5	B	10.3	B
8	Woollomes Ave. / SR 99 NB Ramps	Signal	D	10.9	B	13.6	B	14.0	B
9	Woollomes Ave. / Lexington St.	AWSC	D	10.2	B	13.8	B	9.9	A

Source: Omni-Means, 2014; pg. 12; Appendix 3.13
TWSC = Two Way Stop Control
LOS = Delay based on worst minor street approach for TWSC intersections
Warrant = Based on California MUTCD Warrant

Table 3.13-4 presents the existing daily roadway segment LOS analysis results. As presented in Table 3.13-4, under existing conditions, daily volumes are not expected to exceed acceptable roadway LOS capacity in the project study area.

TABLE 3.13-4
EXISTING CONDITIONS: DAILY ROADWAY LOS

#	Roadway Segment	Capacity Configuration	Target LOS	Existing	
				ADT	LOS
1	Woollomes Ave. (Stradley Ave. to Belmont St.)	2- Lane Undivided (<2 signals/mi.)	D	3,063	≤ B
2	Woollomes Ave. (Belmont St. to Project Driveway)	2-Lane Undivided (2 to 4.5 signals/mi.)	D	3,063	≤ C
3	Woollomes Ave. (Project Driveway to Dover Parkway)	2-Lane Undivided (2 to 4.5 signals/mi.)	D	3,063	≤ C
4	Woollomes Ave. (Dover Parkway to Home Depot East)	6-Lane Divided (>4.5 signals/mi.)	D	8,313	≤ C
5	Woollomes Ave. (Home Depot East to SR 99 SB Ramps)	4-Lane Divided (>4.5 signals/mi.)	D	9,013	≤ C
6	Woollomes Ave. (SR 99 SB Ramps to SR 99 NB Ramps)	2-Lane Undivided (>4.5 signals/mi.)	D	8,438	D
7	Woollomes Ave. (SR 99 NB Ramps to Lexington St.)	2-Lane Undivided (>4.5 signals/mi.)	D	8,425	D
8	Stradley Ave. (north of Woollomes Ave.)	2-Lane Undivided (<2 signals/mi.)	C	3,788	≤ B
9	Stradley Ave. (south of Woollomes Ave.)	2-Lane Undivided (<2 signals/mi.)	C	1,700	≤ B
10	Lexington St. (north of Woollomes Ave.)	4-Lane Undivided (<2 signals/mi.)	C	7,450	≤ B
11	Lexington St. (south of Woollomes Ave.	2-Lane Undivided (<2 signals/mi.)	C	4,657	≤ B

Source: Omni-Means, 2014; pg. 12; Appendix 3.13
LOS= Level of Service
ADT= Average Daily Trips
Note: Daily Volume estimates based on a 0.08 to 1 peak hour to daily volume ratio, as observed at east and west of SR 99 on Woollomes Avenue.

SR 99 mainline and ramp merge/diverge operations are presented in Table 3.13-5 and Table 3.13-6, respectively. As presented in Table 3.13-5 and Table 3.13-6, no existing deficiencies in traffic LOS are present on the ramps or mainline segments.

TABLE 3.13-5 EXISTING CONDITIONS: MAINLINE LOS											
Freeway Mainline Segment	No. Lanes	Target LOS	AM Peak Hour			PM Peak Hour			Saturday Mid-day peak		
			Vol.	Density (pc/mi/ln)	LOS	Vol.	Density (pc/mi/ln)	LOS	Vol.	Density (pc/mi/ln)	LOS
SR 99 NB north of Woollomes Ave.	2	C	1,555	13.3	B	2,120	18.2	B	1,580	13.5	B
SR 99 NB south of Woollomes Ave.	2	C	1,702	14.6	B	1,236	19.0	C	1,578	13.5	B
SR 99 SB north of Woollomes Ave.	2	C	1,583	13.6	B	1,893	16.2	B	1,621	13.9	B
SR 99 SB south of Woollomes Ave.	2	C	1,544	13.2	B	1,937	16.6	B	1,532	13.1	B

Source: Omni-Means, 2014; pg. 13; Appendix 3.13
LOS= Level of Service
Vol. = Volume

TABLE 3.13-6 EXISTING CONDITIONS: RAMPS LOS								
			AM Peak Hour		PM Peak Hour		Saturday Mid-day Peak	
Interchange Location	Target LOS	Junction Type	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR 99 Ramps at Woollomes Ave.								
SR 99 NB north of Woollomes Ave.	C	Merge	18.1	B	22	C	17.7	B
SR 99 NB south of Woollomes Ave.	C	Diverge	18.9	B	23.5	C	17.3	B
SR 99 SB north of Woollomes Ave.	C	Merge	17.8	B	23	C	17.7	B
SR 99 SB south of Woollomes Ave.	C	Diverge	18.6	B	20.7	C	18	B

Source: Omni-Means, 2014; pg. 13; Appendix 3.13
LOS = Level of Service

Existing Plus Project Conditions

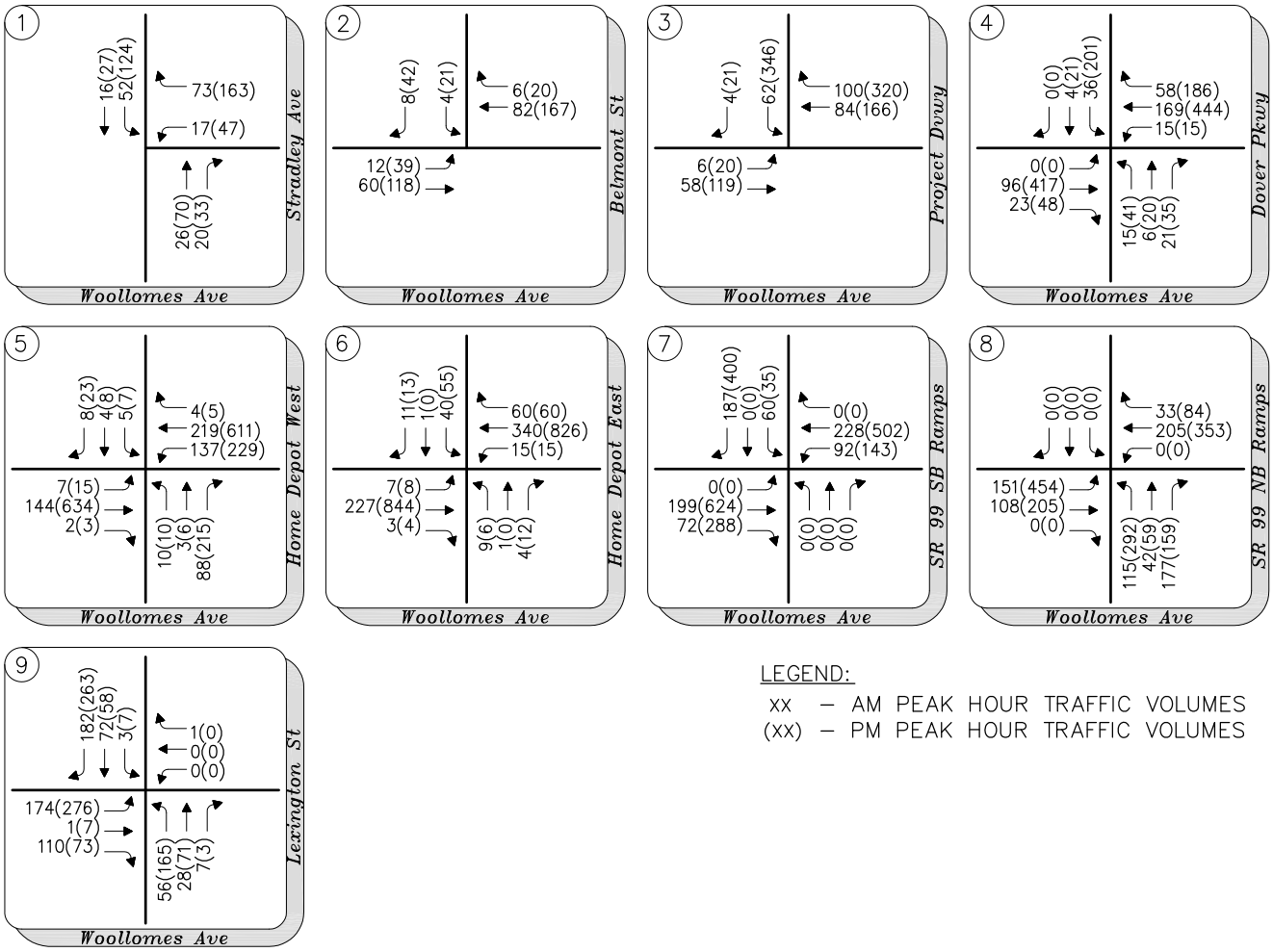
Existing Plus Project conditions were developed by superimposing proposed Project Only AM, PM, and Saturday peak hour project-generated trips (Figures 3.13-7 and 3.13-8) using the proposed project trip distribution (Figure 3.13-5) onto Existing conditions traffic volumes. The resulting Existing Plus Project AM, PM, and Saturday peak hour traffic volumes are presented in Figures 3.13-9 and 3.13-10. Intersection analysis was performed assuming the "Plus Project" intersection lane geometrics and

control types (Figure 3.13-6). Table 3.13-7 presents the results of the Existing Plus Project intersection conditions analysis. As presented in Table 3.13-7, one intersection is projected to perform at a deficient LOS after buildout of approved/pending projects and the proposed project (Woollomes Ave./Home Depot East). This intersection is projected to operate at unacceptable LOS F during the PM peak hour and Saturday Mid-day peak hour conditions (Omni-Means, 2014; pg. 24; Appendix 3.13).

TABLE 3.13-7
EXISTING PLUS
PROJECT CONDITIONS: INTERSECTION LOS (NEAR TERM)

	Intersection	Ctrl. Type[1,2]	Ctrl Type[1,2]	Target LOS	AM Peak Hour		PM Peak Hour		PM Peak Hour		SAT Peak Hour		SAT Peak Hour	
			with MIT.						with MIT.				with MIT.	
#					Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Woollomes Ave. / Stradley Ave.	TWSC	**Signal**	D	9.2	A	11.0	B	**	**	11.7	B	**	**
2	Woollomes Ave. / Belmont St.	TWSC		D	9.1	A	10.4	B	**	**	11.1	B	**	**
3	Woollomes Ave. / Project Driveway	Signal		D	7.7	A	11.1	B	**	**	20.7	C	**	**
4	Woollomes Ave. / Dover Pkwy	Signal		D	5.5	A	10.9	B	**	**	14.9	B	**	**
5	Woollomes Ave. / Home Depot West	Signal		D	8.8	A	13.3	B	**	**	27.9	C	**	**
6	**Woollomes Ave. / Home Depot East**	**TWSC**		**D**	14.3	B	82.5	**F**	**25.0**	**C**	**OVR**	**F**	**25.0**	**C**
7	**Woollomes Ave. / SR 99 SB Ramps**	**Signal**		**D**	10.7	B	15.0	B	****	**C**	**20.7**	**C**	****	****
8	**Woollomes Ave. / SR 99 NB Ramps**	**Signal**		**D**	12.8	B	19.5	B	****	**C**	**28.6**	**C**	****	****
9	Woollomes Ave. / Lexington St.	Signal		D	10.5	B	17.2	C	**	**	11.9	B	**	**

Source: Omni-Means, 2014; pg. 24 Appendix 3.13
1. TWSC= Two Way Stop Control
2. LOS = (Level of Service) Delay based on worst minor street approach for TWSC intersections
3. Warrant= Based on California MUTCD Warrant 3
4. OVR = Delay over 300 seconds.
5. **= Meets LOS C without mitigation.



LEGEND:

xx – AM PEAK HOUR TRAFFIC VOLUMES
(xx) – PM PEAK HOUR TRAFFIC VOLUMES

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Figure 3.13-9

Existing Plus Project AM & PM Peak Hour Volumes

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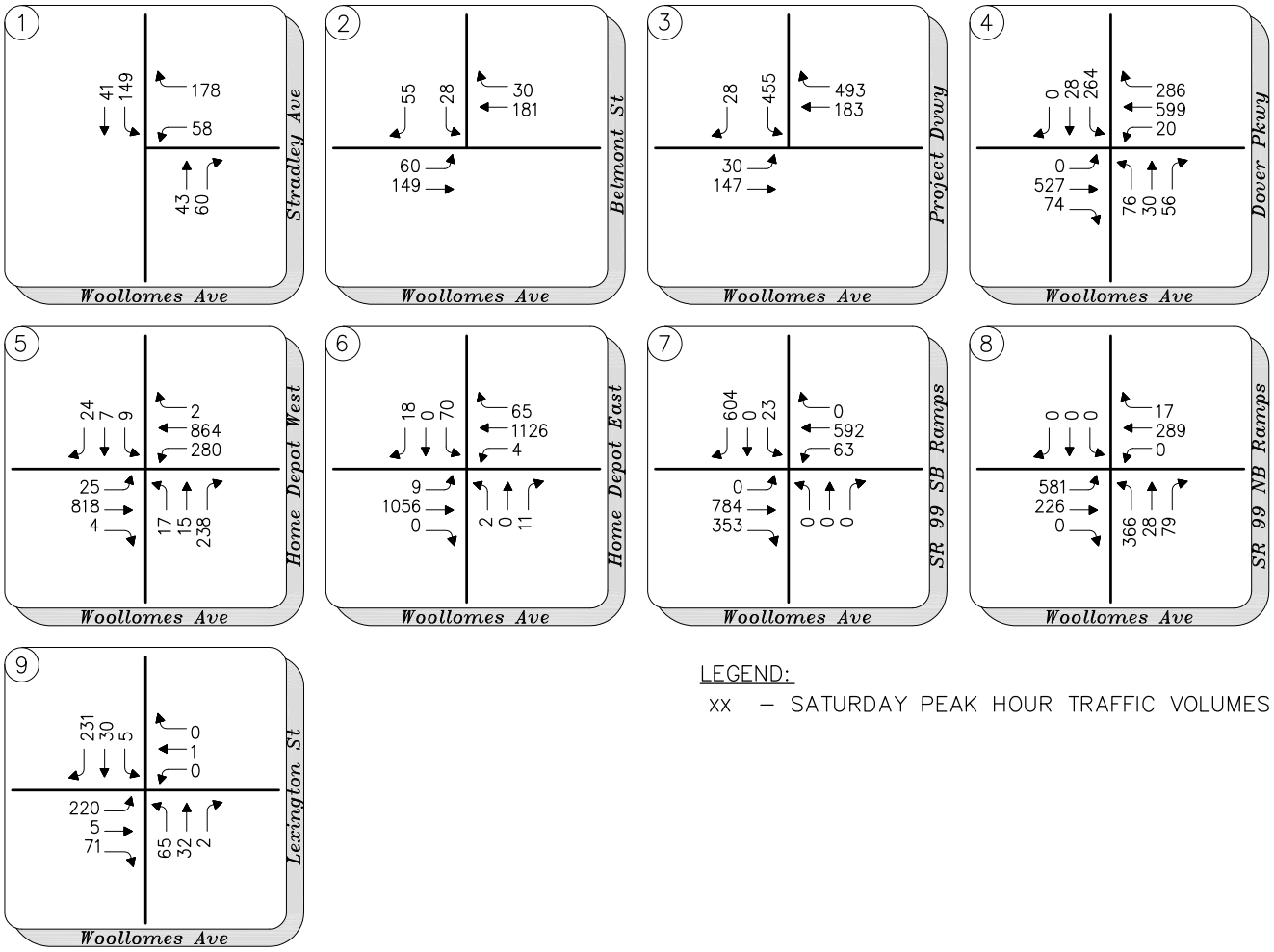

LEGEND:

xx – SATURDAY PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-10

Existing Plus Project Saturday Peak Hour Volumes

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Consistency with General Plan and Zoning Ordinance - Intersection and Interchange LOS

Implementation of the proposed project along with the build out of approved/pending projects could result in traffic conditions conflicting with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

More specifically, under the Existing Plus Project conditions, peak hours in the AM will not exceed the City of Delano LOS standards and will not require mitigation. However, during PM Peak Hour and the Saturday Peak Hour, new traffic generated by the proposed project in combination with all other projects already approved or pending would cause intersection 6 (Woollomes Ave./Home Depot East) to be impacted to LOS F (see Table 3.13-7 above; Omni-Means, 2014; pg. 38). This LOS would not meet the City of Delano LOS standard of achieving and maintaining LOS D at interchanges and high-volume intersections, and LOS C for all other intersections (City of Delano, 2005; pg. 3-36).

LOS on Nearby Roadways

Impact 3.13-1a *Woollomes Avenue/Home Depot East*

The Woollomes Avenue/Home Depot East intersection would operate at an unacceptable LOS F during PM Peak Hour and Saturday Peak Hour. This is a **potentially significant** impact. The following mitigation measure would improve operations at this intersection to an acceptable level, which would improve the LOS to acceptable levels.

Mitigation Measure

MM 3.13-1a In order to achieve and maintain a LOS no worse than D, the project applicant will change the north-south Home Depot driveway from a full access configuration to right-turn access only for outbound movements (i.e., from a full exit to a right-turn only exit) (see Figure 3.13-11 below). The left turn and through southbound traffic will use the adjacent signalized intersection (Home Depot West). This would improve conditions to an acceptable LOS, reducing the impact to a **less than significant** level.

Impact 3.13-1b *Woollomes Avenue/ SR 99 Southbound Ramps*

The Woollomes Avenue/SR 99 southbound ramps would operate at an acceptable LOS D during Existing Plus Project conditions but they are projected to not accommodate the 95th percentile queue for southbound right turn movement. (In other words, the number of cars lining up is expected to exceed the storage capacity of the road section.) This is a **potentially significant** impact.

Mitigation Measure

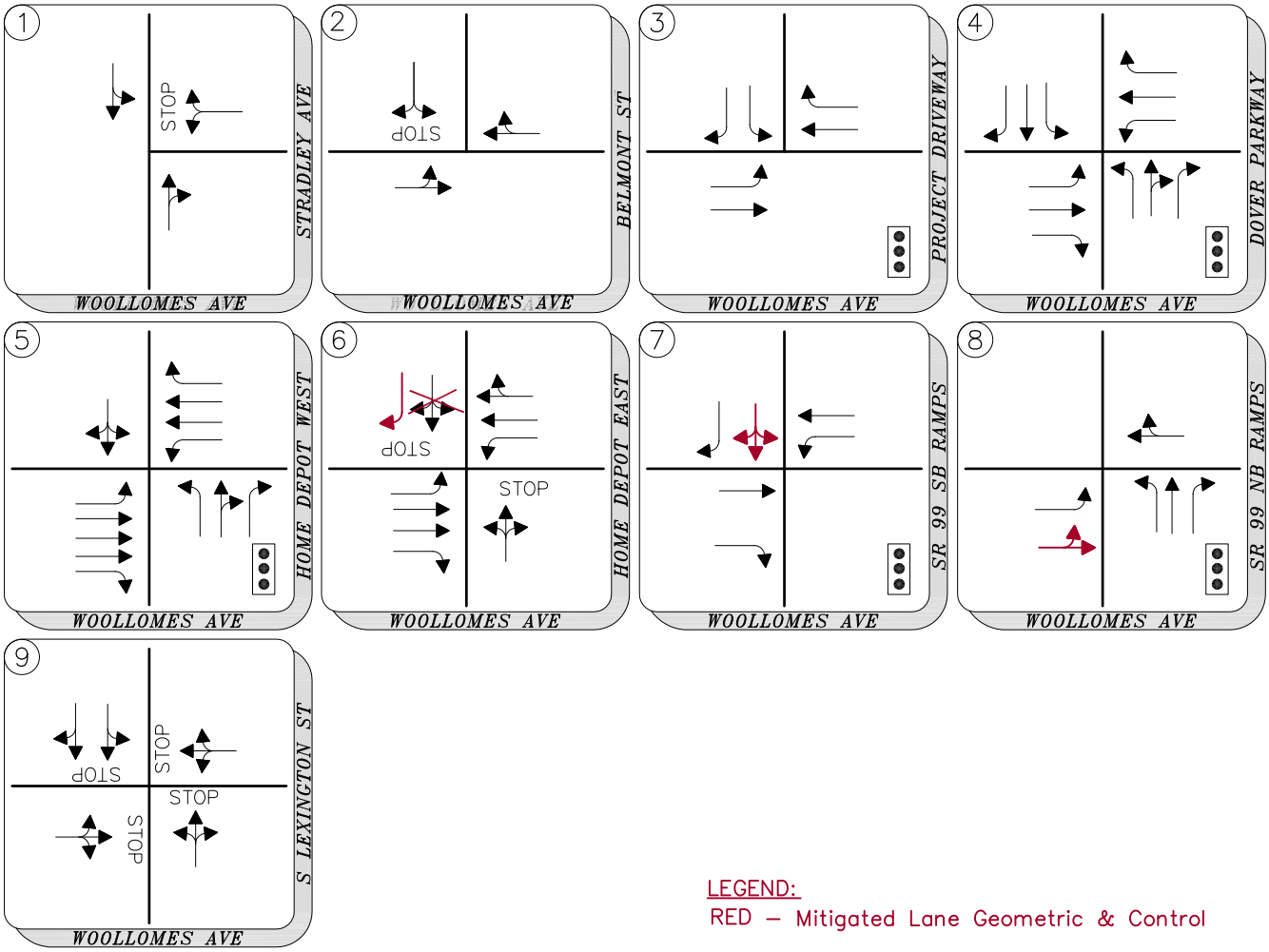
MM 3.13-1b In order to achieve and maintain accommodation of the 95th percentile queue, the existing southbound shared through and left turn lane shall be converted to a shared right, through, and left lane. Furthermore, 50 feet of storage for the westbound left turn pocket will be added. This would improve LOS, delay, and 95th percentile accommodation conditions to a **less than significant** level.

Impact 3.13-1c *Woollomes Avenue/ SR 99 Northbound Ramps*

The Woollomes Avenue/SR 99 northbound ramps would operate at an acceptable LOS D during Existing Plus Project conditions, but they are projected to not accommodate the 95th percentile queue for eastbound left turn movement. (In other words, the number of cars lining up is expected to exceed the storage capacity of the road section.) While the 95th percentile queue is not an existing significance standard of the City, adopted either as a matter of general application or specific to the proposed project, it is addressed here to be conservative and provide full disclosure.

In order to achieve and maintain accommodation of the 95th percentile queue, significant reconstruction of the Woollomes / SR 99 interchange would be required: the existing eastbound through lane would need to be converted to a shared through and left lane, the eastbound signal phasing would need to be changed to a split phase, 50 feet of storage for the eastbound left turn pocket would be reduced, and an additional northbound SR 99 on-ramp lane would be constructed to provide two receiving lanes for the eastbound left turn traffic. These significant improvements are infeasible on a project-level basis given existing physical constraints (existing rights of ways and frontage road); traffic delays associated with the construction of this improvement; and, will not provide a long-term benefit because the entire Woollomes / SR 99 interchange will be reconstructed under cumulative conditions pursuant to the existing City's traffic impact fee program.

In short, the Woollomes / SR 99 interchange will operate under acceptable conditions under the City's existing significance standard. In order to provide a conservative analysis, however, the impact is identified as **significant and unavoidable** due to the failure to accommodate the 95th percentile queue on a short-term basis between operation of the proposed project and full build out under cumulative conditions.



LEGEND:
RED – Mitigated Lane Geometric & Control

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Figure 3.13-11

Existing Plus Project Mitigated Lane Geometrics and Control Types

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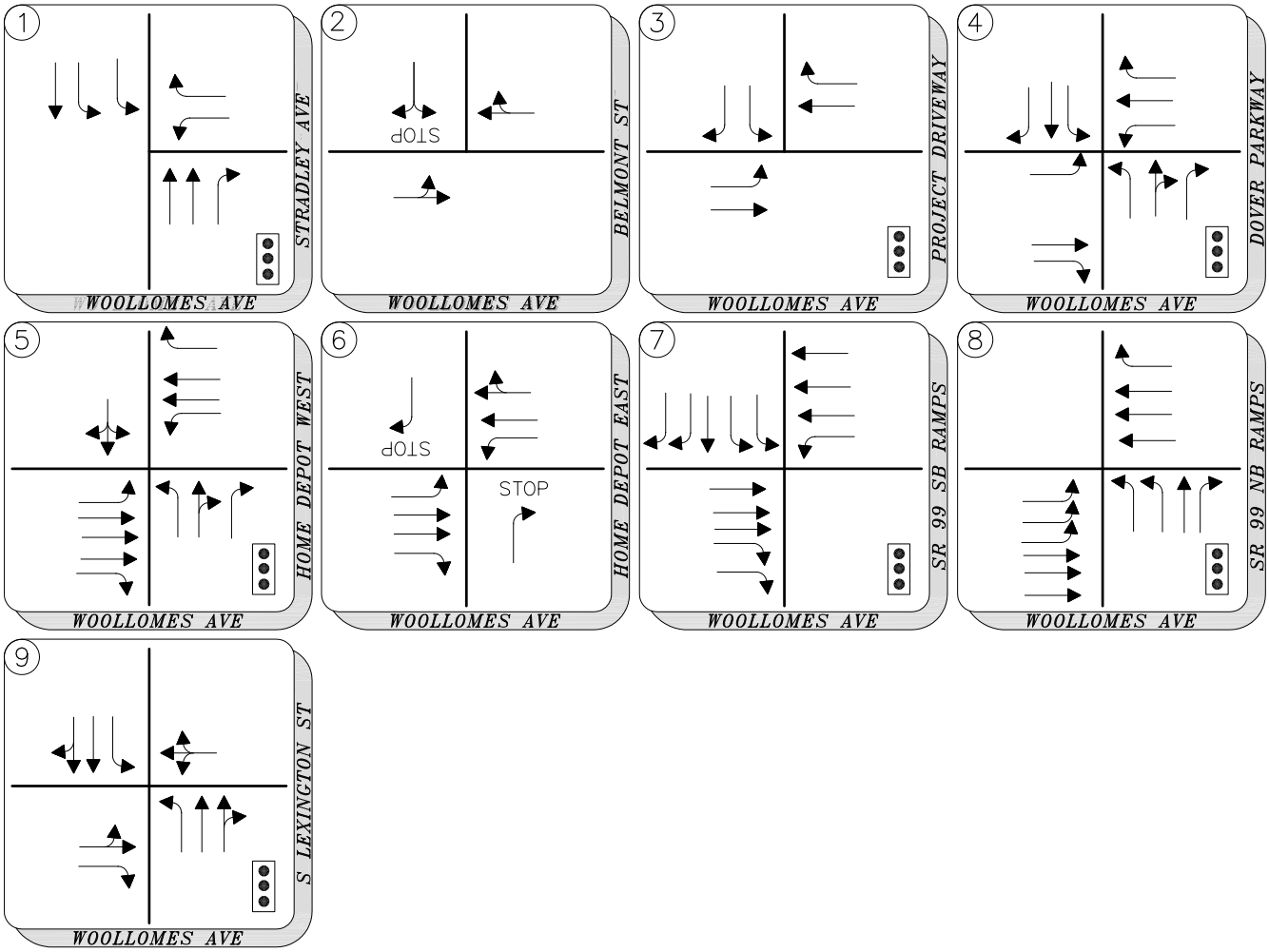
Cumulative Conditions

For the purposes of this study, cumulative conditions refer to analysis scenarios in which build out of the adopted City of Delano General Plan, along with traffic increases due to regional growth, are accounted for in level-of-service quantifications. The buildout model outputs from the Kern COG travel demand model were obtained and compared to historical Caltrans growth rates, expected growth due to approved/pending and future City projects, and forecasts in the recently approved Delano Marketplace development traffic study.

Two scenarios are analyzed under cumulative conditions. The Cumulative No Project scenario includes the increased traffic projected by the Kern County Travel Demand Model. The Cumulative Plus Project scenario includes trips generated by the proposed Grapevine Commercial in addition to General Plan build out traffic.

Figure 3.13-12 shows the intersection lane geometrics and control types for cumulative analysis.



Grapevine Commercial TIAR

Figure 3.13-12

Cumulative Lane Geometrics and Control Types

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Cumulative No Project Conditions

Cumulative No Project conditions have been simulated by distributing added traffic generated through build out of vacant general plan land uses (except the proposed project) using the Kern County travel demand model through study intersections (Omni-Means, 2014, pg. 32; Appendix 3.13). The resulting Cumulative No Project AM, PM, and Saturday peak hour traffic volumes are presented in Figures 3.13-13 and 3.13-14. Cumulative No Project AM, PM (Figure 3.13-13), and Saturday peak hour intersection traffic operations (Figure 3.13-14), have been quantified utilizing Cumulative Project lane geometrics and control (Figure 3.13-12). Figure 3.13-15 presents the Cumulative No Project daily roadway volumes. Table 3.13-8 contains a summary of the resulting intersection LOS conditions. As presented in Table 3.13-8, the Woollomes Avenue/Stradley Avenue, Woollomes Avenue/Dover Parkway, and Woollomes Avenue/Lexington Street intersections are projected to operate at an unacceptable LOS during Cumulative No Project conditions.

TABLE 3.13-8
CUMULATIVE NO PROJECT CONDITIONS: INTERSECTION LOS

#	Intersection	Control Type[1,2]	Target LOS	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Woollomes Ave. / Stradley Ave.	**Signal**	**D**	20.0	B	**105.3**	**F**	**60.1**	**E**
2	Woollomes Ave. / Belmont St.	**Plus Project Conditions Only**							
3	Woollomes Ave. / Project Driveway								
4	**Woollomes Ave. / Dover Pkwy.**	**Signal**	**D**	51.1	D	**233.9**	**F**	**209.6**	**F**
5	Woollomes Ave. / Home Depot West	Signal	D	22.3	C	26.0	C	46.4	D
6	Woollomes Ave. / Home Depot East	TWSC	**D**	13.7	B	28.9	**D**	**25.6**	**D**
7	Woollomes Ave. / SR 99 SB Ramps	Signal	D	10.0	A	17.8	B	13.3	B
8	Woollomes Ave. / SR 99 NB Ramps	Signal	D	19.9	B	28.9	C	31.8	C
9	**Woollomes Ave. / Lexington St.**	**Signal**	**D**	**59.0**	**E**	**OVR**	**F**	**OVR**	**F**

Source: Omni-Means, 2014; pg. 32; Appendix 3.13
LOS= Level of Service

Table 3.13-9 presents the Cumulative No Project daily roadway segment LOS analysis results. This table indicates that all segments of Woollomes Avenue are expected to exceed daily capacities in the Cumulative No Project conditions, except between Dover Parkway and the Home Depot East driveway. Additionally, the segment of Stradley Avenue just north of Woollomes Avenue is expected to operate at unacceptable LOS under cumulative conditions without the building of the proposed project.

TABLE 3.13-9
CUMULATIVE NO PROJECT CONDITIONS: DAILY ROADWAY LOS

#	Roadway Segment	Capacity Configuration	Target LOS	Cumulative No Project	
				ADT	LOS
1	Woollomes Ave. (Stradley Ave. to Belmont St.)	2- Lane Undivided (<2 signals/mi.)	D	24,000	**E**
2	Woollomes Ave. (Belmont St. to Project Driveway)	2-Lane Undivided (2 to 4.5 signals/mi.)	D	24,000	**F**
3	Woollomes Ave. (Project Driveway to Dover Parkway)	2-Lane Undivided (2 to 4.5 signals/mi.)	D	24,000	**F**
4	Woollomes Ave. (Dover Parkway to Home Depot East)	6-Lane Divided (>4.5 signals/mi.)	D	37,850	D
5	Woollomes Ave. (Home Depot East to SR 99 SB Ramps)	4-Lane Divided (>4.5 signals/mi.)	D	43,900	**F**
6	Woollomes Ave. (SR 99 SB Ramps to SR 99 NB Ramps)	2-Lane Undivided (>4.5 signals/mi.)	D	33,450	**F**
7	Woollomes Ave. (SR 99 NB Ramps to Lexington St.)	2-Lane Undivided (>4.5 signals/mi.)	D	20,850	**F**
8	Stradley Ave. (north of Woollomes Ave.)	2-Lane Undivided (<2 signals/mi.)	C	22,550	**E**
9	Stradley Ave. (south of Woollomes Ave.)	2-Lane Undivided (<2 signals/mi.)	C	13,750	C
10	Lexington St. (north of Woollomes Ave.)	4-Lane Undivided (<2 signals/mi.)	C	18,550	B
11	Lexington St. (south of Woollomes Ave.)	2-Lane Undivided (<2 signals/mi.)	C	6,600	B

Source: Omni-Means, 2014; pg. 32; Appendix 3.13
LOS= Level of Service

SR 99 mainline and ramp merge/diverge operations under Cumulative No Project conditions are presented in Tables 3.13-10 and 3.13-11 respectively. As presented in Tables 3.13-10 and 3.13-11, the freeway mainline is projected to operate at LOS D for the northbound direction, north of Woollomes Avenue in the AM peak hour, and on all study segments in the PM peak hour during Cumulative No Project conditions. Similarly, the northbound on and off ramps are expected to operate at LOS D during the AM peak hour, and all ramps are projected to operate at LOS D or worse during the PM peak hour.

TABLE 3.13-10
CUMULATIVE NO PROJECT CONDITIONS: MAINLINE LOS

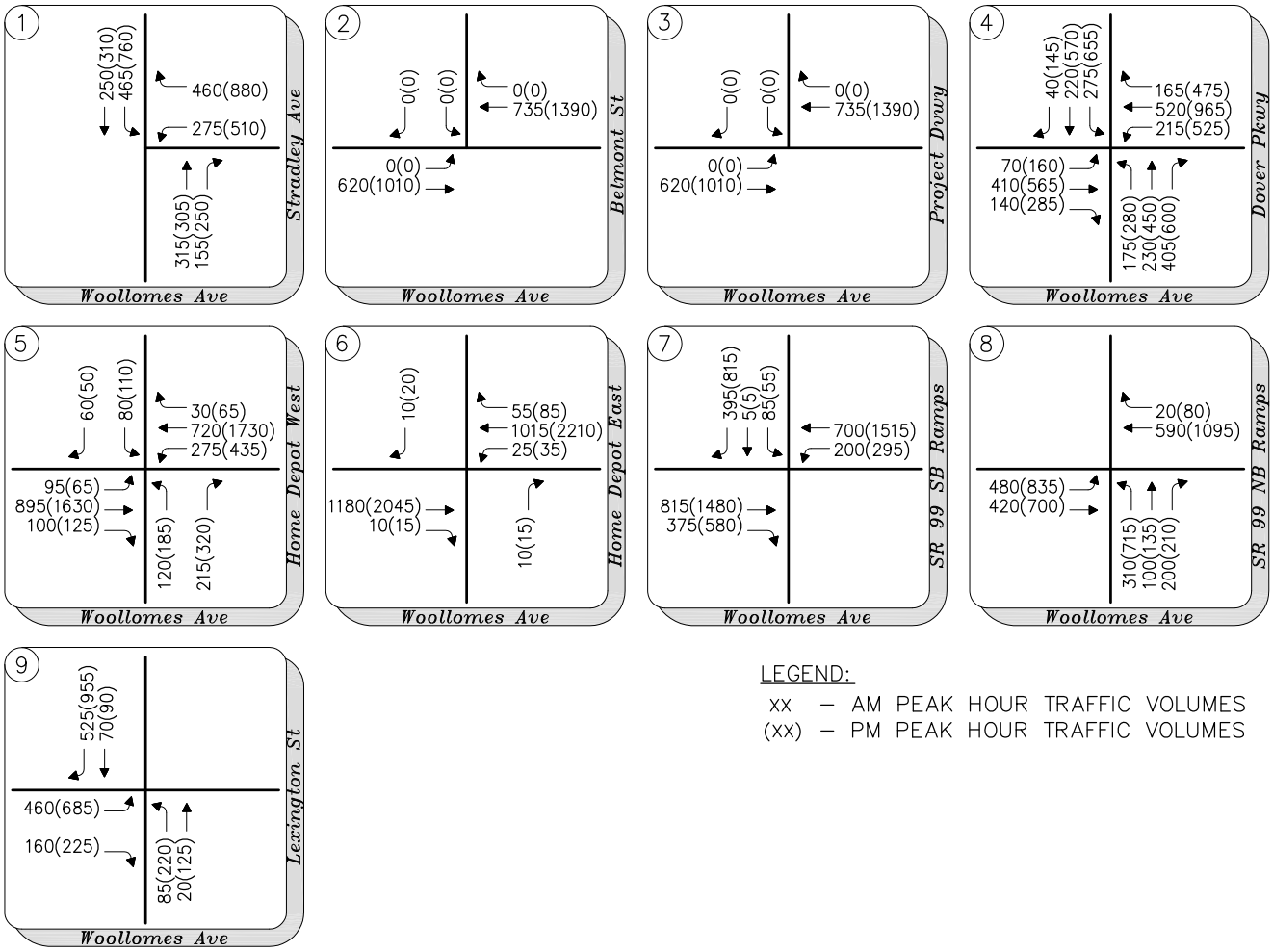
Freeway Mainline Segment	No. Lanes	Target LOS	AM Peak Hour			PM Peak Hour			Saturday Mid-day peak		
			Vol.	Density (pc/mi/ln)	LOS	Vol.	Density (pc/mi/ln)	LOS	Vol.	Density (pc/mi/ln)	LOS
SR 99 NB north of Woollomes Ave.	2	C	**3,130**	**27.5**	**D**	**3,325**	**29.8**	**D**	2,435	20.9	C
SR 99 NB south of Woollomes Ave.	2	C	2,835	24.5	C	**3,695**	**35.0**	**D**	2,630	22.6	C
SR 99 SB north of Woollomes Ave.	2	C	2,480	21.3	C	**3,220**	**28.6**	**D**	2,535	21.7	C
SR 99 SB south of Woollomes Ave.	2	C	2,575	22.1	C	**3,225**	**28.6**	**D**	2,555	21.9	C

Source: Omni-Means, 2014; pg. 33; Appendix 3.13
LOS= Level of Service
Vol. = Volume

TABLE 3.13-11
CUMULATIVE NO PROJECT CONDITIONS: RAMPS LOS

			AM Peak Hour		PM Peak Hour		Saturday Mid-day Peak	
Interchange Location	Target LOS	Junction Type	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR 99 Ramps at Woollomes Ave.								
SR 99 NB north of Woollomes Ave.	**C**	**Merge**	**30.6**	**D**	**32.3**	**D**	24.7	C
SR 99 NB south of Woollomes Ave.	**C**	**Diverge**	**29**	**D**	**37.1**	**E**	27.1	**C**
SR 99 SB north of Woollomes Ave.	**C**	**Merge**	26.4	C	**31.9**	**D**	26.1	**C**
SR 99 SB south of Woollomes Ave.	**C**	**Diverge**	26.1	C	**33.1**	**D**	26.6	**C**

Source: Omni-Means, 2014; pg. 33; Appendix 3.13
LOS= Level of Service



LEGEND:

xx – AM PEAK HOUR TRAFFIC VOLUMES
(xx) – PM PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-13

Cumulative No Project AM & PM Peak Hour Volumes

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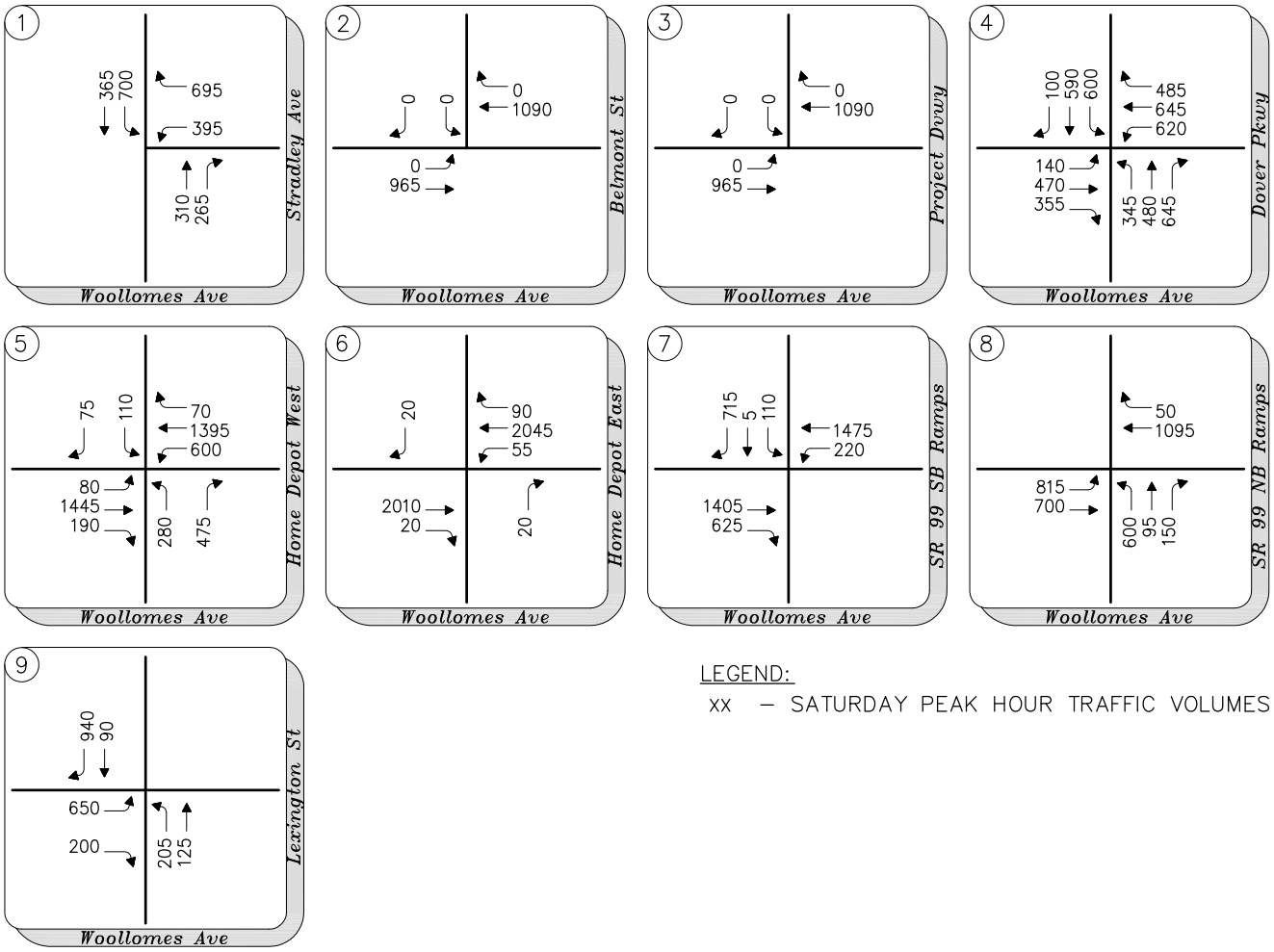

LEGEND:

xx – SATURDAY PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-14

Cumulative No Project Saturday Peak Hour Volumes

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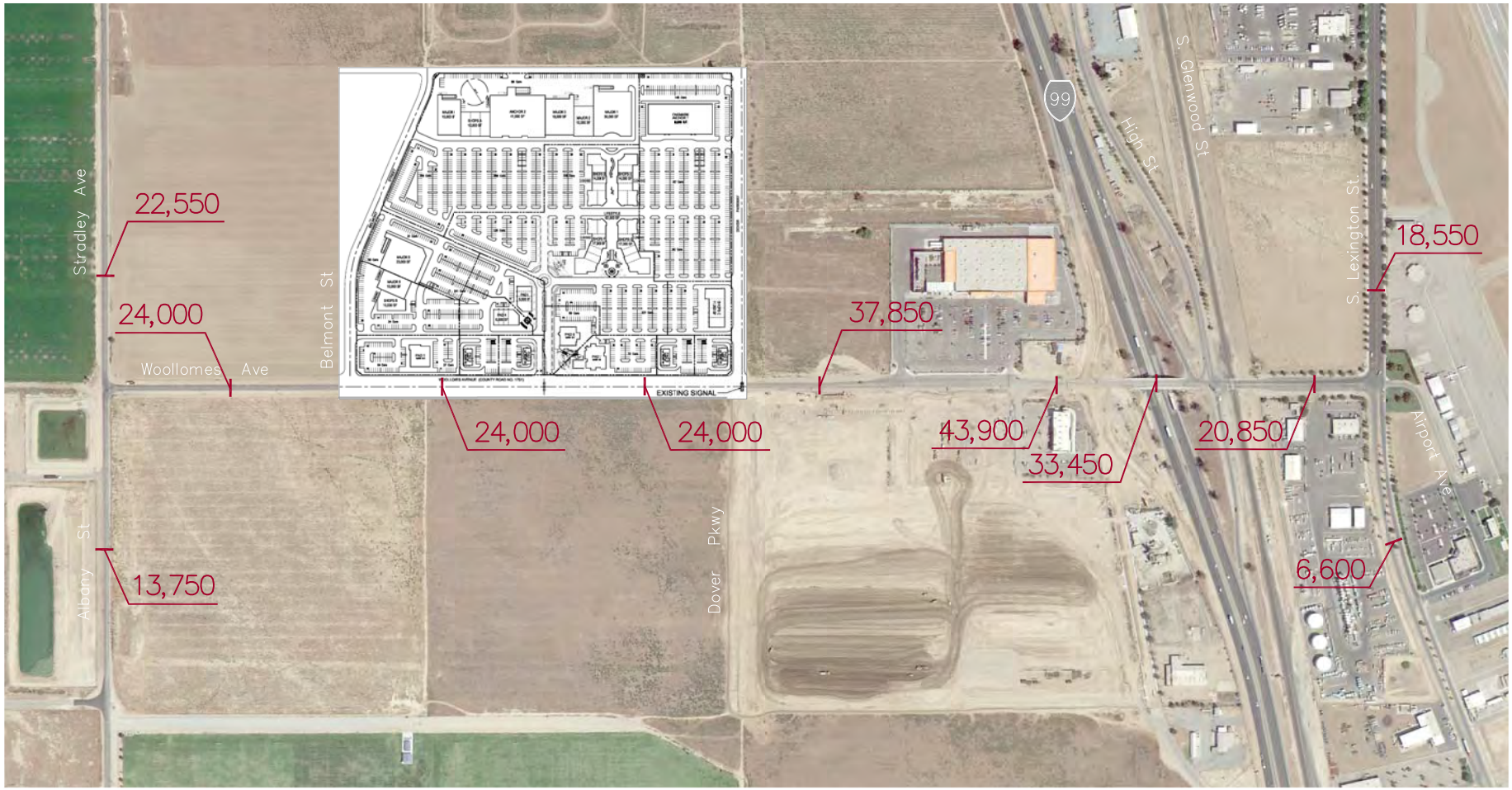


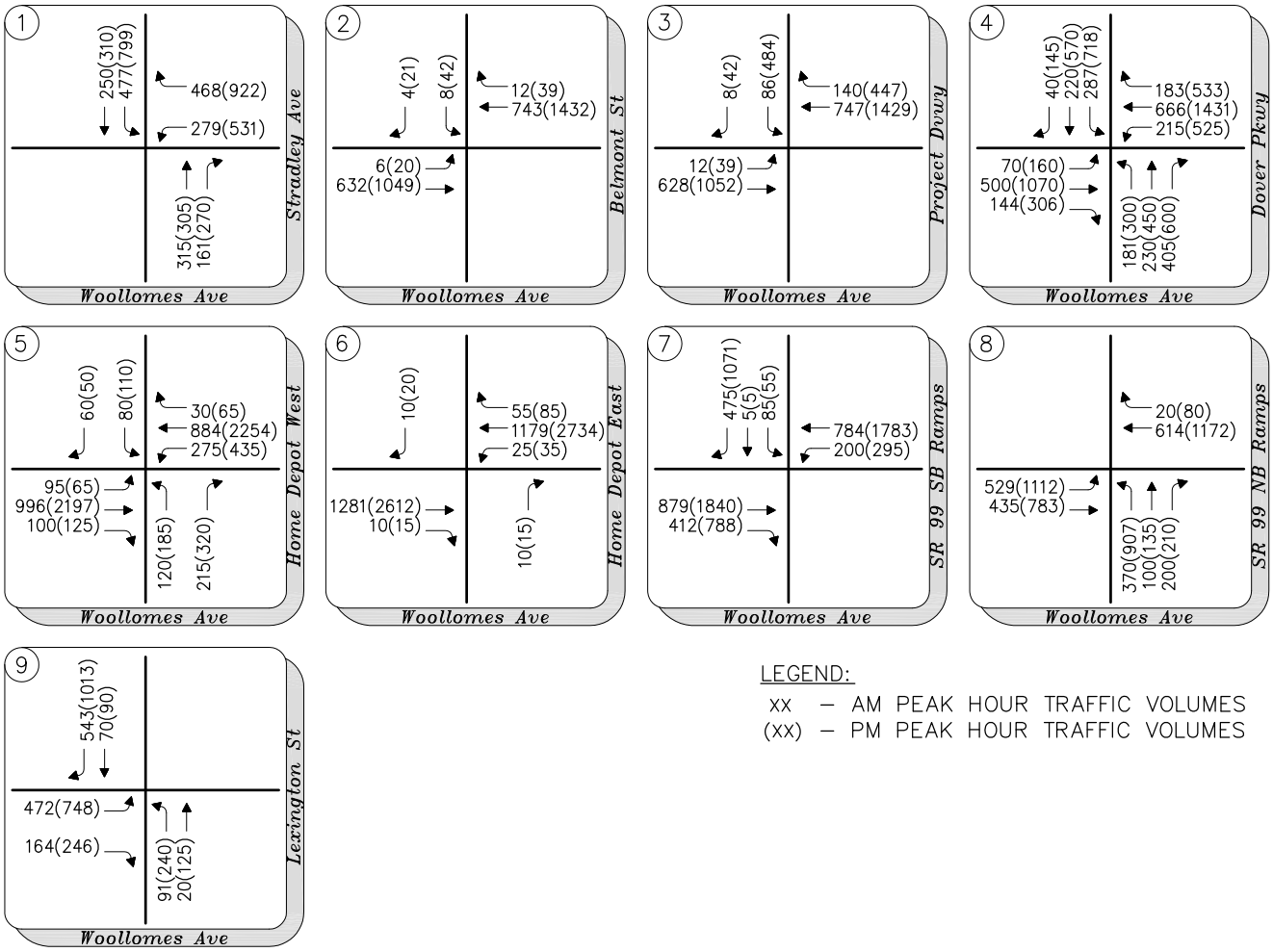
Grapevine Commercial TIAR

Figure 3.13-15

Cumulative No Project Daily Roadway Volumes

Cumulative Plus Project Conditions

The Cumulative Plus Project scenario includes trips generated by the proposed project in addition to General Plan build out traffic. Cumulative Plus Project conditions were developed by adding traffic generated by the proposed project volumes to Cumulative No Project intersection traffic volumes. Intersection geometrics assumed for Cumulative Plus Project conditions are the same as those assumed for Cumulative No Project Figure 3.13-12. Figures 3.13-16 and 3.13-17 present the resulting Cumulative Plus Project AM, PM, and Saturday peak hour intersection traffic volumes. Table 3.13-12 presents the results of the Cumulative Plus Project conditions analysis.



LEGEND:

xx – AM PEAK HOUR TRAFFIC VOLUMES
(xx) – PM PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-16

Cumulative Plus Project AM & PM Peak Hour Volumes

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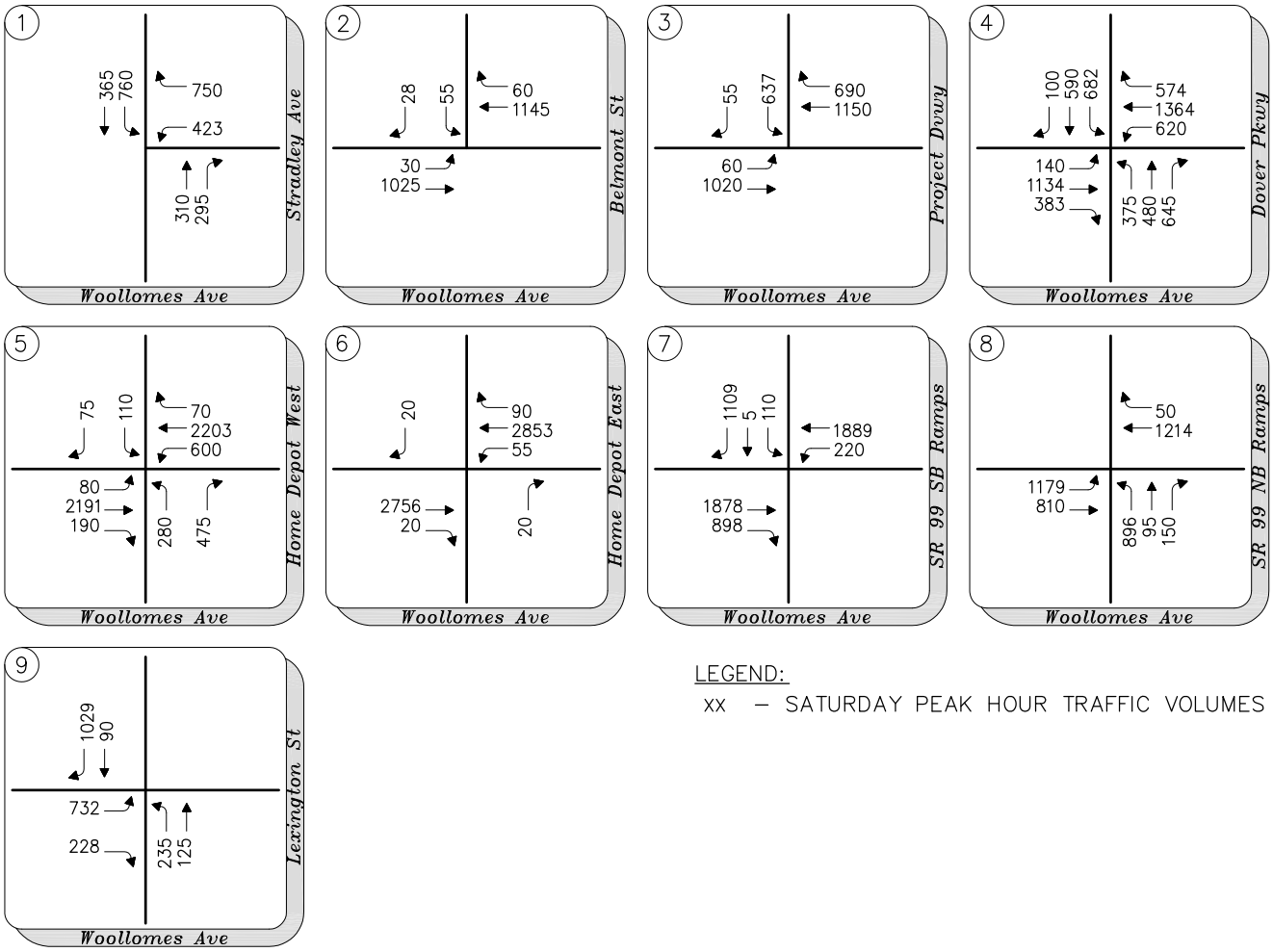

LEGEND:

xx – SATURDAY PEAK HOUR TRAFFIC VOLUMES

Grapevine Commercial TIAR

Figure 3.13-17

Cumulative Plus Project Saturday Peak Hour Volumes

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TABLE 3.13-12
CUMULATIVE PLUS PROJECT CONDITIONS: INTERSECTION LOS

#	Intersection	Control Type[1,2]	Target LOS	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
				Delay	LOS	Delay	LOS	Delay	LOS
1	**Woollomes Ave. / Stradley Ave.**	**Signal**	**D**	20.8	C	**120.5**	**F**	79.3	**E**
2	**Woollomes Ave. / Belmont St.**	**TWSC**	**D**	28.5	D	**OVR**	**F**	OVR	**F**
3	**Woollomes Ave. / Project Driveway**	**Signal**	**D**	6.4	A	**100.3**	**F**	92.0	**F**
4	**Woollomes Ave. / Dover Pkwy.**	**Signal**	**D**	**59.8**	**E**	**OVR**	**F**	OVR	**F**
5	**Woollomes Ave. / Home Depot West**	**Signal**	**D**	21.3	C	**79.6**	**E**	**98.6**	**F**
6	**Woollomes Ave. / Home Depot East**	**TWSC**	**D**	14.5	B	**45.0**	**E**	**50.5**	**F**
7	Woollomes Ave. / SR 99 SB Ramps	Signal	D	11.3	B	32.7	C	29.6	C
8	Woollomes Ave. / SR 99 NB Ramps	Signal	D	22.0	C	35	C	34.7	C
9	**Woollomes Ave. / Lexington St.**	**Signal**	**D**	**66.9**	**E**	**OVR**	**F**	**OVR**	**F**

Source: Omni-Means, 2014; pg. 36; Appendix 3.13
LOS= Level of Service

As presented in Table 3.13-12 above, all study intersections are projected to operate at an unacceptable LOS during Cumulative Plus Project conditions, except SR 99 ramps. Proposed improvements to mitigate these deficiencies are set forth below. Table 3.13-13 presents the Cumulative Plus Project daily roadway segment LOS analysis results. As presented in this table, all segments of Woollomes Avenue are expected to exceed daily capacities in the Cumulative Plus Project conditions. Additionally, the segment of Stradley Avenue just north of Woollomes Avenue is expected to operate at an unacceptable LOS. As explained above, impacts and mitigations for this study are based on intersection operations analysis.

TABLE 3.13-13
CUMULATIVE PLUS PROJECT CONDITIONS: DAILY ROADWAY LOS

#	Roadway Segment	Capacity Configuration	Target LOS	Project Only Traffic Daily	Cumulative No Project	
					ADT	LOS
1	Woollomes Ave. (Stradley Ave. to Belmont St.)	2- Lane Undivided (<2 signals/mi.)	D	1,326	25,326	**E**
2	Woollomes Ave. (Belmont St. to Project Driveway)	2-Lane Undivided (2 to 4.5 signals/mi.)	D	1,768	25,768	**F**
3	Woollomes Ave. (Project Driveway to Dover Parkway)	2-Lane Undivided (2 to 4.5 signals/mi.)	D	11,184	35,184	**F**
4	Woollomes Ave. (Dover Parkway to Home Depot East)	6-Lane Divided (>4.5 signals/mi.)	D	12,064	49,914	**F**
5	Woollomes Ave. (Home Depot East to SR 99 SB Ramps)	4-Lane Divided (>4.5 signals/mi.)	D	12,064	55,964	**F**
6	Woollomes Ave. (SR 99 SB Ramps to SR 99 NB Ramps)	2-Lane Undivided (>4.5 signals/mi.)	D	6,916	40,366	**F**
7	Woollomes Ave. (SR 99 NB Ramps to Lexington St.)	2-Lane Undivided (>4.5 signals/mi.)	D	1,766	22,616	**F**
8	Stradley Ave. (north of Woollomes Ave.)	2-Lane Undivided (<2 signals/mi.)	C	884	23,434	**E**
9	Stradley Ave. (south of Woollomes Ave.)	2-Lane Undivided (<2 signals/mi.)	C	442	14,192	**D**
10	Lexington St. (north of Woollomes Ave.)	4-Lane Undivided (<2 signals/mi.)	C	1,326	19,876	C
11	Lexington St. (south of Woollomes Ave.	2-Lane Undivided (<2 signals/mi.)	C	442	7,042	B

Source: Omni-Means, 2014; pg. 36; Appendix 3.13
ADT= Average Daily Trips
LOS= Level of Service

SR 99 mainline and ramp merge/diverge operations are presented in Tables 3.13-14 and 3.13-15 respectively. As presented in these tables, the freeway mainline is projected to operate at LOS D for the northbound direction, north of Woollomes Avenue in the AM peak hour, and at LOS D or worse on all study segments in the PM peak hour during Cumulative Plus Project conditions. Similarly, the northbound on and off ramps are expected to operate at LOS D during the AM peak hour, and all ramps are projected to operate at LOS D or worse during the PM peak hour. The southbound on and off ramps and the northbound off ramp are also projected to operate at LOS D during the Saturday peak hour. Interchange improvements that will mitigate these deficiencies are discussed in the final section of this report.

TABLE 3.13-14
CUMULATIVE PLUS PROJECT CONDITIONS: MAINLINE LOS

Freeway Mainline Segment	No. Lanes	Target LOS	AM Peak Hour			PM Peak Hour			Saturday Mid-day peak		
			Vol.	Density (pc/mi/ln)	LOS	Vol.	Density (pc/mi/ln)	LOS	Vol.	Density (pc/mi/ln)	LOS
SR 99 NB north of Woollomes Ave.	**2**	**C**	**3,179**	**28.1**	**D**	**3,602**	**33.6**	**D**	2,799	24.1	C
SR 99 NB south of Woollomes Ave.	**2**	**C**	2,895	25.1	C	**3,887**	**38.2**	**E**	2,926	25.4	C
SR 99 SB north of Woollomes Ave.	**2**	**C**	2,560	21.9	C	**3,476**	**31.8**	**D**	2,929	25.4	C
SR 99 SB south of Woollomes Ave.	**2**	**C**	2,612	22.4	C	**3,433**	**31.2**	**D**	2,828	24.4	C

Source: Omni-Means, 2014; pg. 37; Appendix 3.13
LOS= Level of Service
Vol. = Volume

TABLE 3.13-15
CUMULATIVE PLUS PROJECT CONDITIONS: RAMPS LOS

			AM Peak Hour		PM Peak Hour		Saturday Mid-day Peak	
Interchange Location	**Target LOS**	**Junction Type**	**Density (pc/mi/ln)**	**LOS**	**Density (pc/mi/ln)**	**LOS**	**Density (pc/mi/ln)**	**LOS**
SR 99 Ramps at Woollomes Ave.								
SR 99 NB north of Woollomes Ave.	**C**	**Merge**	**31.0**	**D**	**34.6**	**D**	27.7	C
SR 99 NB south of Woollomes Ave.	**C**	**Diverge**	**29.6**	**D**	**38.9**	**E**	**29.9**	**D**
SR 99 SB north of Woollomes Ave.	**C**	**Merge**	26.7	C	**33.5**	**D**	**28.3**	**D**
SR 99 SB south of Woollomes Ave.	**C**	**Diverge**	26.8	C	**35.5**	**E**	**30.3**	**D**

Source: Omni-Means, 2014; pg. 37; Appendix 3.13
LOS= Level of Service

3.13.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Intersection LOS under Cumulative Plus Project Conditions

Impact 3.13-2

Implementation of the proposed project combined with cumulative conditions could result in long-term traffic conditions conflicting with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. This is considered a potentially significant impact that will be reduced to **less than significant** with mitigation.

The proposed project's incremental contribution to cumulative public services and facilities impacts will be addressed in part by payment of existing applicable circulation development impact fees, which would also be assessed on any future development in the City. Additionally, the project would be required to pay fair-share fees, as detailed below in mitigation measures **MM 3.13-2a** through **MM 3.13-2g**.

Table 3.13-16 indicates which intersections would not meet City LOS standards with the new traffic generated by the proposed project in combination with all other projects that would exist with build out of the Delano General Plan. The table also displays the LOS expected with proposed mitigation. Before mitigation, all study intersections are projected to operate at unacceptable LOS at some point during the week (primarily during PM peak hours) under Cumulative Plus Project conditions, except for the SR 99 ramps. With the following mitigation, all intersections can maintain acceptable LOS conditions during peak hours under cumulative conditions including the proposed project. Figure 3.13-18 Cumulative Mitigated Lane Geometrics and Control Types shows lane geometrics and control types after mitigation. Table 3.13-16 and Figure 3.13-18 appear below.

Mitigation Measures

MM 3.13-2a *Woollomes Avenue/Stradley Avenue* In order to achieve and maintain a LOS no worse than D, an additional westbound right lane will be constructed (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because the westbound approach to this intersection is not part of the City.

MM 3.13-2b *Woollomes Avenue/Belmont Street* In order to achieve and maintain a LOS no worse than D, this intersection will be signalized and the eastbound and westbound approaches will be widened to two through lanes in each direction, with a dedicated eastbound left turn pocket (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because this portion of Woollomes is not part of the City.

MM 3.13-2c ***Woollomes Avenue/Project Driveway*** In order to achieve and maintain an LOS no worse than D, the eastbound and westbound approaches will be widened to two through lanes in each direction and have a dedicated eastbound left turn pocket (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because this portion of Woollomes is not part of the City.

MM 3.13-2d ***Woollomes Avenue/Dover Parkway*** In order achieve and maintain an LOS no worse than D, the eastbound and westbound approaches of this intersection will be widened to include dual left turn lanes, dedicated right turn lanes, and three through lanes. The northbound and southbound approaches will be widened to include dual left turn lanes, two through lanes, and dedicated right turn lanes (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because the eastbound approach of this intersection is not part of the City.

MM 3.13-2e ***Woollomes Avenue/Home Depot West*** In order to achieve and maintain an LOS no worse than D, the eastbound and westbound approaches of the intersection will be widened to include dual left turn lanes, dedicated right turn lanes, and three through lanes (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement.

MM 3.13-2f ***Woollomes Avenue/Home Depot East*** In order to achieve and maintain an LOS no worse than D, eastbound and westbound left turns will be prohibited at this intersection and redirected to the next downstream signalized intersection. Also, a westbound through lane will be constructed (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement.

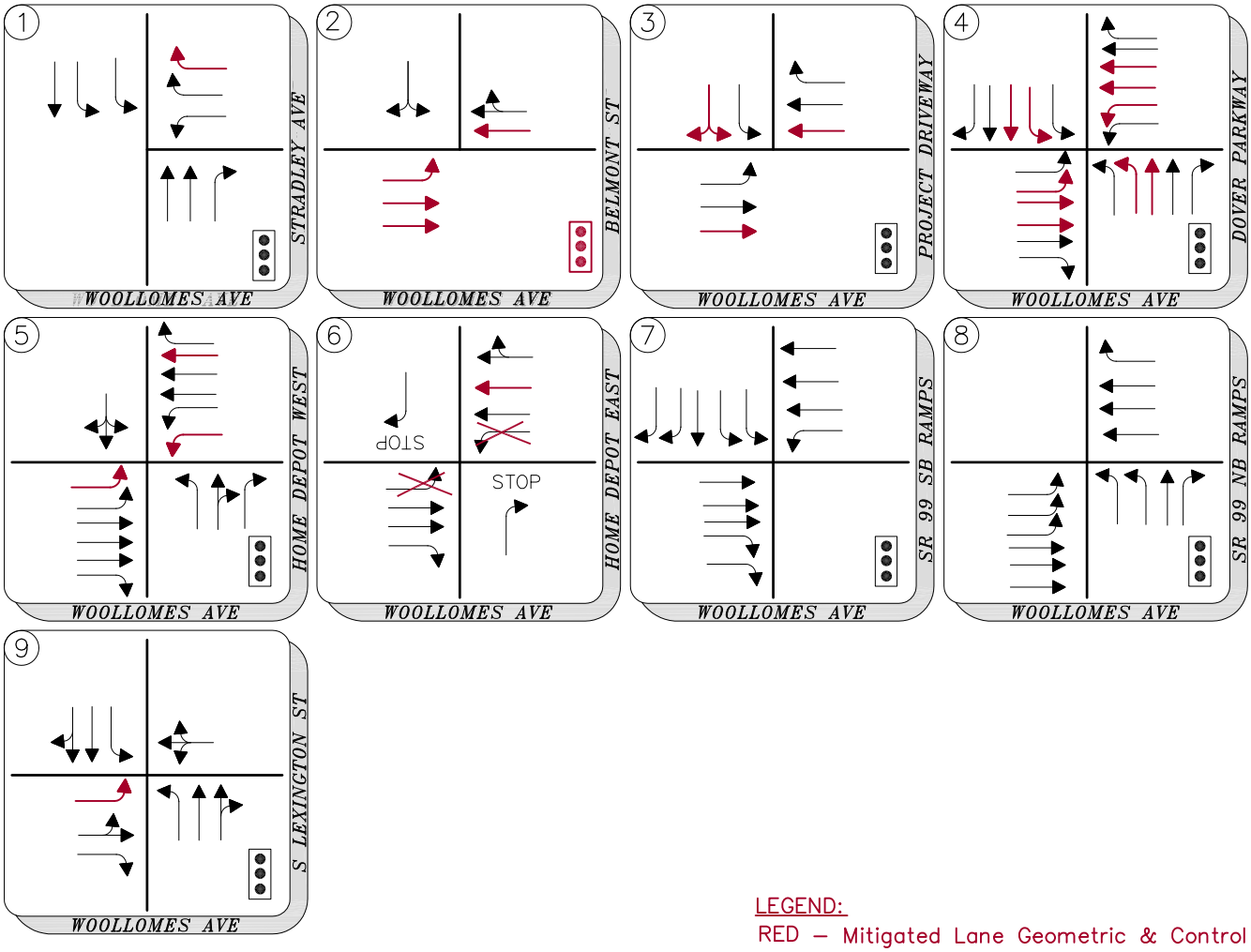
MM 3.13-2g ***Woollomes Avenue/Lexington Street*** In order to achieve and maintain an LOS no worse than D, a second eastbound lane will be constructed from the SR 99 northbound ramps to Lexington Street. This lane will become a dedicated left turn lane at the intersection (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement.

These mitigation measures, along with mitigation measures **MM 3.13-1a**, **MM 3.13-1b**, and **MM 3.13-1c**, would ensure that cumulative impacts would be **less than significant**.

TABLE 3.13-16
CUMULATIVE PLUS PROJECT CONDITIONS: INTERSECTION LOS

#		Ctrl. Type[1,2]	Ctrl. Type[1,2] with MIT.	T.LOS	AM Peak Hour		AM Peak Hour with MIT.		PM Peak Hour		PM Peak Hour with MIT.		SAT Peak Hour		SAT Peak Hour with MIT.	
					Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	**Woollomes Ave. / Stradley Ave.**	Signal	Signal	D	20.8	C	**	**	**120.5**	**F**	33.7	C	79.3	E	26.7	C
2	**Woollomes Ave. / Belmont St.**	TWSC	Signal	D	28.5	D	**	**	**OVR**	**F**	5.3	A	OVR	F	5.8	A
3	**Woollomes Ave. / Project Driveway**	Signal	Signal	D	6.4	A	**	**	**100.3**	**F**	13.7	B	92.0	F	15.9	B
4	**Woollomes Ave. / Dover Pkwy**	Signal	Signal	D	**59.8**	**E**	22.0	C	**OVR**	**F**	51.8	D	OVR	F	37.2	D
5	**Woollomes Ave. / Home Depot West**	Signal	Signal	D	21.3	C	**	**	**79.6**	**E**	19.6	B	98.6	F	42.1	D
6	**Woollomes Ave. / Home Depot East**	TWSC	TWSC	D	14.5	B	**	**	**45.0**	**E**	11.8	B	**50.5**	**F**	13.8	B
7	Woollomes Ave. / SR 99 SB Ramps	Signal	Signal	C	11.3	B	**	**	32.7	C	**	**	29.6	C	**	**
8	Woollomes Ave. / SR 99 NB Ramps	Signal	Signal	C	22.0	C	**	**	35	C	**	**	34.7	C	**	**
9	**Woollomes Ave. / Lexington St.**	Signal	Signal	D	**66.9**	**E**	20.6	C	**OVR**	**F**	44.3	D	OVR	F	42.1	D

Source: Omni-Means, 2014; pg. 42; Appendix 3.13
Ctrl.= Control
T.LOS=Target Level of Service
LOS= Level of service
With MIT. = with mitigation
TWSC = Two Way Stop Control
OVR = Delay over 300 seconds
** = Meets LOS C without mitigation
LOS delay is based on worst minor street approach for TWSC intersections



LEGEND:
RED – Mitigated Lane Geometric & Control

Grapevine Commercial TIAR

Figure 3.13-18

Cumulative Plus Project Mitigated Lane Geometrics and Control Types

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Conflict with an Applicable Congestion Management Program

Impact 3.13-3 The project could conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highway. The mitigation measures identified above (**MM 3.13-1a** through **3.13-1c**, and **MM 3.13-2a** through **3.13-2g**) will address the potential significant impacts to alleviate projected long-term congestion and bring conditions into compliance with the General Plan.

The project also includes the construction of Morse Boulevard and Belmont Avenue, which has the potential to create short-term, localized traffic impacts from localized congestion. As detailed in the General Plan, developers shall mitigate traffic impacts associated with their projects that include impacts resulting from construction. This impact will be reduced to a **less than significant** level by the following mitigation.

Mitigation Measure

MM 3.13-3 In order to reduce congestion from impacts during construction, adequate temporary access lanes will be provided around the construction site and will remain open.

Result in a Change in Air Traffic Patterns that Result in Substantial Safety Risks

Impact 3.13-4 The proposed project will not result in a change to air traffic patterns and therefore will not result in substantial safety risks. A thorough discussion of the effects of the proposed project on airport operations and airspace appears in Section 3.7, Hazards and Hazardous Materials, of this DEIR. The project impacts related to air traffic patterns is considered **less than significant**.

Substantially Increase Hazards due to Design Features or Incompatible Uses

Impact 3.13-5 The proposed project will not substantially increase hazards due to a design feature, does not have any unusual or inherently unsafe roadway designs, and does not place traffic in dangerous flow patterns or create abrupt changes. No incompatible uses have been identified. The project impacts related to hazards associated with design features or incompatible uses are considered **less than significant**.

Result in Inadequate Emergency Access

Impact 3.14-6 The proposed project does not have any restrictions to emergency vehicle sizes or access routes that could result in inadequate emergency access. The project impacts related to the potential for inadequate emergency access are considered **less than significant**.

Conflict with Public Policy Regarding Public Transit, Bicycle, or Pedestrian Facilities

Impact 3.13-7 The proposed project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. The project would create a demand for bicycle facilities, including bike lanes along the project

frontage and on–site bicycle facilities (e.g., racks and lockers). This is considered a potentially significant impact that will be reduced to **less than significant** with mitigation.

The preliminary site plan makes no apparent provisions for bicycle facilities. However, Bicycle Facilities Policy 3a in the Delano General Plan states that bike lanes shall be implemented on improved street segments. Policy 5 requires that secure bicycle parking facilities be provided to all commercial development as a standard of condition of project approval.

The proposed project would include continuous sidewalk along Woollomes Avenue; however the preliminary site plan does not indicate pedestrian crossing facilities at the main site access intersection with Woollomes Avenue, presenting a potential safety hazard to pedestrian circulation. This is considered a potentially significant impact.

The following mitigation measures shall be implemented to reduce these potentially significant impacts to a **less than significant** level.

Mitigation Measures

MM 3.13-7a Subject to the review and approval by the City, bicycle facilities shall be incorporated into the proposed project and shown on final improvement plans to include:

- Class II bicycle lanes along in the project street frontages
- Bicycle racks and/or lockers to accommodate bicycle travel by customers and employees Bicycle parking facilities will be located in high visibility areas in order to encourage bicycle travel and discourage theft and vandalism

MM 3.13-7b Subject to review and approval by the City, pedestrian crosswalks and traffic signals will be provided at all legs of the Woollomes Avenue proposed site access intersections. These improvements will be incorporated into the final implementation plans prior to approval by the City.

Implementation of the above mitigation will reduce the impacts related to public transit, bicycle, or pedestrian facilities to **less than significant**.

3.13.5 REFERENCES

Caltrans, 2002. Guide for the Preparation of Traffic Impact Studies, December 2002; (http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf) web accessed January 7, 2014.

City of Delano, 2013a. DART Fixed Routes, official web page; (http://www.cityofdelano.org/index.aspx?NID=184) web accessed December 16, 2013.

City of Delano, 2013b. Notice of Preparation Comments from Noemi Zamudio to Richelle Cariño, City of Delano, April 24, 2013.

City of Delano, 2013c. Development Cost and Fee Study, prepared by Quad Knopf, October 2013.

City of Delano, 2013d. Resolution No. 2013-59, A Resolution of the City Council of the City of Delano Adopting Updated Development Impact Fees, October 21, 2013.

City of Delano. 2007. City of Delano Bicycle Master Plan, prepared by Traffic Safety Engineers, Inc. for the City of Delano, December 2007.

City of Delano. 2005. General Plan Update. Adopted December 5, 2005; (http://www.cityofdelano.org/DocumentCenter/View/99) web accessed March 18, 2014.

Omni-Means. 2014. Grapevine Commercial Transportation Impact Analysis Report, prepared for the City of Delano, March 2014.

3.14 UTILITIES AND SERVICE SYSTEMS

This section of the DEIR addresses existing utility and infrastructure systems within the City of Delano (City) that would serve the project site and support project activities. The analysis discusses the ability of existing or planned systems to accommodate the proposed project in terms of distribution and supply and identifies potential environmental impacts that could result from the need for new or expanded systems. The analysis is based on information contained in the City of Delano General Plan (2005), City of Delano 2010 Urban Water Management Plan (2011), City of Delano Development Cost and Fee Study (2013), information provided by the City, and information provided by local service providers, among other resources. Section 3.8, Hydrology and Water Quality, discusses storm water infrastructure in relation to site drainage and water quality regulation and impacts.

3.14.1 EXISTING SETTING

The City is a low-to-medium density residential community with a grid street network, surrounded by agricultural fields and bisected by State Route 99 (SR 99) (Cal Poly San Luis Obispo, 2009; pg. 10). Due to the surrounding productive farmland and relatively flat topography, agriculture is a significant economic activity in the Delano region. Heavy and light industrial, and commercial uses, line the highway through the City. The central downtown district of the City lies to the east of SR 99, while newer commercial development is concentrated west of the highway. The approximately 44.64-acre project site is located west of the highway, in the southern part of the City, near the Woollomes Avenue interchange with SR 99.

Population

The region's economy is based on agricultural production and is well known for growing table grapes (Cal Poly San Luis Obispo, 2009; pg. 10). Two California state prisons, the North Kern State Prison and Kern Valley State Prison, are located in Delano, with a combined population of nearly 11,000. Delano's population in 2012 was 52,426 (including prison inmates), which is 1.2% less than in 2010; however, City population has risen 35% since 2000 (City of Delano, 2013c; pg. 1). The City's estimated population of 52,426 is expected to grow to 70,757 by 2025 (City of Delano, 2013a; pg. 2-6).

Existing Services

The City provides a range of services to the community, including water and wastewater services and solid waste collection. The City performs refuse collection for 8,265 residential accounts and 542 commercial accounts, as well as the prison (City of Delano, 2013e; and City of Delano, 2011a; pg. 2). The City contracts with a private company for recycling services for all residential, multifamily, and commercial accounts (City of Delano, 2011a; pg. 2). To meet service demand, the City conducts long-range planning and implements facility upgrades and new infrastructure projects. Other utility services are provided by a variety of companies, including Southern California Edison, Southern California Gas Company, AT&T, and Bright House Cable.

Water Service

The project site is located within the City's water service area. The City, as the water purveyor, provides domestic water service to residential, commercial, and industrial users within the City. As an urban community, the City is required to prepare an Urban Water Management Plan (UWMP) that develops long-term planning strategies and discusses the deliveries and uses of water including supply sources, efficiencies, and demands. The City developed the 2010 UWMP (2011) to comply with the Urban Water Management Plan Act (California Water Code section 10610) and the Water Conservation Bill of 2009 (SB X7-7) requirements (City of Delano, 2011b; pg. ix).

Groundwater

The City is located within the San Joaquin Valley Groundwater Basin within the Kern County Subbasin, which is approximately 3,040 square miles (DWR, 2006; pg. 1). The Kern River and Poso Creek are the principal waterways of the groundwater subbasin. The average subbasin groundwater level recorded in 2006 was approximately 200 feet above mean sea level (msl), which is approximately 115 feet below ground surface (bgs). However, during the period of 1970 to 2000, there was high variability in net water levels for different parts of the subbasin (Delano, 2011; pgs. 4-2 and 4-3). A major determining factor in the groundwater elevation of the Kern County subbasin is the amount of surface water that is available for agricultural use. During drought years, the agricultural entitlements from the State Water Project and the Central Valley Project are sharply curtailed, which requires farmers to exclusively use groundwater for irrigation purposes. Total groundwater storage is estimated to be 40 million acre-feet and drought aquifer storage to be 10 million acre-feet. Groundwater extraction between the period of 1926 and 1970 resulted in more than eight feet of subsidence in the north-central portion of the subbasin and nine feet in the southwestern subbasin (DWR, 2006; pg. 3). Typical well yields in the San Joaquin Valley range from 300 gallons per minute (gpm) to 2,000 gpm, with yields of 4,000 gpm possible. Well yields within the City's service typically range from 500 gpm to 2,100 gpm, with well depth ranging from 800 to 1,400 feet (Delano, 2011; pg. 4-3).

Water Supply and Distribution

The City water system consists of groundwater wells, a treatment facility, storage tanks, and distribution lines. Water is supplied entirely by groundwater, which is extracted from the Kern County subbasin groundwater aquifers and then is treated, stored, and delivered through a grid distribution system. The UWMP anticipated the City to expand from 11 wells to 17 active wells, which will increase pumping capacity from 17.9 to 23 million gallons per day (mgd) by 2013 (UWMP, 2011; pgs. 4-6). The City estimates that at full capacity the operational wells will produce an estimated 16,300 gpm or 23.5 mgd (City of Delano, 2013b; pg. 3-2).

The City currently maintains five storage reservoirs within the distribution system for a total capacity of 10.6 million gallons and a total boosting capacity of 8,950 gpm (UWMP, 2011; pg. 2-4). Delano will need to supply 23.6 mgd to meet the water demands projected for 2025. Evaluating the 2010 production capacity of 23.5 mgd to 2025 water demands, the net water requirement is 0.1 mgd. The City calculated that four new wells will be required by 2025 for new development, which assumes City obligations to

supply water to the prison and the loss of the highest producing well (#25) (City of Delano 2013a. pg. 3-2).

To provide water service to the proposed project, the City Public Works Department would install 12-inch water mains by connecting to an existing 12-inch water main on Albany Street; additional water service infrastructure improvements will be constructed on-site. All water line installations shall be constructed in accordance with the City of Delano Subdivision Standards and to the satisfaction of the City Engineer. According to the City's Public Works Director/City Engineer, installation of the pipe to the water supply system will provide adequate water service to the project (City of Delano, 2013c).

Water Quality

Generally, the City's water quality is relatively of high quality. Shallow waters within the eastern portion of the subbasin contain calcium bicarbonate and are gradually replaced by sulfate and chloride in an east to west trend across the subbasin. Average total dissolved solids (TDS) are 400 to 450 milligrams per liter (mg/L) and can range as high as 5,000 mg/L. Elevated levels of arsenic are associated with lakebed deposits, including the Central Valley, and concentration within groundwater can exceed the maximum contaminant level (MCL) (DWR, 2006; pg. 4). MCLs are derived as health-based protective drinking water standards and are to be met by the public drinking water systems. California's revision of the arsenic MCL become effective in November 2008 and is equivalent to the federal MCL standard of 10 micrograms per liter (ug/L), effective in 2006.

Arsenic concentrations in all but two of the City's wells between the monitoring years of 2000-2003 exceeded the MCL standards. In October 2008, the U.S. Environmental Protection Agency (EPA), Water Division, ordered the City and ten other California public water systems to lower arsenic levels and comply with the federal drinking water standard (EPA, 2008). In response, an Arsenic Mitigation Study was completed that recommended well head treatment for nine wells and drilling new wells to augment the supply capacity (City of Delano, 2011b; pg. 4-4). The City's arsenic mitigation project was completed in 2012 and resulted in wellhead treatment on four existing wells (#21, #22, #24, and #26); rehabilitation on well #20, and drilling ten new wells (#27 through #35 and #38) (City of Delano, 2012).

Wastewater and Sewer Service

The City also provides domestic sewer collection and disposal services to residential, commercial, and industrial users within the City limits, North Kern State Prison (incorporated area outside of City limits) and some unincorporated areas. The sewer system includes collection lines, lift stations, and a sewer treatment facility. Domestic and industrial wastewater is treated at the City's wastewater treatment plant (WWTP) located west of the City on Lytle Avenue, between Garces Highway and Cecil Avenue. In 2011, an expansion of the WWTP was completed that increases capacity from 4.4 mgd to 8.8 mgd (City of Delano, 2011b; pgs. 4-8 and 4-9). The expansion and improvements were essential to serve the growing community. Design of the Wastewater Facilities Expansion Project was conducted in December 2005, and implementation was completed in 2011 (Delano 2013a; pg. 4-1).

Wastewater improvements necessary for the proposed project will be constructed in accordance with City of Delano Subdivision Standards and to the satisfaction of the City Engineer. According to the City Engineer, adequate wastewater treatment capacity is available to the project after installing a 12-inch sewer main on Dover Parkway that will connect to the existing 18-inch sanitary sewer line on Woollomes Avenue (City of Delano 2013b, pg. 1).

Storm Water

Storm water in the vicinity of the project site flows into an existing City-owned unlined 100 acre-foot storm water detention basin located at the southwest corner of the intersection of South Albany and Woollomes Avenue. For further discussion of storm water drainage, see Section 3.8, Surface Water Hydrology and Water Quality.

Solid Waste Services

The City provides municipal waste collection services, twice-per-week pickup, within the City limits. Waste collected from the City is transported for disposal to the Shafter-Wasco Recycling and Sanitary Landfill (landfill) located at 17621 Scofield Avenue in Shafter, CA, approximately twenty miles southwest of Delano. The landfill is permitted to accept solid waste and composting of green waste. CalRecycle (formerly the California Integrated Waste Management Board) issued a permit on February 24, 2010 to operate the 357-acre landfill, which is projected to close in the year 2059 (KCWMDe, 2013; pg. 1). The permitted maximum tonnage is 1,500 tons per day, with a permitted capacity of 21,895,179 cubic yards and an estimated capacity date of October 2056 (Kern County, 2013; pg. 1).

Energy, Electricity and Natural Gas

There are no locally produced power sources for the City. Edison International is the primary provider of electricity for the City and natural gas is provided to urbanized areas by the Southern California Gas Company (City of Delano, 2005; pg. 8-4). AT&T provides residential and commercial telephone service, and cable television is provided by Bright House.

3.14.2 REGULATORY SETTING

State Regulations

The Urban Water Management Planning Act (UWMP)

The Urban Water Management Planning Act (Water Code, section 10610 et seq.) requires urban water suppliers to develop an UWMP that describes and evaluates water deliveries and uses, water supply sources, efficient water uses, and demand management measures. Urban water suppliers are suppliers that have at least 3,000 customers; they must update the plans every five years. The UWMP is required to provide long-term resource planning that identifies the agencies' responsibilities to ensure that adequate water supplies are available to meet existing and future demands (Water Code section 10612, subd. 10612 (b)). Urban water suppliers are required to assess current demands and supplies over a 20-

year planning horizon and consider various drought scenarios. The UWMP Act also requires water shortage contingency planning and drought response actions.

Central Valley Regional Water Quality Control Board

The primary responsibility for the protection of water quality in California rests with the SWRCB and nine RWQCBs. The SWRCB sets statewide policy for the implementation of State and Federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans) that recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The jurisdiction of the Central Valley RWQCB extends from the Oregon border, over the valley and foothills from Redding to Fresno, through the Central Valley, to the border with Los Angeles County, and includes the existing MWTS and proposed expansion (project) site.

California Water Resources Control Board

The NPDES was established per the 1972 amendments to the Federal Water Pollution Control Act, or CWA, to control discharges of pollutants from point sources (Section 402). Amendments to the CWA created a new section to the act, which is devoted to stormwater permitting (Section 402[p]), with individual states designated for administration and enforcement of the provisions of the CWA and the NPDES permit program. The SWRCB issues both general construction permits and individual permits under this program.

California Water Code Section 13260

California Water Code Section 13260 requires any person who discharges waste, other than into a community sewer system, or proposes to discharge waste that could affect the quality of waters of the State to submit a report of waste discharge to the applicable RWQCB. Any actions of the proposed project that would be applicable under California Water Code Section 13260 would be reported to the Central Valley RWQCB.

Water Conservation in Landscaping Act (AB 1881)

In 2006, the legislature enacted Assembly Bill 1881 (AB 1881), which required the Department of Water Resources (DWR) to draft a Model Water Efficient Landscape Ordinance, which was adopted in 2009 as Chapter 2.7, Division 2 of Title 23 of the California Code of Regulations (DWR, 2013b). AB 1881 makes the model ordinance applicable within the jurisdiction of a local agency if the agency has not adopted a water efficient landscape ordinance or has not adopted findings that the adoption of the ordinance is unnecessary (Gov. Code section 65595(c)(1)).

The ordinance applies to public and private development projects with a landscaped area of 2,500 square feet or more that require a building or landscape permit, plan check or design review (Cal. Code Regs., title 23, section 490.1). Such projects are required to submit a detailed Landscape Documentation Package to the agency that discusses water efficiency, soil management, and landscape design elements (Cal. Code Regs., title 23, sections 490.1, 492.1, 492.3).

Water Conservation Bill of 2009 (SB X7-7)

In November 2009, the California legislature enacted comprehensive water conservation legislation, Senate Bill (SB X7-7). The legislation set a long-term goal of reducing per capita urban water use by 20% by December 31, 2020 and an interim goal of reducing per capita water use by at least 10% by December 31, 2015 (DWR, 2013a).

California Integrated Waste Management Act

The California Integrated Waste Management Act (AB 939) was established in 1989 to address decreasing landfill capacity by mandating waste reduction. All jurisdictions, including Kern County, were required to divert 25 percent of all solid waste from landfill facilities by 1995 and 50 percent by 2000. Some county jurisdictions had difficulty reaching mandates partially due to complex methodology in calculating diversion rates. As a result, the legislation was amended in 2007 (SB 1016), introducing a new per capita disposal and goal measurement system that focuses on using an actual disposal measurement number as a per capita disposal rate factor. The new disposal-based indicator of pounds per person per year uses the jurisdiction's population and its disposal as reported by disposal facilities (CalRecycle, 2012).

California Department of Resource, Recycling, and Recovery

On January 1, 2010, California's recycling and waste diversion efforts were streamlined into the new Department of Resources Recycling and Recovery (CalRecycle). CalRecycle manages programs created through two landmark initiatives, the Integrated Waste Management Act and the Beverage Container Recycling and Litter Reduction Act, which were formerly part of the California Integrated Waste Management Board (CIWMB) and the Department of Conservation. Now housed in the Natural Resources Agency, CalRecycle merges the duties of the board with those of the Department of Conservation's Division of Recycling to best protect public health and the environment by effectively and efficiently managing California's waste disposal and recycling efforts.

Mandatory Commercial Recycling (AB 341)

California Public Resources Code, sections 42649 to 42649.7, and the California Code of Regulations, title 14, sections 18835 to 18839, require mandatory recycling for commercial businesses that generate solid waste. Effective July 2012, businesses are required to take actions to reuse, recycle, compost, or otherwise divert commercial solid waste from disposal. Actions include either: 1) source separation of recyclable and/or compostable materials form the solid waste stream and self-hauling or arranging for hauling of the recyclables and/or compostable materials separately from solid waste or 2) subscribing to a recycling service. Property owners of commercial complexes can require tenants to source separate their recyclable materials. Each business is responsible for demonstrating it is taking action to recycle (CalRecycle, 2013b; pg1).

California Green Building Standards Code

The California Green Building Standards Code (Title 24, Part 11 California Code of Regulations), took effect in 2011 and mandates more energy efficient and water efficient building methods and resource

conservation measures for all newly constructed commercial projects (California Building Standards Commission, 2012; pg. 1; and KCWMD, 2013d).

The Green Building Standards Code's provisions on Construction Waste Reduction, Disposal and Recycling ensure that buildings use environmentally advanced construction practices, including construction waste diversion. Specifically, projects are required to submit and obtain approval of a construction waste management plan from the local building department before construction, recycle or reuse a minimum of 50% of construction and demolition waste, and recycle or reuse 100% of tree stumps, rocks, and vegetation unearthed by land clearing (California Building Standards Commission, 2012; pgs. 43 to 45 and 171 to 172). The Green Building Standards Code, along with the rest of the California Building Standards Code (Title 24, California Code of Regulations) is incorporated by reference in the City Municipal Code (City of Delano, 2002; section 14.03.010).

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations establishes California Building Energy Efficiency Standards. The standards, updated in 2005 and amended in 2008, set goals of reducing growth in electricity use by 561.2 gigawatt-hours per year (GWh/y) and growth in natural gas use by 19 million therms per year (therms/y). The savings attributable to new nonresidential buildings are 151.2 GWh/y of electricity savings and 3.3 million therms. For nonresidential buildings, the standards establish minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs. New amendments to the standards took effect on January 1, 2014 that require new nonresidential buildings to be "solar ready," among other changes (California Energy Commission, 2013a; and California Energy Commission, 2013b; pgs. 2 to 5).

Regional Regulations

Kern County Recycling Ordinance

Effective October 12, 2012, the Kern County Board of Supervisors established a commercial recycling program through Ordinance G-8337, which was developed to comply with the state mandatory commercial recycling law (AB 341) described above. Generally, the ordinance provides activities and programs for commercial businesses to promote recycling and diversion of solid waste from landfills (Kern County, 2012; pg. 2). Businesses may self-recycle and certify compliance with the ordinance to meet mandatory commercial recycling requirements, among other methods of compliance (KCWMD, 2013a; pg. 3).

Local Regulations

City of Delano General Plan

Utility improvements and services and design issues are addressed in the Open Space and Conservation Element (Section 4), the Community Design Element (Section 6), and the Public Services and Facilities Element (Section 8) of the City of Delano General Plan (City of Delano, 2005). A key objective in the General Plan is for new development to "pay its own way" for public facilities by contributing to the cost

of providing services and facilities. The General Plan's policies are essential to long-range planning to provide urban services that provide balance to growth patterns. New development will be encouraged in areas that can accommodate the increased demand on public services and facilities (City of Delano, 2005; pg. 1-3). Development fees are levied on new development on a one-time basis to cover the cost of infrastructure or facilities needed to accommodate the development (City of Delano, 2013b; pg. 1-1).

The purpose of the General Plan Elements is to guide the City as it seeks to maintain its rural character while gaining the benefits of urbanized communities.

The City General Plan objectives, policies, and standards for commercial development and other design considerations are presented below:

Open Space and Conservation Element

4.11 Natural Resources

Objective A: Protect natural resources including groundwater, soils, and air quality, to meet the needs of present and future generations.

Policy 2 Expand programs that enhance groundwater recharge in order to maintain the groundwater supply, including the installation of detention ponds in new growth areas.

Policy 3 No urban level development shall be approved in the City unless the development is, or can be served by the City sewer system.

Policy 4 Water conservation methods shall be continued.

(City of Delano, 2005; pg. 4-18)

Community Design Element

6.5 Gateways/Streetscape Design

Objective A: Improve appearance of the City streets and reduce visual clutter along the City's main thoroughfares/corridors.

Policy 2 The undergrounding of utilities along the City's main corridors is a priority. In developing areas, new development projects shall place all new utility lines underground. The City will also explore a range of options for undergrounding utilities in existing developed areas.

(City of Delano, 2005; pg. 6-3)

Public Facility Element

8.4 Public Facility Improvement

Objective A: Ensure that new development pays its own way, including both needed facilities and incremental demands on existing facilities.

Objective B: Provision of adequate services and facilities needed to support existing and planned land uses throughout the community.

Policy 5 Require the extension and construction of infrastructure to proposed developments according to adopted elements and master plans. The City shall use reimbursement agreements or other financing techniques to reimburse developments for any oversizing cost, which may be required.

Policy 9 Development fee credit may be given for public improvements made by a builder but shall not exceed the amount of fees.

Policy 10 Developers shall construct all tributary facilities necessary to connect to major facilities, whether or not the major facilities have yet been constructed.

Policy 15 New development shall demonstrate that adequate sewerage capacity exists prior to development or that conditions of project approval will insure that sewerage capacity will be created as part of the project prior to the issuance of building permits. Conditions may include installation of necessary facilities or other methods acceptable to the City.

Policy 18 The City shall require the connection of existing and new businesses, residents and industries to the City's water and sewer system. The City shall establish fees, which enable it to recover the costs of such connection.

Policy 19 A finding shall be made by the Public Works Department to document that an adequate supply of potable water can be provided to serve the domestic and fire suppression needs of each proposed development prior to approval by the City Council.

Policy 20 Conditions of approval shall be implemented with each development to assure that the necessary water production, distribution and/or treatment facility is in place prior to issuance of a building permit.

Policy 23 A finding shall be made by the Public Works Department to document that sewer collection and wastewater treatment can be provided to serve each proposed development prior to approval by the City Council.

Policy 24 Conditions of approval shall be implemented with each development to assure that the necessary sewer collection facility is in place and/or WWTP capacity is available prior to issuance of a building permit.

(City of Delano 2005; pgs. 8-8 to 8-11)

City of Delano Municipal Code

A number of City ordinances address the provision and use of utilities, including the following.

Chapter 12.36 Developer Impact Fees

This chapter specifies that the purpose of developer impact fees is to provide adequate public facilities and to maintain an adequate level of services to accommodate new development. The cost to developers is proportionate to the anticipated service and facility demands associated with the

proposed project and to maintain public facilities and services to existing development that minimizes cost to the existing city population.

Section 12.28.100 Responsibility of Property Owners to Construct Service Connection

This provision requires that every person owning, operating, occupying, or renting a building or structure within a district, shall construct and provide that portion of the service connection on his property between the facilities referred to in section 12.28.090 (utility underground construction, see below), and the termination facility on or within the building or structure being served, all in accordance with the applicable rules, regulations, and tariffs of the respective utility or utilities on file with the commission.

Section 12.28.090 Responsibility of Utility Companies

This code section provides, "If underground construction is necessary to provide utility service within a district created by any resolution adopted pursuant to Section 12.28.040, together the supplying utility shall furnish that portion of the conduits, conductors and associated equipment required to be furnished by it under its applicable rules, regulations and tariffs on file with the commission."

Section 13.48.060 Refuse collection service required

This provision requires every person or legal entity owning or occupying a developed parcel, including for commercial purposes, to subscribe to the garbage collection service and recycling program service from the City.

Chapter 13.52 Diversion Requirement and Waste Management Plans

These sections of the Municipal Code require that at least fifty percent of waste tonnage from construction, demolition, and renovation waste be diverted from disposal in landfills or similar facilities and that all construction and renovation projects (250 square feet or greater) submit a waste management plan prior to beginning any construction or demolition. Compliance is a condition of approval on any building or demolition permit. Within 30 working days following the completion of the construction phase of a project, the applicant shall submit documentation to the compliance with the Waste Management Plan and diversion requirements.

Section 13.04.110 Mandatory conservation schedule

This ordinance sets forth a water conservation watering schedule in which water customers with even-numbered addresses may only irrigate outside of buildings on Sundays, Wednesdays, and Fridays, and customers with odd-numbered addresses may only do so on Saturdays, Tuesdays, and Thursdays. On Mondays, no outdoor watering may be performed by any customers.

Section 13.04.120 Prohibition on waste of water

In accordance with the City UWMP, this code section establishes prohibitions on water waste (City of Delano, 2011b; pg. 6-1 to 6-2). The ordinance defines and prohibits numerous types of waste, including washing of sidewalks and driveways, failure to repair leaks, use of ornamental fountains

that do not recycle water, and landscape irrigation runoff that allows water to flow into gutters, among others. For further discussion, see Mitigation Measure **MM 3.14-3**.

3.14.3 IMPACTS AND MITIGATION MEASURES

Methodology

The analysis of potential utilities and service system impacts is based upon information contained in the City of Delano General Plan (2005) and Development Cost and Fee Study (2013), the Hydrology Study for the Delano Grapevine Site (Cornerstone Engineering, 2013, Appendix 3.8 pgs. 31 to 119 of appendix), the Cornerstone Earthwork Memo for the project (Cornerstone Engineering, 2013, Appendix 3.8, pgs. 120 to 123 of appendix), other technical documents provided by the City, and information supplied by local service providers, among other resources.

Standards of Significance

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines Appendix G (OPR, 2013; and City of Delano, 2013; pg. 34). For the purposes of this DEIR, impacts are considered significant if implementation of the proposed project could result in any of the following:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
3. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
4. Lack sufficient water supplies available to serve the project from existing entitlements and resources, so that new or expanded entitlements would be needed.
5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
6. Lack service by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
7. Not comply with federal, state, and local statutes and regulations related to solid waste.

Effects Found Not to Be Significant

As analyzed in the Notice of Preparation (NOP), one potential effect related to Utilities was found not to be significant because the project will have no impacts in this area. This effect is whether the project would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (City of Delano, 2013d; pg. 34 and 35).

For additional discussion, see Section 6.2, Effects Found Not to Be Significant.

Potential Environmental Impacts

Impact 3.14-1 The proposed project could require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The proposed project will be provided with potable water supplied by the City and wastewater treatment through the City's wastewater treatment plant (WWTP). The City has 17 active groundwater wells with an estimated supply capacity 16,300 gpm or 23.5 mgd (City of Delano, 2013b; pg. 3-2).

The City currently maintains five storage reservoirs within the distribution system for a total capacity of 10.6 million gallons and a total boosting capacity of 8,950 gpm (UWMP, 2011; pg. 2-4). Delano will need to supply 23.6 mgd to meet the water demands projected for 2025. Evaluating the 2010 production capacity of 23.5 mgd against 2025 water demands, the net water requirement is 0.1 mgd. The City calculated that four new wells will be required by 2025 for new development, which assumes the loss of the highest producing well (#25), and includes the City obligation to supply water to the prison (City of Delano 2013a. pg. 3-2).

Domestic and industrial wastewater is treated at the City's WWTP, which was upgraded in 2011. The expansion increases capacity to 8.8 mgd and with additional system improvements, the WWTP will be capable of serving up to 80,000 people.

The proposed project will require the installation of a 12-inch water main and a 12-inch sewer main to service the proposed project (City of Delano, 2013c; pg. 1). The City General Plan requires new developments to connect to the City water and sewer system (City of Delano, 2005; pg. 8-10, Policy 18). The General Plan also requires that conditions of approval be implemented with the development to ensure that all necessary water distribution and sewage collection infrastructure is in place, and that sufficient sewer capacity is available, prior to issuance of a building permit (City of Delano, 2005; pg. 8-10 to 8-11, Policies 20 and 24). Additionally, findings by the Public Works Department must be made that sufficient potable water, sewer collection, and wastewater treatment are available for the project before the project may be approved by the City Council (City of Delano, 2005; pg. 8-10 to 8-11, Policies 19 and 23). The City has identified that sufficient potable water supplies and wastewater treatment capacity are available to service the project, and development of the project will not result in or require the construction of a new water or water treatment facility or expansion of the existing facility. The proposed project will be required to pay water and sewer development impact fees to the City to pay its share of infrastructure improvements (City of Delano, 2013f; pgs. 1, 3, and 6).

Therefore, the project will have a **less than significant** impact relating to construction of new water or wastewater treatment facilities or expansion of existing facilities.

Impact 3.14-2 The project would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Accommodation of storm water drainage from the proposed project will require extension of an existing 60-inch line, which will empty into the existing City storm water detention basin located at the southwest corner of the intersection of South Albany and Woollomes Avenue. The detention basin has a capacity of approximately 100 acre-feet and is owned by the City.

City Standard 48-2.01(b) requires that detention basin capacity be raised a minimum of one acre-foot for each eight acres of commercial development (City of Delano, 1995; pg. 4-8 to 4-9). According to calculations and recommendations made by Cornerstone Engineering, the proposed project would be required to expand the City's existing storm water basin to provide 7.7 acre-feet of additional basin capacity in order to accommodate design storm water flows generated by the proposed project (Cornerstone Engineering, 2013; Table 1).

A temporary storm water detention basin of approximately 25,300 cubic yards currently exists on the site of the proposed project. The basin is used to accommodate storm water flow generated during the construction phase of development for the existing Delano Marketplace project. The basin will be filled to grade with suitable fill soil prior to grading of the site as described in Mitigation Measure **MM 3.6-2** in Section 3.6, Geology and Soils. In order to avoid the receipt of further storm water flows from the Delano Marketplace site, this storm water connection must be replaced by another storm water connection for the Delano Marketplace project. As noted in Section 3.8, Hydrology and Water Quality, impacts related to stormwater drainage, as well as construction-related erosion and sedimentation would be further reduced with implementation of **MM 3.8-1a** and **MM 3.8-1b**, that call for an approved SWPPP and best management practices (BMPs) required by the City.

Implementation of City requirements, Mitigation Measures **MM 3.14-2a, MM 3.14-2b** and **MM 3.14-2c**, as well as **MM 3.8-1a** and **MM 3.8-1b** would reduce any potential impacts related to storm water drainage facilities to a **less than significant** level.

Mitigation Measures

MM 3.14-2a Prior to issuance of grading permits and subject to review and approval by the City, an extension to an existing 60-inch line shall be constructed to connect with the existing City storm water detention basin.

MM 3.14-2b Prior to issuance of grading permits and subject to review and approval by the City, the project applicant shall expand the City's existing off-site storm water basin by a minimum of 7.7 acre-feet to accommodate storm water runoff generated by the proposed project; this is in addition to the expansion necessitated by the Delano Marketplace project. The applicant shall perform the necessary capacity expansion prior to approval of a grading permit for the proposed project. The storm water drainage plans and design calculations shall be subject to review and approval by the City.

MM 3.14-2c Prior to issuance of a grading permit, and subject to review and approval by the City, the project applicant shall fill the existing emergency storm water basin located on the project site. The project applicant shall also disconnect the existing emergency storm water basin from the Delano Marketplace project, and then establish a new connection to the City's existing off-site detention basin.

Impact 3.14-3 The project could have sufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements could be needed.

The project site is included in the City's water service. Current municipal capacity is 8,400 gpm or 12.1 million gallons a day (mgd). The City's current maximum daily demand is approximately 13.0 mgd, which results in a gross surplus of 8.0 mgd or 9,125 acre-feet per year. In addition, the City currently maintains five storage reservoirs within the distribution system for a total capacity of 10.6 million gallons and a total boosting capacity of 8,950 gpm. The City has already planned for four additional wells to be completed by 2025.

The City General Plan requires that conditions of approval be implemented with the development to ensure that all necessary water production and distribution infrastructure is in place prior to issuance of a building permit (City of Delano, 2005; pg. 8-10 to 8-11, Policy 24). Additionally, findings by the Public Works Department must be made that an adequate supply of potable water is available for the project before the project may be approved by the City Council (City of Delano, 2005; pg. 8-10, Policy 19). The Public Works Department has stated that sufficient potable water is available to service the project and that development of the project will not result in or require the construction of a new water facility or expansion of existing facilities. The proposed project will be required to pay water and sewer development impact fees to the City to pay its share of infrastructure improvements and incremental demands on existing water facilities (City of Delano, 2013f; pgs. 1, 3, and 6).

Although the proposed project will increase the demand for potable water, the incremental increase in water demand would not result in demand for water supply over existing conditions, assuming water conservation practices are implemented. Under SB X7-7, the City is required to reduce water use 20% by the year 2020. The City promotes water use efficiency and works to prevent waste of water. Additionally, the City's UWMP requires the implementation of Demand Management Measures, including waste prohibitions that the City has enacted as section 13.04.120 of its Municipal Code and a mandatory conservation schedule enacted as section 13.04.110 (City of Delano, 2011b; pg. 6-1 to 6-2). In order to comply with these standards, the project will implement **MM 3.14-3b** and **MM 3.14-3b**, to institute and maintain conservation measures based upon sections 13.04.110 and 13.04.120.

However, to further ensure that there is sufficient water for the proposed project, Mitigation Measure **MM 3.14-3a** would require the applicant to obtain a will-serve letter for the provision of water to all the proposed project facilities. With the implementation of **MM 3.14-3a** and **MM 3.14-3b**, impacts to the water supplied to the project would be considered **less than significant**.

Mitigation Measures

MM 3.14-3a: Prior to issuance of the Certificate of Occupation, a will-serve letter for water provision from the City shall be obtained by the applicant.

MM 3.14-3b The project applicant shall implement water conservation methods as required by the City. These methods include, but are not limited to, the following:

1. Outdoor watering may not occur on Mondays.
2. During construction and operation of the project, water will not be used in a manner which allows water to run off the property or area to which it is being applied. This is specifically in reference to, but not limited to, the irrigation of turf, ground cover, trees, or other forms of landscaping that result in water flowing into gutters, drains, ditches, or other non-target areas of the irrigation system.
3. The washing of building exteriors may only be performed with a hose with a positive stop device and a bucket.
4. Driveways, sidewalks, parking lots, patios, or other hard surfaces of the project will not be washed. These areas will be swept in lieu of using any water.
5. Lawns, ground cover, trees, and shrubbery will not be watered between the hours of eleven a.m. and six p.m. from May 1 to September 30 or during periods of high winds exceeding twenty miles per hour. Drip, bubbler, and soaker hose irrigation systems will be excepted from these requirements.
6. All leaks or malfunctioning plumbing will be repaired within twenty-four hours.
7. Ornamental fountains that do not recycle the water will not be operated.
8. Irrigation systems will not be operated in such a manner that water is applied to more than an incidental amount of driveway, sidewalk, patio, parking lot, or other hard surface or area, including bare ground not sustaining plant material that would require water.
9. Water will not be allowed to gather into a pool or puddle where it serves no useful purpose but may act as a harbor or breeding place for mosquitoes.

(City of Delano, 2008; sections 13.04.110 and 13.04.120)

Impact 3.14-4: The project could result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The 2011 WWTP expansion increased treatment capacity from 4.4 mgd to 8.8 mgd (City of Delano, 2011b; pgs. 4-8 and 4-9). Before the City Council may approve the project, findings are required by the Public Works Department to document that sewer collection and wastewater treatment can be provided to serve each proposed development, in accordance with the City General Plan Public Facility

Element, subsection 8.4, Policy 23 (City of Delano 2005; pg. 8-11) The General Plan also requires that conditions of approval be implemented with the development to ensure that sufficient sewer capacity is available prior to issuance of a building permit (City of Delano, 2005; pg. 8-11, Policy 24).

Additional wastewater infrastructure improvements shall be constructed on-site by the project applicant in conformance with City standards. The project would be responsible to construct the local collection lines, and sewer development impact fees would be assessed to cover the cost of infrastructure improvements necessary to serve the proposed project. Implementation of the proposed project would not result in a substantial increase in wastewater flows. According to the City Engineer, adequate wastewater treatment capacity is available to the project that will include installing a 12-inch sewer main on Dover Parkway that will connect to the existing 18-inch sanitary sewer line on Woollomes Avenue (City of Delano 2013c, pg. 1). Development of the proposed project will increase the demand for wastewater collection and disposal. The City will provide sewage collection and disposal to the proposed project, and adequate capacity exists to serve the project's projected demand along with the City's existing commitments, provided the project connects to the City wastewater treatment system according to the City's specifications (City of Delano, 2013c; pgs. 1 to 2). This is considered a **less than significant** impact.

Therefore, the project will have a **less than significant** impact relating to wastewater treatment capacity.

Impact 3.14-5 The proposed project will be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

The proposed project includes commercial establishments including a 12-screen theater, a lifestyle component to include retail shops and restaurants (sit-down and fast-food), mid-size retailers and outparcels for fast food, and drive-through and sit-down restaurants, all of which will generate solid waste. The project site is located within the City of Delano Universal Collection Area, and the Public Works Department Refuse and Solid Waste Division will provide the solid waste removal service for the ongoing commercial businesses at the project.

During construction, waste is expected to be generated, including inert debris such as concrete, drywall, glass, packing material, pallets, pipe, steel, and wood. Construction and debris waste (C&D) is accepted at the Shafter-Wasco facility, which encourages diversion and recycling of certain materials including scrap metal, wood waste, and clean loads of inert materials. Non-hazardous C&D and associated refuse would be segregated on-site to promote recycling where possible and then disposed of at the Shafter-Wasco facility. Prior to beginning any construction activities, the project applicant will be required to submit a waste management plan for C&D waste as a condition of approval of a building permit (City of Delano, 2006; sections 13.52.050 and 13.52.060). The project applicant will be required to post a deposit in an amount set by a resolution of the City Council that will be returned after proof is provided to the Waste Management Plan compliance official the required amount of C&D waste has been diverted from disposal and recycled or reused (City of Delano, 2006; section 13.52.070). Record-keeping of C&D waste recycling and reuse during the project by the project applicant is mandatory (City of

Delano, 2006; section 13.52.080). Proof of compliance with the Waste Management Plan and with the diversion requirement must be submitted within thirty working days following construction of the project as a condition precedent to final inspection and to issuance of any certificate of occupancy or final approval of the project (City of Delano, 2006; section 13.52.090).

A Waste Generation Worksheet was completed for the project to determine the amount of waste that will be generated during construction and business operations of the proposed project (KCWMD, 2013a; pgs. 1 to 2). Based on calculations in the worksheet, the project will generate approximately 2.62 million pounds/year of solid waste during construction and 4.27 million pounds/year during ongoing business operations at full build-out.

The Shafter-Wasco Sanitary Landfill is a Class III landfill located about 20 miles southwest of the project site. The Shafter-Wasco Landfill is a Class III landfill and accepts construction and demolition wastes, green waste, clean inerts, metals, and mixed municipal waste. The remaining capacity at the Wasco Shafter Sanitary Landfill is approximately 9.8 million cubic yards. The estimated closure date for this landfill is 2059 (Kern County Waste Management, 2013e). Vegetation wastes generated by site clearing and grubbing would be either chipped/mulched and spread on-site or hauled off-site to an appropriate green waste facility. Table 3.14-1 identifies the characteristics of the Shafter-Wasco Landfill.

TABLE 3.14-1
SUMMARY OF KERN COUNTY WASTE MANAGEMENT LANDFILL

Landfill	Permit Capacity per day (tons/day)	Remaining Capacity (cubic yards)[1]	Maximum Permitted Capacity (cubic yards)	Permit Expiration Date
Shafter Wasco	1,500[2]	9,819,837	21,895,179	2059

[1]Remaining capacity date as of January 2013
[2]Based on 300 days per calendar year
Source: Kern County Waste Management 2013e

The Shafter-Wasco Sanitary Landfill has sufficient capacity to accommodate the solid waste disposal needs of the proposed project, provided the project complies with applicable programs, including recycling, established by the KCWMD to meet state regulatory requirements and state-mandated waste diversion and recycling targets (KCWMD, 2013f; pgs. 1 to 2; KCWMD, 2013d; and KCWMD, 2013a; pgs. 2 to 3). Additionally, **MM 3.7-2** (see Section 3.7 Hazards and Hazardous Materials), requires the project applicant to obtain an approved hazardous materials business plan that outlines hazardous material and hazardous waste storage areas; describes proper handling, storage, transport, and disposal techniques; describes methods to be used to avoid spills and minimize impacts in the event of a spill; and describes procedures for handling and disposing of unanticipated hazardous materials encountered during construction. With the implementation of Mitigation Measures **MM 3.14-4** through **MM 3.14-6**, as well as **MM 3.7-2**, the project will have a **less than significant** impact on solid waste.

The proposed project would comply with federal, state, and local, statutes and regulations related to solid waste. The project would dispose of waste according to applicable requirements of state and local

laws and regulations discussed above. The landscaped area of the proposed project would not exceed 2,500 square feet, and so a Landscape Documentation Package under AB 1881 will not be required. Implementation of Mitigation Measures **MM 3.14-5a through MM 3.14-5d** would ensure compliance with state and local recycling, waste disposal, and universal and hazardous waste disposal requirements during project construction and operations. Therefore, the project would have a **less than significant impact** related to compliance with solid waste laws, and no additional mitigation is necessary.

Mitigation Measures

MM 3.14-5a Prior to the issuance of building permits, the project applicant shall submit a waste management plan for C&D waste to the City documenting that all future commercial businesses at the project will have contracted franchise hauler agreements to maintain a recycling program that appropriately segregates recyclable materials, compostable materials, and trash in compliance with state mandatory commercial recycling requirements (AB 341). The franchise hauler will meet the requirements of Kern County ordinance G-8337 (Kern County, 2013; pgs. 4 to 5; and KCWMD, 2013b).

MM 3.14-5b Prior to the issuance of building permits, the project applicant shall submit a site plan illustrating required recycling storage area(s) to the City for approval. The site plan should show fenced storage areas for recyclable materials that are clearly identified for recycling, as required by the City. As requested by KCWMD, a site plan showing the recycling storage area will be submitted to the City Community Development Department prior to construction of the project (KCWMD, 2013f; pg. 2).

MM 3.14-5c Prior to the issuance of a Certificate of Occupancy, the project applicant shall provide refuse and source-separated consolidation containers located both inside and outside the shopping center, in order to comply with AB 341. Consolidation containers located inside the shopping center will be designed to promote the separation of solid waste and recyclable material. Design features for consolidation containers located outside the shopping center will include adequate storage for refuse and source-separated materials, and will be designed to provide safe access for employees and/or customers to use the containers (KCWMD, 2013f; pg. 2). The consolidation containers shall meet the requirements of all applicable City or Kern County ordinances and regulations.

MM 3.14-5d In addition to consulting the hazardous waste disposal program resources listed in **MM 3.7-2** (see Section 3.7, Hazards and Hazardous Materials), the project applicant will provide documentation to the City that the solid waste segregation programs of all commercial tenants provide for collection of universal waste or other hazardous waste, which is prohibited from disposal at solid waste facilities.

3.14.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

The proposed project's contribution to an increased need for utilities and service systems is considered in the context of other past, present, and reasonably foreseeable future projects in the area. The geographic scope of the cumulative utilities analysis is the City, the provider of most services to the project. The proposed project would not contribute incrementally to a need for new water, wastewater, stormwater, or solid waste disposal facilities in the project area and so the project would have a **less than significant** cumulative impact.

Significant cumulative impacts would occur if the other projects identified would overburden utilities and service systems or if agencies would be unable to provide adequate services, thereby resulting in significant combined impacts related to the need for development of new facilities.

Regarding stormwater drainage impacts of the proposed project, all proposed projects in the area would be required to would comply with City standards, ordinance, and codes, including Title 17, Buildings and Construction, of the City Zoning Ordinance, and obtain grading and building permits issued by the City of Delano. Further, grading activities of any project would be conducted in a manner that complies with these requirements along with the requirements of the State of California as mandated by the Construction General Permit. Mitigation Measures **MM 3.14-1** through **MM 3.14-3**, **MM 3.6-2** (related to the removal of the existing retention basin), as well as **MM 3.8-1** that requires an approved SWPPP, would reduce cumulative impacts related to stormwater.

As noted above, adequate water supplies are available to serve the proposed project. The proposed project would be required to pay water and sewer impact fees to cover its share of the cumulative impact upon municipal utility systems. Mitigation measures aimed at water conservation will ensure that the project's incremental contribution to cumulative impacts remains less than significant, including **MM 3.14-3b**.

Additionally, the proposed project is not expected to result in significant impacts to any Kern County landfills, including the Shafter-Wasco Sanitary Landfill. The Shafter-Wasco Sanitary Landfill has adequate capacity to serve the proposed project. The generation of waste from cumulative projects, including residential and commercial developments, as well as other projects, could result in a cumulative impact. To ensure that the proposed project reduces the amount of waste sent to landfills, Mitigation Measures **MM 3.14-5a** through **MM 3.14-5d** are proposed to require project-generated debris and waste to be recycled to the extent feasible during construction. All handling and disposal of solid waste and recyclable materials would occur in compliance with applicable state and local regulations. Similarly, other planned projects would be expected to comply with state and local waste reduction policies. Thus, the proposed project would not be expected to combine with impacts from past, present, or reasonably foreseeable projects and result in a cumulative impact on area landfills.

Because the project will result in a need for an expanded storm water detention facility, the project will be required to implement its fair share of mitigation measures designed to alleviate its incremental contribution to the impact. Under Mitigation Measures **MM 3.14-2b** and **MM 3.14-2c**, the project would expand the City's existing off-site storm water basin to accommodate storm water runoff from the project.

Therefore, based on the above analysis, the project's incremental contribution to utility impacts would be less than considerable, the project would have a **less than significant** cumulative impact.

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4.0 ALTERNATIVES TO THE PROJECT

4.1 GENERAL CEQA REQUIREMENTS

CEQA requires an EIR to consider a reasonable range of alternatives to the proposed project. The alternatives considered should feasibly attain most of the basic objectives of the project, but will avoid or substantially lessen any of the identified significant environmental effects (CEQA Guidelines section 15126.6(a)).

CEQA provides the following guidelines for discussing project 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 (section 15126.6(a))
- An EIR is not required to consider alternatives that are infeasible (section 15126.6(a))
- The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project (section 15126.6(b))
- The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects (section 15126.6(c))
- The EIR should briefly describe the rationale for selecting the alternatives to be discussed (section 15126.6(c))
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project (section 15126.6(d))
- The specific alternative of “no project” shall also be evaluated along with its impact. The purpose is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project (section 15126.6(e)(1))
- If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (section 15126.6(e)(2))

An EIR need not consider an alternative whose effects could not be reasonably identified, whose implementation is remote or speculative and that would not achieve the basic project objectives. Mitigation measures outlined in these issue areas’ respective sections would reduce impacts; however, the impacts would remain significant and unavoidable. As a result, CEQA requires that an alternatives section be prepared to discuss alternatives to the proposed project that are capable of avoiding or

substantially reducing effects on these resources. The significant and unavoidable impacts of the proposed project are discussed below.

4.2 SIGNIFICANT IMPACTS OF THE PROPOSED PROJECT AFTER MITIGATION

- Air Quality
- Traffic (short-term operational impact that would occur between operation of the proposed project and full build out under cumulative conditions)

4.3 PROJECT OBJECTIVES

The following is a summary of the principal objectives of the Delano Grapevine Project. The objectives provide an important benchmark in conducting the comparative alternatives analysis and the feasibility of each alternative. As discussed previously, an alternative is only meaningful for consideration if it can meet the basic objectives of the proposed project. The project will serve the following objectives:

- To develop a retail project on the subject property that is consistent with the City of Delano (City) General Plan
- To provide commercial development that can be adequately served by public services and utilities in a feasible manner
- To substantially reduce sales dollar leakage out of the City
- To provide a commercial retail shopping center on a large, undeveloped lot in close proximity to an existing highway, near other commercial services and residential areas, in order to minimize vehicle travel distances and to utilize existing infrastructure to the fullest extent possible
- To provide a retail development that meets the current unmet demand for goods and services from consumers residing in the trade area for the City and from future residential developments
- To provide a commercial retail shopping center that serves both the local and regional market area to attract new customers and retailers into the City
- To provide a commercial development that results in a net fiscal benefit to the City by generating new sales tax revenue from Delano residents and by increasing property tax revenues
- To provide a commercial development that can capture existing “pass-by” trips on State Route 99 (SR 99), thereby bringing new revenue to the City
- To provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services at neighboring cities

- To provide for a multi-screen movie theater entertainment venue in combination with a shopping experience with the goal of reducing vehicle trips
- To provide a commercial development that creates new jobs for City residents

4.4 ALTERNATIVES CONSIDERED BUT REJECTED

Alternative Site Location

An alternative site located at Pond Road and SR 99 was considered but rejected from further analysis due to physical constraints. This alternative site location currently consists of farmland divided among various property owners with a range of parcel sizes. Although the location would provide adequate access and visibility from SR 99 for a regional shopping center, the site is not owned by the project proponent and it is unclear whether the proponent could acquire the site. Additionally, this location is currently outside the Delano City limits and would require annexation into the City prior to development. Infrastructure necessary to serve the proposed project would need to be extended to the project site. Moreover, development of the alternative site location would have similar cumulative air quality impacts as the proposed project, would not alleviate the need for improvements to the Woollomes Avenue/SR 99 interchange, and would likely trigger a need for improvements to the Pond Road/SR 99 interchange. Finally, a number of parcels in this area are actively farmed, raising the possibility that development in this vicinity would have greater agricultural impacts than the proposed project. Given these constraints, this alternative site location was eliminated from further consideration by the City.

4.5 PROJECT ALTERNATIVES

As identified in this DEIR, the proposed project would result in significant and unavoidable environmental impacts after mitigation (operational and cumulative air quality impacts and short-term project-level traffic impacts). All other impacts can be mitigated to a less than significant level with the adoption of mitigation measures as identified in this DEIR. In light of these identified impacts, this DEIR identifies and examines the following alternatives to the proposed project:

- Alternative 1 – No Project/No Development
- Alternative 2 – Reduced Density Alternative
- Alternative 3 – Commercial Mix with 24-Hour Truck Stop/Gas Station Complex
- Alternative 4 – Non-Retail Commercial Alternative

Environmental impacts associated with each alternative are compared with impacts resulting from the proposed project. The comparative impact of the alternative in relation to the proposed project (less, similar or greater) is noted in parentheses at the beginning of each resource area. Table 4-1 Comparison of Project Alternatives to the Proposed Project at the conclusion of this section provides a summary of these impacts. This section also identifies the “environmentally superior” alternative.

Alternative Analysis

Alternatives Considered and Eliminated from Further Analysis

In developing the alternatives, consideration was given to reducing significant and unavoidable impacts. For this DEIR, there were no alternatives beyond the ones discussed above that were considered and eliminated from further analysis.

Alternative 1 – No Project/No Development

Description of Alternative 1

The "No Project" alternative considered in this DEIR analyzes the environmental effects of the proposed project not proceeding at the site, with its current zoning and general plan designations, compared to effects which could occur if the project is approved. Under this No Project alternative, it is assumed that the project site would remain in its current condition as an undeveloped, vacant parcel.

Why Alternative 1 Was Selected for Analysis

CEQA Guidelines section 15126.6(e) requires an EIR to evaluate a No Project alternative, which consists of the project site remaining in its existing state or development of the project site under existing land use entitlements.

Comparative Analysis of Alternative 1 and Proposed Project

The following discussion analyzes potential effects of **Alternative 1 – No Project/No Development** compared to the proposed project.

3.1 ***Aesthetics (less):*** No potential aesthetic effects or impacts to visual resources would result under this alternative. The existing rural character of the proposed project site would continue under a No Project/No Development Alternative. Therefore, this alternative would result in fewer impacts than the proposed project, and Alternative 1 would have **no impact** on aesthetics.

3.2 ***Agricultural Resources (less):*** The existing uncultivated agricultural land would remain undeveloped under this alternative, resulting in **no impact** to agricultural resources, less impact than the proposed project.

3.3 ***Air Quality and Greenhouse Gas Emissions (less):*** Continuing lack of development at the site would mean no construction, traffic, or other activity would occur to generate particulate matter, greenhouse gases, or other pollutants, and so Alternative 1 would result in **no impact** to air quality, a lesser impact than the significant and unavoidable impact of the proposed project.

3.4 ***Biological Resources (less):*** Potentially significant impacts to various special status wildlife species would be eliminated under this alternative because the site would not be subject to site disturbance or construction/demolition activities. Although all biological impacts of the proposed project have been reduced to a less than significant level through the application of mitigation measures, under the No Project/No Development Alternative, **no impact** would occur and no mitigation would be required.

3.5 ***Cultural Resources (less):*** Potentially significant impacts to cultural or archaeological resources resulting from construction activities at the project site would not occur under this alternative, as on-site conditions would remain unchanged. Under the proposed project, all potential impacts to cultural, archaeological or paleontological resources would be reduced to a less than significant level through the application of mitigation measures. Under Alternative 1, **no impact** would occur, and no mitigation would be required.

3.6 ***Geology and Soils (less):*** Potentially significant impacts related to ground shaking, soil compressibility, soil corrosivity, and expansive soils (see Section 3.6, Geology and Soils), would not occur because no structures exist on-site and none would be constructed. Under the proposed project, all potential impacts related to geology and soils would be reduced to a less than significant level through the application of mitigation measures. Under Alternative 1, **no impact** would occur, and no mitigation would be required.

3.7 ***Hazards and Hazardous Materials (less):*** Impacts of several hazards would be similar between the No Project/No Development Alternative and the proposed project. Potential hazards on the project site associated with release of hazardous materials and possible septic and water irrigation systems impacts at the building site would remain under this alternative. Presumably, should development occur at the site, mitigation would be required similar to that included in the proposed project. Therefore, similar to the proposed project, this alternative would result in a **less than significant** impact after mitigation related to hazardous materials.

Under both the No Project/No Development Alternative and the proposed project, no safety and noise impacts would result from the site's proximity to the airport.

Impacts of two hazards would be less under the No Project/No Development Alternative compared to the proposed project. Hazards from the storage and handling of waste-containing hazardous substances as part of commercial retail operations would not occur under this alternative, because no commercial operations would exist at the site. Although all construction-related impacts of the proposed project from the fungus that causes Valley Fever have been reduced to a less than significant level through the application of mitigation measures, under the No Project/No Development Alternative, no demonstrable impacts would occur and no mitigation would be required.

3.8 ***Hydrology and Water Quality (less):*** Potentially significant surface runoff and water quality impacts due to construction activities and post-development non-point source pollution would not occur under this alternative. Under the proposed project, all potential impacts related to surface water hydrology and water quality would be reduced to a less than significant level through the application of mitigation measures. Under Alternative 1, **no impact** would occur, and no mitigation would be required, which would be less impact than the proposed project.

3.9 ***Land Use Planning (greater):*** The No Project/No Development Alternative does not meet the objectives of the City General Plan to develop the site for community commercial retail use in the SR 99 corridor as designated in the General Plan Land Use Element maps and Commercial Land Use

Policies A.1a and A.3 (City of Delano, 2011a; City of Delano, 2011b; and City of Delano, 2005a; pgs. 2-16 to 2-18).

In addition, the No Project/No Development Alternative would not meet the City's economic objectives in the Economic Development Element Policy A.1 of the City's General Plan to foster "the promotion and facilitation of economic diversification to encourage the creation of employment opportunities, increase revenue through the local economy and decrease dependency upon any one sector of the economy" (Delano, 2005a, page 10-3). This alternative fails to meet Economic Development Element Policy A.6 of encouraging "new and continuing economic growth at specific geographic sites" including "the State Route 99 interchange at Woollomes Avenue" (City of Delano, 2005a; pg. 10-3). This alternative also does not satisfy Policy A.11, which aims to capture "transient dollars flowing along the SR 99 corridor to the greatest extent possible by encouraging the development of highway-oriented commercial use and large-scale retail uses" (City of Delano, 2005a; pg. 10-4).

Therefore, Alternative 1 would result in a **significant impact** related to land use consistency, a greater impact than the proposed project.

3.10 ***Noise (less):*** The short-term impacts of noise generated by construction activities and the long-term increase of traffic noise generated by the proposed development and increased vehicular traffic accessing the site would not occur under this alternative. Therefore, this alternative would result in **no impact** from noise, a lesser impact than the proposed project.

3.11 ***Population and Housing (similar):*** The proposed project would construct retail development at the site, rather than housing, creating retail jobs likely to be filled by local residents rather than workers from outside the area, and so the proposed project would have no impact on population and housing (see Section 3.11, Population and Housing). Because the No Project/No Development Alternative would result in no development at the site, the alternative would have **no impact** related to population and housing, a similar impact to the proposed project.

3.12 ***Public Services (similar):*** The proposed project would not generate a need for new law enforcement facilities, would be required to pay the City's existing development impact fee to offset the cost of providing additional fire protection facilities and equipment necessitated by new development, and would perform necessary mitigation for fire protection. Thus, the project would result in a less than significant impact on public services after mitigation. A No Project/No Development Alternative would not lead to an increased need for these public services and facilities. Therefore, this alternative would result in **no impact** on public services, less than the proposed project.

3.13 ***Transportation/Traffic (less):*** Significant and unavoidable short-term project-level impacts on the Woollomes Avenue/State Route 99 northbound ramps within the vicinity of the project site would not occur under this alternative. No project at the site would result in **no impact** on transportation and traffic. Therefore, the No Development Alternative would result in less impact than the proposed project.

3.14 ***Utilities and Service Systems (less):*** The potential impacts to water and sewer services, solid waste collection, and other utilities would not occur under a No Development Alternative as there would be no increased demand for these services and there would be **no impact**. Therefore, this alternative would result in fewer impacts than the proposed project.

Relationship of Alternative 1 to Project Objectives

This alternative will not meet any of the project objectives. Among the unmet objectives of Alternative 1 are that it would not develop a retail project on the subject property that is consistent with the City's General Plan; it would not provide commercial development that can be adequately served by public services and utilities in a feasible manner; it would not reduce sales dollar leakage out of the City; it would not provide a commercial retail shopping center on a large, undeveloped lot in close proximity to an existing highway, near other commercial services and residential areas, in order to minimize vehicle travel distances and to utilize existing infrastructure to the fullest extent possible; it would not provide a retail development that meets the current unmet demand for goods and services from consumers residing in the trade area for the City; it would not provide a commercial retail shopping center that serves both the local and regional market area to attract new customers and retailers into the City; it would not provide a commercial development that achieves a fiscal benefit to the City by generating new sales tax revenue from Delano residents and by increasing property tax revenues; it would not provide a commercial development that can capture existing "pass-by" trips on SR 99, thereby bringing new revenue to the City; it would not provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services at neighboring cities; it would not provide for a multi-screen movie theater entertainment venue; nor would it provide a commercial development that creates new jobs for City residents.

Therefore, Alternative 1 is inconsistent with the project objectives. Moreover, the site is unlikely to remain in its current state because the City has specifically identified the site for commercial retail development due to the site's location near a major freeway interchange and other commercial retail development (City of Delano, 2005a; pg. 10-3).

Alternative 2 – Reduced Density Alternative

Description of Alternative 2

The Reduced Density Alternative for the Grapevine Project assumes a reduction in shopping center size as measured in building square feet (sf) through exclusion of the proposed 12-screen theater and removal of the drive-through portions of the outparcel pads. Without the movie theater (42,000 sf) and without the drive-through portions of restaurants, banks, and similar businesses (estimated to total 22,000 sf), the overall project size would be reduced (by 64,000 sf) to approximately 264,500 square feet of community retail uses. This would reduce the project density from 328,500 square feet of shopping center buildings on approximately 44.64 acres to 264,500 square feet on the same acreage (a 19.5 percent reduction in square footage) of currently vacant land.

The reduced density alternative includes the following commercial spaces: 1) Anchor Store #2 (41,000 sf of retail); 2) major retail including shops A and B (128,000 sf of retail); lifestyle shops (62,000 sf of retail); and outparcels including pads and shops (33,500 sf). For the purpose of environmental review under CEQA, this alternative assumes a reduced density configuration of 264,500 square feet of community retail uses. This alternative further assumes that the remainder of the project site would have a reduced amount of paved circulation, parking, and delivery areas that would only be sufficient for the reduced density alternative use, and otherwise would be landscaped.

Why Alternative 2 Was Selected for Analysis

Alternative 2, the Reduced Density Alternative, was selected because it could feasibly accomplish six of the 11 project objectives while potentially reducing the proposed project's significant and unavoidable impacts on traffic and air quality due to a reduction in vehicle trips compared to the proposed project.

Comparative Analysis of Alternative 2 and Proposed Project

The following discussion analyzes potential effects of **Alternative 2 – Reduced Density Alternative** compared to the proposed project.

3.1 ***Aesthetics (less):*** This alternative would involve a reduction in the number and/or size of proposed buildings and parking areas and an increase in landscaped areas, and so the overall aesthetic/visual effect associated with construction of a regional shopping center would slightly better than the proposed project. Similar mitigation would likely be required to address potential aesthetic impacts. Therefore, no substantial difference between the proposed project and the reduced project size alternative would be expected with respect to aesthetics, and Alternative 2 would likely have a **less than significant** impact after mitigation, similar to but slightly less than the proposed project.

3.2 ***Agricultural Resources (similar):*** Like the proposed project, Alternative 2 would result in existing uncultivated agricultural land being developed for commercial use. As analyzed in Section 3.2, Agricultural Resources, the site is not Prime Farmland, is not encumbered by Williamson Act contracts, and is already slated for development by the City due to its location near the existing commercial development and the Woollomes Avenue/SR 99 interchange. Therefore, like the proposed project, the Reduced Density Alternative would have a **less than significant** impact on Agricultural Resources.

3.3 ***Air Quality and Greenhouse Gas Emissions (less):*** A reduced density commercial development would generate fewer vehicle trips to the project site (approximately 11,847 average daily Saturday trips rather than 14,713 average daily Saturday trips for the proposed project) and reduce emissions associated with drive-through facilities, which would subsequently result in a reduction in air quality emissions in comparison to the proposed project. (Saturday is the peak trip day for both the alternative and the proposed project.) However, elimination of the theatre would consolidate traffic during retail store hours, rather than extending the center's hours with an associated reduction in peak-hour traffic. Additionally, the City currently lacks an operating movie theater, an amenity desired by residents and targeted for development by the City (California Polytechnic State

University, San Luis Obispo, Community Planning Laboratory, 2009; pgs. 93 and 106; and City of Delano, 2005b; pg. 44). The only theater facilities in the City are the Delano Theater and the historic Sierra Theater, neither of which is currently operational. The City has considered converting the Sierra Theater into a cultural center for community events (City of Delano, 2010; pg.1). The absence of a movie theater in Alternative 2 means that City residents would still have to drive out of town to go to the movies. The nearest multiplex movie theaters are located in Porterville, approximately 30.8 miles away (a 61.6-mile round trip); Tulare's Galaxy Theater, approximately 32.7 miles away (a 65.4-mile round trip); and theaters in Bakersfield, approximately 32 miles away (a 64-mile round trip) (Google Maps 2013a; Google Maps 2013b; Google Maps 2013c, and Google Maps 2013d). Travel to these entertainment venues would continue to contribute to increased vehicle miles traveled relative to the project, which includes a multi-screen movie theater.

The Reduced Density Alternative would result in operational emissions after mitigation of approximately 15.5 tons/year of ROG and 17.7 tons/year of NO_X. This would represent a reduction in the amount of regional emissions in comparison to the proposed project, which is anticipated to result in emissions of approximately 17.9 tons/year of ROG and 21.9 tons/year of NO_x after mitigation. However, the resulting emissions associated with a reduced density alternative of this nature would still exceed the air quality thresholds established by the San Joaquin Valley Air Pollution Control District of 10 tons/year of ROG and NO_x (SJVAPCD, 2002; pgs. 25 to 26). The proposed project will include mitigation measures, and presumably, Alternative 2 would be subject to similar mitigation measures. However, with similar mitigation, the Reduced Density Alternative would fail to meet operational PM_{10} reduction requirements.

The PM_{10} reduction requirement is set forth in SJVAPCD Indirect Source Review Rule (Rule 9510) and requires operational emissions of NO_x and PM_{10} to be reduced 33.3 percent and 50 percent, respectively. This alternative produces fewer emissions because of its size and land use components. When mitigation measures are applied to Alternative 2, emissions reductions occur, but on a smaller scale compared to the proposed project with mitigation. With fewer emissions to begin with, it is more difficult for the alternative to meet required percentage change reductions without additional mitigation. With additional mitigation, it is possible to meet operational PM_{10} reductions and therefore Alternative 2 would have a **less than significant** impact after mitigation, less to than the proposed project's significant and unavoidable air quality impacts.

3.4 ***Biological Resources (similar):*** Similar to the proposed project, the Reduced Density Alternative would subject the site to disturbance and construction/demolition activities, leading to potentially significant impacts to various, special status wildlife. Under the proposed project, all biological impacts would be reduced to a less than significant level through the application of mitigation measures. Presumably under Alternative 2, mitigation would also be required, resulting in a **less than significant** impact after mitigation, similar to the proposed project.

3.5 ***Cultural Resources: (similar):*** Similar to the proposed project, Alternative 2 would subject the site to disturbance and construction/demolition activities, leading to potentially significant impacts to cultural, archaeological or paleontological resources. Under the proposed project, all potential

impacts to cultural or archaeological resources would be reduced to a less than significant level through the application of mitigation measures. Under Alternative 2, mitigation would also presumably be incorporated, resulting in a **less than significant** impact after mitigation. As such, this alternative would result in no substantial difference to the proposed project with respect to cultural or paleontological resources.

3.6 ***Geology and Soils (similar):*** Potentially significant impacts caused by ground shaking, soil compressibility, soil corrosivity, and expansive soils would still apply to proposed structures under this alternative (see Section 3.6, Geology and Soils). Presumably, mitigation would be required to meet the requirements of the California Building Standards Code and the City Municipal Code, resulting in a **less than significant** impact after mitigation, similar to the proposed project.

3.7 ***Hazards and Hazardous Materials (similar):*** Impacts of several hazards would be similar between the No Project/No Development Alternative and the proposed project. Potential hazards on the project site associated with release of hazardous materials and possible septic and water irrigation systems impacts at the building site would remain under this alternative. Presumably, mitigation would be required to meet federal, state, and local regulatory requirements (see Section 3.7, Hazards and Hazardous Materials). Therefore, Alternative 2 would be expected to result in **less than significant** impacts after mitigation related to hazardous materials. Like the proposed project, retail development at the site would be subject to airport compatibility review, and therefore no safety and noise impacts would result from the site's proximity to the airport.

Under the proposed project, construction-related impacts from the fungus that causes Valley Fever would be reduced to a less than significant level through the application of mitigation measures. Under the Reduced Density Alternative, the same mitigation measures would likely be applied, resulting in the same less-than-significant impact.

Therefore, there would be no substantial difference in terms of hazardous materials impacts between the proposed project and this alternative, and Alternative 2 would have a **less than significant** impact after mitigation related to hazards and hazardous substances.

3.8 ***Hydrology and Water Quality (less)*****:** Potentially significant surface runoff and water quality impacts due to construction activities and post-development non-point source pollution would be similarly mitigated for both the proposed project and the Reduced Density Alternative. However, the reduction in impervious surfaces from fewer and smaller buildings, increased landscaping, and fewer parking spaces would result in a reduced volume of surface runoff. Therefore, this alternative would have somewhat less of an impact with respect to hydrology and water quality, but would still require mitigation. Therefore, the impact to surface water hydrology and water quality from Alternative 2 would be **less than significant** after mitigation, slightly less than, but similar to, the proposed project.

3.9 ***Land Use Planning (similar):*** This alternative would generally include the same range of land uses as the proposed project, but on a smaller scale. However, the Reduced Density Alternative would not be developed to the optimal density at the project site in order to assist the City in

meeting its economic objectives in the Economic Development Element of the City's General Plan of "the promotion and facilitation of economic diversification to encourage the creation of employment opportunities, increase revenue through the local economy, and decrease dependency upon any one sector of the economy" (City of Delano, 2005a; pg. 10-3).

Moreover, Alternative 2 would meet but to a lesser extent, the project objectives or the City's objectives of development of a large-scale retail shopping center on the subject property in a manner substantially consistent with the goals and policies of the City's General Plan Designation as "Community Retail Commercial" within the City limits that would serve the local and regional market, result in a net fiscal benefit to the City, reduce sales dollar leakage, and create new jobs for the City, which is currently experiencing a high unemployment rate (City of Delano, 2005b; pgs. 26-27 and 38). In particular, it would not meet the project objective: To provide for a multi-screen movie theater entertainment venue in combination with a shopping experience with the goal of reducing vehicle trips. The movie theater is a sought-after amenity by the community and a goal in the City's Strategic Economic Development Plan (City of Delano, 2005b; pg. 44; and California Polytechnic State University, 2009; pgs. 93 to 94).

Therefore, the proposed project would result in similar impact associated with land use consistency associated with its smaller scale. Nonetheless, because it would be consistent with applicable zoning and with the City's General Plan land use designation, it would have a **less than significant** impact on land use planning.

3.10 ***Noise (less):*** A reduced density commercial development would generate fewer vehicle trips to the project site and reduce noise associated with a theatre and drive-through facilities. The Reduced Density Alternative would result in approximately 11,847 average daily Saturday trips, which would be an approximately 19% percent reduction in the number of vehicle trips to the project site. (Saturday is the peak trip day for both the alternative and the proposed project.) This would result in a subsequent decrease in the expected noise levels under project and cumulative conditions. This alternative would also result in somewhat reduced late evening and nighttime sound levels in comparison to the proposed project due to its smaller size and lack of a movie theater. However, the shopping center would still operate at night and could generate potentially significant noise impacts. Although Alternative 2 would result in somewhat less impact from noise than the proposed project, noise generation from remaining noise sources of retail operations would still require mitigation to avoid significant impacts. Therefore, Alternative 2 would result in a **less than significant** impact after mitigation.

3.11 ***Population and Housing (similar):*** Like the proposed project, Alternative 2 would place retail development at the site, rather than housing, creating retail jobs likely to be filled by local residents rather than workers from outside the area (see Section 3.11, Population and Housing). Therefore, similar to the proposed project, Alternative 2 would not generate population growth and would have a **less than significant** impact related to population and housing.

3.12 ***Public Services (similar):*** Like the proposed project, Alternative 2 would construct a shopping center at the site, and presumably the alternative would be required to pay the City's existing development impact fee to offset the cost of providing additional fire protection facilities and equipment necessitated by new development, along with any other necessary mitigation for fire protection. Although the exact details of Alternative 2's retail development cannot be foreseen, assuming it were consistent with existing zoning and the City's General Plan, it would be expected to not generate a need for new or physically altered governmental facilities for law enforcement, similar to the proposed project (see Section 3.12, Public Services). The potential impacts to law enforcement, fire protection and other public services would be less than significant for the proposed project and would be **less than significant** for the Reduced Density Alternative. Therefore, no substantial difference would result from this alternative with respect to public services.

3.13 ***Transportation/Traffic (less):*** Significant and unavoidable short-term project-level impacts on the Woollomes Avenue/State Route 99 northbound ramps within the vicinity of the project site would not occur under this alternative. Other potentially significant impacts of increased traffic within the vicinity of the project would be mitigated for both the proposed project and the Reduced Density Alternative. Elimination of the theatre and drive-through facilities in Alternative 2 would limit visitors to retail hours, rather than extending the center's hours with movies and drive-through facilities. This change in commercial uses is expected to result in a consolidation of traffic during peak hours. The Reduced Density Alternative would result in a significant reduction in vehicle trips to the project site proportionally to the decline in square footage, from 14,713 average daily Saturday trips generated by the proposed project to 11,847 average daily Saturday trips for Alternative 2, an approximately 19% reduction. (Saturday is the peak trip day for both the alternative and the proposed project.) Therefore, this alternative would subsequently reduce traffic congestion on the surrounding road network and would have less impact with respect to transportation and traffic, especially with respect to the effects to the Woollomes Avenue/SR 99 interchange and the roadway segments along Woollomes Avenue.

Alternative 2 would likely be required to institute mitigation measures for its contribution to traffic in the area. Because of Alternative 2's reduced density, this alternative will contribute less to the City's traffic impact fee program, which is necessary to fund the ultimate configuration of the Woollomes Avenue/SR 99 overpass.

After mitigation, the Reduced Density Alternative would have a **less than significant** impact on traffic, less than the proposed project.

3.14 ***Utilities and Service Systems (similar):*** Similar to the proposed project, the Reduced Density Alternative's projected shopping development at the site would increase the demand for potable water and require extension of the existing potable water delivery system located in Woollomes Avenue to the project site. The project site is included in the water service area estimates in the City's Urban Water Management Plan (see Section 3.14, Utilities). Like the proposed project, Alternative 2 could also result in an increase in demand for sewer capacity at the City's wastewater treatment plant, an increase in the generation of solid waste, and an increase in demand for electric,

natural gas, telephone, and cable services. Presumably, project applicants under Alternative 2 would be required to install municipal utility improvements and infrastructure to the project site as necessary, similar to the proposed project. The potential impacts to water and sewer services, solid waste collection, and other utilities would be less than significant for the proposed project and would be **less than significant** for the Reduced Density Alternative. Therefore, no substantial difference would result from this alternative with respect to utilities.

Relationship of Alternative 2 to Project Objectives

The alternative would meet a number of project objectives: it would develop a shopping center on the subject property that is consistent with the City's General Plan; provide commercial development that can be adequately served by public services and utilities in a feasible manner; substantially reduce sales dollar leakage out of the City; provide a retail development that meets the current unmet demand for goods and services from consumers residing in the trade area for the City and from future residential developments; provide a commercial retail shopping center that serves both the local and regional market area to attract new customers and retailers into the City; and provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services at neighboring cities.

However, Alternative 2 fails to meet several of the proposed project's objectives:

- To provide a commercial retail shopping center on a large, undeveloped lot in close proximity to an existing highway, near other commercial services and residential areas, in order to minimize vehicle travel distances and to utilize existing infrastructure to the fullest extent possible

  Alternative 2 would provide a commercial retail shopping center on a large, undeveloped lot in close proximity to an existing highway, near other commercial services and residential areas, but due to its reduced density and scale, it would fail to utilize existing infrastructure to the fullest extent possible. Additionally, the reduced density alternative will contribute less to the City's traffic impact fee program, which is necessary to fund the ultimate configuration of the Woollomes Avenue/SR 99 overpass, and so Alternative 2 could contribute to underfunded and/or inadequate infrastructure improvements in the vicinity

- To provide a commercial development that results in a net fiscal benefit to the City by generating new sales tax revenue from Delano residents and by increasing property tax revenues

  Alternative 2 would result in some new sales and property tax revenues for the City, but less than the proposed project due to the alternative's reduced density and scale

- To provide a commercial development that can capture existing "pass-by" trips on SR 99, thereby bringing new revenue to the City

  Alternative 2 would capture some existing "pass-by" trips, but due to its lack of drive-through portions of restaurants, banks and similar businesses, it would likely capture fewer trips than the proposed project, particularly by long-distance commuters and travelers

- To provide for a multi-screen movie theater entertainment venue in combination with a shopping experience with the goal of reducing vehicle trips

  The movie theater is a sought-after amenity by the community, a goal of the City's Strategic Economic Development Plan, and is a key component of the project (City of Delano, 2005b; pg. 44; and California Polytechnic State University, 2009; pgs. 93 to 94)

- To provide a commercial development that creates new jobs for City residents

  Alternative 2 would create some new jobs for City residents, but fewer than the proposed project due to the alternative's reduced density and scale

Therefore, Alternative 2 will not meet several project objectives and would be less consistent with project objectives than the proposed project.

Alternative 3 – Commercial Mix with 24-Hour Truck Stop/Gas Station Complex Alternative

Description of Alternative 3

The Commercial Mix with 24-Hour Truck Stop/Gas Station Complex Alternative for the Grapevine Project also assumes a reduction in shopping center size as measured in building square footage through the elimination of the movie theater and the replacement of the proposed Pads 6 through 9 and Shop C, at the southeast portion of the project site, with a 24-hour truck stop and gas station complex. This alternative would also eliminate three of the four drive-through restaurants included in the proposed project. The City's Community Retail Commercial (CRC) as well as the General Commercial (GC) zone districts allow for service stations, auto/truck wash facilities, and vehicle storage and parking facilities, under conditional use permits (City of Delano, 2008; section 20.5.30 Commercial use regulations; City of Delano, 2007b, section 20.11.220 Service stations).

Without the movie theater (42,000 sf), Pads 6 through 9 and Shop C (estimated to total 29,500 sf), and three of the drive-through restaurants (7,500 sf), the overall community retail portion of the project size would be reduced from 328,500 square feet of shopping center buildings on approximately 44.64 acres, to approximately 249,500 square feet of shopping center uses on the same acreage. Parking required under this alternative would be less than the proposed project. The alternative assumes a 3,000-square-foot restaurant area and amenities associated with the truck stop and 24 bays for the gas station.

Why Alternative 3 Was Selected for Analysis

This alternative was selected for consideration because it could attain a number of project objectives and is potentially feasible.

Comparative Analysis of Alternative 3 and Proposed Project

The following discussion analyzes potential environmental effects of **Alternative 3 – Commercial Mix with 24-Hour Truck Stop/Gas Station Complex** compared to potential environmental effects of the proposed project.

3.1 ***Aesthetics (greater):*** Although this alternative would involve a reduction in the number and size of proposed buildings and parking areas for community retail uses, the overall aesthetic/visual effect of a truck stop/gas station complex has the potential to degrade the visual character of the existing site and its surroundings with parked trucks, increased signage, and the typical minimalist functional design of such uses. Impacts to scenic vistas and resources would remain the same; however, with the operation of a 24-hour truck stop/gas station, there is the potential for greater impacts from daytime glare and nighttime lighting, which presumably would require mitigation. Assuming mitigation could be devised to address daytime glare and nighttime lighting impacts, the impact to aesthetics would be **less than significant** with mitigation.

3.2 ***Agricultural Resources (similar):*** Like the proposed project, Alternative 3 would result in existing uncultivated agricultural land being developed for commercial use. As analyzed in Section 3.2, Agricultural Resources, the site is not Prime Farmland, is not encumbered by Williamson Act contracts, and is already slated for development by the City due to its location near the existing commercial development and the Woollomes Avenue/SR 99 interchange. Therefore, similar to the proposed project, the Commercial Mix with 24-Hour Truck Stop/Gas Station Complex Alternative would have a **less than significant** impact on Agricultural Resources.

3.3 ***Air Quality and Greenhouse Gas Emissions (similar):*** Alternative 3 would reduce the number of drive-through restaurants and area for parking and deliveries at the site, which would reduce air quality and greenhouse gas emissions from idling vehicles associated with those uses. The truck stop/gas station complex alternative has the potential to result in approximately 15,082 average daily Saturday trips, which would be approximately 2.5% percent more vehicle trips than the proposed project (14,713). (Saturday is the peak trip day for both the alternative and the proposed project.) This increase in the number of vehicle trips per day would result in a subsequent increase in air quality emissions associated with the proposed project.

Alternative 3 would result in operational emissions of approximately 17.7 tons/year of ROG and 20.3 tons/year of NO_X after mitigation. This would represent a decrease in the amount of regional emissions in comparison to the proposed project, which is anticipated to result in emissions of approximately 17.9 tons/year of ROG and 21.92 tons/year of NO_x after mitigation. However, the emissions associated with Alternative 3 would still exceed the air quality thresholds established by the San Joaquin Valley Air Pollution Control District of 10 tons/year of ROG and NO_x (SJVAPCD, 2002; pgs. 25 to 26). The proposed project will include mitigation measures, and presumably, Alternative 3 would be subject to similar mitigation measures, but these will not reduce ROG and NO_x to a less than significant level.

The PM_{10} reduction requirement is set forth in the SJVAPCD Indirect Source Review Rule (Rule 9510) and requires operational emissions of NO_x and PM_{10} to be reduced 33.3 percent and 50 percent, respectively. Alternative 3 produces fewer emissions because of its size and land use components. Alternative 3 requires additional mitigation measures to comply with the rule, compared to the proposed project. With additional mitigation, Alternative 3 could meet operational PM_{10} reductions. the Commercial Mix with 24-Hour Truck Stop/Gas Station Complex Alternative would have a

significant and unavoidable impact on air quality and greenhouse gas emissions, similar to the proposed project's **significant and unavoidable** air quality impacts.

3.4 ***Biological Resources (similar):*** Similar to the proposed project, the Commercial Mix with 24-Hour Truck Stop/Gas Station Complex Alternative would subject the site to disturbance and construction/demolition activities, leading to potentially significant impacts to various, special status wildlife. Under the proposed project, all biological impacts would be reduced to a less than significant level through the application of mitigation measures. Presumably under Alternative 3, mitigation would also be required, resulting in a **less than significant** impact after mitigation, similar to the proposed project.

3.5 ***Cultural Resources: (similar):*** Similar to the proposed project, Alternative 3 would subject the site to disturbance and construction/demolition activities, leading to potentially significant impacts to cultural or archaeological resources. Under the proposed project, all potential impacts to cultural or archaeological resources would be reduced to a less than significant level through the application of mitigation measures. Under Alternative 3, mitigation would also presumably be incorporated, resulting in a **less than significant** impact after mitigation. As such, this alternative would result in no substantial difference to the proposed project with respect to cultural or paleontological resources.

3.6 ***Geology and Soils (similar):*** Potentially significant impacts caused by ground shaking, soil compressibility, soil corrosivity, and expansive soils would still apply to proposed structures under the Commercial Mix with 24-Hour Truck Stop/Gas Station Complex Alternative. (See Section 3.6, Geology and Soils). Presumably, mitigation would be required to meet the requirements of the California Building Standards Code and the City Municipal Code, resulting in a **less than significant** impact after mitigation, similar to the proposed project.

3.7 ***Hazards and Hazardous Materials (greater):*** Several impact levels from Alternative 3 would be similar to that of the proposed project. Under both Alternative 3 and the proposed project, potential adverse effects associated with possible septic and water irrigation systems would be mitigated to a less than significant level through implementation of appropriate mitigation measures. Under both the alternative and the proposed project, no safety and noise impacts would result from the site's proximity to the airport. Under the proposed project, construction-related impacts from the fungus that causes Valley Fever would be reduced to a less than significant level through the application of mitigation measures. Under the alternative, similar mitigation measures would likely be applied, resulting in a **less than significant** impact.

However, two impacts would be greater under the 24-Hour Truck Stop/Gas Station Complex Alternative than the proposed project. The alternative has the potential to generate greater impacts from hazardous materials through the transport, emission, or accidental release of hazardous materials, such as petroleum products and fuels and hazardous cargoes, with the operation of a 24-hour truck stop/gas station complex. Hazards from the storage and handling of waste-containing hazardous substances as part of commercial retail operations would be greater

under this alternative because in addition to retail items sold at the truck stop, the commercial operation will also dispense large amounts of petroleum and perhaps also natural gas fuels (New York Times 2013; and Jacksonville Business Journal, 2013). Mitigation measures would likely be required, but even after mitigation impacts are likely to remain **significant and unavoidable**.

3.8 ***Hydrology and Water Quality (greater):*** Potentially significant surface runoff and water quality impacts due to construction activities and post-development non-point source pollution would be similarly mitigated for both the proposed project and this alternative. However, though a 24-hour truck stop/gas station complex would result in similar amounts of impervious surfaces as the proposed project, this alternative has the potential to increase surface runoff with the operation of car/truck wash. Therefore, this alternative would have a greater impact with respect to hydrology and water quality. Assuming mitigation could be devised to address these impacts, the impact would be **less than significant** after mitigation.

3.9 ***Land Use Planning (similar):*** This alternative would generally include the same range of land uses as the proposed project, but with the addition of a truck stop/gas station facility. This alternative is consistent with the City's General Plan and Zoning Ordinance, which allow for service stations under both the GC and CRC zoning designations under conditional use permits (City of Delano, 2008; section 20.5.30 Commercial use regulations; City of Delano, 2007b, section 20.11.220 Service stations). This alternative would also allow the City to meet its objectives in the Economic Development Element of the City's General Plan of "the promotion and facilitation of economic diversification to encourage the creation of employment opportunities, increase revenue through the local economy, and decrease dependency upon any one sector of the economy" (City of Delano, 2005a; pg. 10-3). Therefore, this alternative would result in similar impacts to land use planning as the proposed project with a **less than significant** impact.

3.10 ***Noise (greater):*** This alternative would generate fewer vehicle trips to the project site overall; however, the alternative would generate new late evening and nighttime vehicle trips, through the operation of a 24-hour truck stop/gas station. Total weekday vehicle trips per day would increase to approximately 15,082 average daily Saturday trips, which would be approximately a 2.5 percent increase in the number of vehicle trips to the project site, and so this alternative would result in an increase in the expected daytime noise levels compared to the project. However, the new late evening and nighttime vehicle trips, and in particular truck traffic, would result in higher noise levels compared to the project. Presumably mitigation would be required for the noise generated by this alternative, particularly the evening and nighttime noise. Assuming suitable mitigation could be devised to address evening and nighttime noise, Alternative 3 would have a **less than significant** impact after mitigation related to noise, somewhat worse than the proposed project.

3.11 ***Population and Housing (similar):*** Like the proposed project, Alternative 3 would place commercial development at the site, rather than housing, creating service-oriented jobs likely to be filled by local residents rather than workers from outside the area (see Section 3.11, Population and Housing). Therefore, similar to the proposed project, Alternative 3 would not generate population growth and would have a **less than significant** impact related to population and housing.

3.12 ***Public Services (similar):*** Similar to the proposed project, Alternative 3 would be required to pay the City's existing development impact fee to offset the cost of providing additional fire protection facilities and equipment necessitated by new development, along with any other necessary mitigation for fire protection. Alternative 3 also would be expected to not generate a need for new or physically altered governmental facilities for law enforcement, similar to the proposed project (see Section 3.12, Public Services). Therefore, no substantial difference would result from this alternative with respect to public services, and the impact would be **less than significant**.

3.13 ***Transportation/Traffic (similar):*** Significant and unavoidable short-term project-level impacts on the Woollomes Avenue/State Route 99 northbound ramps within the vicinity of the project site would occur under this alternative, similar to the proposed project. Potentially significant impacts of increased traffic within the vicinity of the project would be mitigated, but not reduced below significance, for both the proposed project and this alternative. This alternative has the potential to increase total vehicle trips to the project site, from approximately 14,713 average Saturday trips per day generated by the proposed project, to approximately 15,082 average daily Saturday trips generated by this alternative. (Saturday is the peak trip day for both the alternative and the proposed project).

Because of Alternative 3's reduced density, this alternative will contribute less to the City's traffic impact fee program, which is necessary to fund the ultimate configuration of the Woollomes Avenue/SR 99 overpass. Due to short-term project-level impacts on the Woollomes Avenue/State Route 99 northbound ramps, the Reduced Density Alternative would have a **significant and unavoidable** impact on traffic, similar to the proposed project.

3.14 ***Utilities and Service Systems (greater):*** In comparison to the proposed project, this alternative has the potential to significantly increase demands for water and sewer as well as solid waste collection services with the operation of a 24-hour truck stop/gas station complex. Therefore, this alternative would have greater impacts to utilities than that of the proposed project and would require mitigation. Assuming appropriate mitigation would be devised to address these impacts, the impact to utilities would be **less than significant** after mitigation, but somewhat greater than the proposed project.

Relationship of Alternative 3 to Project Objectives

Alternative 3 would meet a number of project objectives:

- To develop a retail project on the subject property that is consistent with the City's General Plan
- To provide commercial development that can be adequately served by public services and utilities in a feasible manner
- To provide a commercial development that results in a net fiscal benefit to the City by generating new sales tax revenue from Delano residents and by increasing property tax revenues

- To provide a commercial development that can capture existing "pass-by" trips on SR 99, thereby bringing new revenue to the City
- To provide a commercial development that creates new jobs for City residents

However, it fails to meet all other project objectives. Alternative 3 will not: substantially reduce sales dollar leakage out of the City; provide a commercial retail shopping center on a large, undeveloped lot in close proximity to an existing highway, near other commercial services and residential areas, in order to minimize vehicle travel distances and to utilize existing infrastructure to the fullest extent possible; provide a retail development that meets the current unmet demand for goods and services from consumers residing in the trade area for the City and from future residential developments; provide a commercial retail shopping center that serves both the local and regional market area to attract new customers and retailers into the City; provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services at neighboring cities; nor will it provide for a multi-screen movie theater entertainment venue in combination with a shopping experience with the goal of reducing vehicle trips.

Therefore, given that the Alternative 3 will not meet most project objectives, Alternative 3 would be inconsistent with the project objectives.

Alternative 4 – Non-Retail Commercial Alternative

Description of Alternative 4

The Non-Retail Commercial Alternative assumes the approximately 44.64-acre project site would be developed for light industrial, storage/warehousing and other non-retail commercial uses entailing less customer traffic that would be consistent with the site's current CRC and GC zoning (City of Delano, 2011b). Uses under this alternative consistent with site zoning could include bakery/food preparation; carpenter and cabinet shops; food product processing, including cold storage, packing, preserving, canning, and shipping; furniture upholstering; laboratories; electronic and precision instrument manufacturing; pharmaceuticals manufacturing; general wholesale, storage, and distribution; vehicle and self-storage facilities; full- or self-service car wash; janitorial services and supplies; and recycling collection facilities (City of Delano, 2007a; section 20.6.30, Table 6.1; City of Delano 2007b; section 20.5.30, Table 5.A). Additional uses allowed subject to approval of a conditional use permit application could include a bottling plant, manufacturing or assembly of articles or merchandise from certain previously prepared materials; rubber and metal stamp manufacturing; welding shops; and automotive repair, paint and body shops (City of Delano, 2007a; section 20.6.30, Table 6.A; City of Delano 2008; section 20.5.30, Table 5.A).

Structures associated with the alternative would comprise approximately 250,000 square feet. Parking would be reduced from the 2,512 spaces of the proposed project without mitigation, to approximately 600 spaces, with the precise number of spaces to be determined to comply with City Zoning Ordinance, chapter 20.13 Parking Regulations.

Why Alternative 4 Was Selected for Analysis

This alternative was selected because it is potentially feasible, could attain a number of project objectives, and could substantially reduce significant air quality and traffic impacts associated with the project.

Comparative Analysis of Alternative 4 and Proposed Project

The following discussion analyzes potential effects of **Alternative 4 – Non-Retail Commercial Alternative** compared to the proposed project.

3.1 ***Aesthetics (greater):*** The Non-Retail Commercial Alternative would have somewhat greater impacts on aesthetics compared to the proposed project because it would convert the existing uncultivated agricultural site into a light industrial storage/warehousing complex that is likely to be dominated by more drab, utilitarian structures and fewer trees and less landscaping than the proposed project. Assuming Alternative 4 complied with applicable General Plan requirements related to aesthetics, this alternative would have a **less than significant** impact after mitigation.

3.2 ***Agricultural Resources (similar):*** Similar to the proposed project, Alternative 4 would convert existing uncultivated agricultural land to commercial use. As analyzed in Section 3.2, Agricultural Resources, the site is not Prime Farmland, is not encumbered by Williamson Act contracts, and is already slated for development by the City due to its location near the existing commercial development and the Woollomes Avenue/SR 99 interchange. Therefore, like the proposed project, the Non-Retail Commercial Alternative would have a **less than significant** impact on Agricultural Resources.

3.3 ***Air Quality and Greenhouse Gas Emissions (less):*** Unlike the proposed project and Alternatives 2 and 3, the peak trip days for Alternative 4 are weekdays rather than Saturdays. This alternative generates approximately 339 average daily Saturday trips compared to 1,585 average daily weekday trips. The number of average daily "weekday" trips is used in analysis of this alternative because it is the maximum and will provide a better estimate of the alternative's impacts. Compared to the proposed project, this alternative will generate fewer vehicle trips to the project site and result in operational emissions of approximately 2.9 tons/year of ROG and 2.7 tons/year of NO_X after mitigation. This would represent a decrease in the amount of regional emissions in comparison to the proposed project, which is anticipated to result in emissions of approximately 17.9 tons/year of ROG and 21.9 tons/year of NO_x after mitigation. The resulting emissions associated with this alternative would not exceed the air quality thresholds established by the San Joaquin Valley Air Pollution Control District of 10 tons/year of ROG and NO_x (SJVAPCD, 2002; pgs. 25 to 26).

The PM_{10} reduction requirement is set forth in SJVAPCD Indirect Source Review Rule (Rule 9510) and requires operational emissions of NO_x and PM_{10} to be reduced 33.3 percent and 50 percent, respectively. Alternative 4 would meet the PM_{10} reduction requirement.

Alternative 4 could produce fugitive odors from light manufacturing that could adversely impact nearby residences and would require mitigation. Assuming effective mitigation were devised to

address potential odor impacts, this alternative would reduce air quality impacts to a **less than significant** level after mitigation, less than the proposed project's significant and unavoidable air quality impacts.

3.4 ***Biological Resources (similar):*** Similar to the proposed project, the Non-Retail Commercial Alternative would subject the site to disturbance and construction/demolition activities, leading to potentially significant impacts to various, special status wildlife. Under the proposed project, all biological impacts would be reduced to a less than significant level through the application of mitigation measures. Presumably under Alternative 4, mitigation would also be required, resulting in a **less than significant** impact after mitigation, similar to the proposed project.

3.5 ***Cultural Resources: (similar):*** Similar to the proposed project, Alternative 4 would subject the site to disturbance and construction/demolition activities, leading to potentially significant impacts to cultural or archaeological resources. Under the proposed project, all potential impacts to cultural or archaeological resources would be reduced to a less than significant level through the application of mitigation measures. Under Alternative 4, mitigation would also presumably be incorporated, resulting in a **less than significant** impact after mitigation. As such, this alternative would result in no substantial difference to the proposed project with respect to cultural resources.

3.6 ***Geology and Soils (less):*** Potentially significant impacts caused by ground shaking, soil compressibility, soil corrosivity, and expansive soils would still apply to proposed structures under Alternative 4 (see Section 3.6, Geology and Soils). Structures would occupy less of the site under this alternative, approximately 250,000 square feet rather than the 328,500 square feet of the proposed project, resulting in fewer impacts related to geology and soils. However, for the structures that would be constructed, mitigation would be required to meet the requirements of the California Building Standards Code and the City Municipal Code, resulting in a **less than significant** impact after mitigation, and somewhat less than the proposed project.

3.7 ***Hazards and Hazardous Materials (similar):*** Several impact levels from this project would be similar to that of the proposed project. Under both the Non-Retail Commercial Alternative and the proposed project, potential adverse effects associated with possible septic and water irrigation systems would be mitigated to a less than significant level through implementation of appropriate mitigation measures. Under both the alternative and the proposed project, no safety and noise impacts would result from the site's proximity to the airport. Under the proposed project, construction-related impacts from the fungus that causes Valley Fever would be reduced to a less than significant level through the application of mitigation measures. Under the alternative, the same mitigation measures would likely be applied, resulting in a less than significant impact.

Hazards from the storage and handling of waste-containing hazardous substances as part of commercial retail operations would be similar or somewhat greater under this alternative, depending on the nature of the light industrial uses conducted on the site. Mitigation may be required to address these impacts, as well as potential adverse effects associated with possible septic and water irrigation systems. Assuming suitable mitigation were devised to address these

possible impacts, Alternative 4's overall impact related to hazards and hazardous substances would be **less than significant** after mitigation.

3.8 ***Hydrology and Water Quality (greater):*** Potentially significant surface runoff and water quality impacts due to construction activities and post-development non-point source pollution would be similarly mitigated for both the proposed project and the Non-Retail Commercial Alternative. Alternative 4 would be likely to have a similar total area of impervious surfaces because although less of the site would be occupied by structures, the light industrial and storage/warehouse uses of the site are likely to entail paving of a significant portion of the site and less landscaping than the proposed project. This would result in a similar volume of surface runoff compared to the project. Assuming appropriate mitigation would be devised to address hydrology and water quality impacts, Alternative 4 would have a **less than significant** impact after mitigation, similar to but somewhat higher than the proposed project.

3.9 ***Land Use Planning (greater):*** Development of Alternative 4 would be consistent with current zone district designations for the site, CRC and GC. The City Zoning Ordinance states that the "primary purpose of the Community Retail Commercial (CRC) zone district is to provide appropriate regulations and suitable locations for light industrial, research and development, warehouse and distribution office based firms seeking pleasant and attractive working environments, business support services, and commercial uses requiring large parcels" (City of Delano, 2007a; section 20.6.20). The Non-Retail Commercial Alternative would be consistent with this provision, with a mix of light industrial, warehouse/storage, and non-retail commercial uses. Regarding the GC zone district, the Zoning Ordinance states that its primary purpose "is to provide sites for commercial uses that will serve a large segment of the population with a wide variety of retail, wholesale, service, and office uses" (City of Delano, 2008; section 20.5.10). Alternative 4 would be consistent with this provision because it could provide wholesale and service uses, although it would not provide retail uses.

In contrast to Alternative 4's consistency with zoning, Alternative 4 would not be consistent with General Plan goals for the site. The project site has a land use designation of "Commercial" in the City's General Plan (City of Delano, 2011a). While Alternative 4 does develop the site for commercial use, it does not develop it for retail "commercial shopping opportunities" as the General Plan specifies for the SR 99 corridor and the Woollomes Avenue/SR 99 area (City of Delano, 2005a; pgs. 2-16 to 2-18). This alternative also does not satisfy General Plan Policy A.11, which aims to capture "transient dollars flowing along the SR 99 corridor to the greatest extent possible by encouraging the development of highway-oriented commercial use and large-scale retail uses" (City of Delano, 2005a; pg. 10-4). Therefore, Alternative 4 would result in a **significant impact** related to land use consistency, a greater impact than the proposed project.

3.10 ***Noise (greater):*** The Non-Retail Commercial Alternative would have greater impacts related to noise compared to the proposed project because it would convert the existing uncultivated agricultural site into a light industrial complex. Although Alternative 4 would generate less traffic than the proposed project, light industrial activities would be likely to generate more daytime noise,

in particular higher peak noises associated with light manufacturing and possibly higher truck traffic. Mitigation would likely be required to reduce impacts on nearby residences. Assuming effective mitigation could be devised Alternative 4 would have a **less than significant** impact on noise after mitigation, somewhat greater than the proposed project.

3.11 ***Population and Housing (similar):*** Like the proposed project, Alternative 4 would not place housing at the site. Employment created by the alternative would likely be low-to-moderate skill positions in maintenance, service-oriented, and/or light industrial jobs, and some higher-skill technical positions likely to be filled by local residents. The City's current unemployment rate is 29.7%, which indicates that the community would easily absorb the jobs generated from this development rather than the development requiring workers from outside the area (see Section 3.11, Population and Housing)(City-Data, 2013; pg. 5). Therefore, similar to the proposed project, Alternative 4 would not generate significant population growth and would have a **less than significant** impact related to population and housing.

3.12 ***Public Services (similar):*** Alternative 4's potential impacts to law enforcement, fire protection, and other public services would be somewhat less than that for the proposed project, due to the decreased building density and the fact that fewer people will be present on the site, compared to the proposed project. However, the alternative would still have a need for public services. Therefore, the Non-Retail Commercial Alternative's impact on public services would be **less than significant**, similar to but somewhat less than the proposed project.

3.13 ***Transportation/Traffic (less):*** Unlike the proposed project and Alternatives 2 and 3, the peak trip days for Alternative 4 are weekdays rather than Saturdays. This alternative generates approximately 339 average daily Saturday trips compared to 1,585 average daily weekday trips. The number of average daily "weekday" trips is used in analysis of this alternative because it is the maximum and will provide a better estimate of the alternative's impacts. The Non-Retail Commercial Alternative would generate fewer maximum vehicle trips to the project site, approximately 1,585 average daily weekday trips, which would be less than the 14,713 average daily Saturday trips per day generated by the proposed project. The heaviest traffic generated by Alternative 4 would occur at peak traffic periods, assuming that workers at the light industrial complex worked at typical business hours. Alternative 4 would likely be required to institute mitigation measures to ameliorate its contribution to traffic in the area. This alternative would reduce traffic impacts to a **less than significant** level after mitigation, less than the proposed project's significant and unavoidable impact.

3.14 ***Utilities and Service Systems and Service Systems (similar):*** Alternative 4's potential impacts to sewer services, solid waste collection, and other utilities would be somewhat less than that for the proposed project, due to its reduced building density and lower number of people on-site. However, the light industrial uses at the site may require a similar or greater amount of water than the proposed project. Therefore, overall, no substantial difference would result from this alternative with respect to utilities, and the impact under Alternative 4 would be **less than significant**, similar to the proposed project.

Relationship of Alternative 4 to Project Objectives

The Non-Retail Commercial Alternative meets four project objectives:

- To provide commercial development that can be adequately served by public services and utilities in a feasible manner
- To provide a commercial development that results in a net fiscal benefit to the City by generating new sales tax revenue from Delano residents and by increasing property tax revenues
- To provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services at neighboring cities
- To provide a commercial development that creates new jobs for City residents

However, it fails to meet all other project objectives. Alternative 4 will not: develop a retail project on the subject property that is consistent with the City General Plan; substantially reduce sales dollar leakage out of the City; provide a commercial retail shopping center on a large, undeveloped lot in close proximity to an existing highway, near other commercial services and residential areas, in order to minimize vehicle travel distances and to utilize existing infrastructure to the fullest extent possible; provide a retail development that meets the current unmet demand for goods and services from consumers residing in the trade area for the City and from future residential developments; provide a commercial retail shopping center that serves both the local and regional market area to attract new customers and retailers into the City; provide a commercial development that can capture existing "pass-by" trips on SR 99, thereby bringing new revenue to the City; provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services at neighboring cities; nor will it provide for a multi-screen movie theater entertainment venue in combination with a shopping experience with the goal of reducing vehicle trips.

Therefore, given that the Alternative 4 will not meet most project objectives, Alternative 4 would be inconsistent with the project objectives.

4.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines section 15126.6(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the No Project/No Development Alternative, the EIR shall also identify an environmentally superior alternative among other alternatives. In this case, Alternative 1, the No Project/No Development Alternative represents the environmentally superior alternative because most impacts would be reduced relative to the proposed project. However, the No Project/No Development Alternative does not meet the project objectives and would be inconsistent with the City's General Plan land use and zoning maps that designate the project site for commercial development. (See Table 4.1 Comparison of Project Alternatives to the Proposed Project.)

The environmentally superior alternative among other alternatives is Alternative 4, the Non-Retail Commercial Alternative. This is because it would reduce the proposed project's significant and

unavoidable impacts after mitigation (short-term project-level traffic impact and operational and cumulative air quality impacts) to a level that is less than significant after mitigation. Alternative 4 also has somewhat lower traffic impacts compared to Alternatives 2 and 3. However, like Alternative 1, the Non-Retail Commercial Alternative does not meet the project objectives and would be inconsistent with the City's General Plan land use and zoning maps that designate the project site for commercial development (see Table 4.1 Comparison of Project Alternatives to the Proposed Project).

TABLE 4.1
COMPARISON OF PROJECT ALTERNATIVES TO THE PROPOSED PROJECT

Environmental Category	Proposed Project	Alt. 1 No Project/No Development	Alt. 2 Reduced Density	Alt. 3 24-Hour Truck Stop/Gas Station Complex	Alt. 4 Non-Retail Commercial Alternative
Aesthetics	LS/MM	NI	LS/MM-	LS/MM+	LS/MM+
Agricultural Resources	LS	NI	LS	LS	LS
Air Quality & Greenhouse Gas Emissions	SU/MM	NI	LS/MM	SU/MM	LS/MM
Biological Resources	LS/MM	NI	LS/MM	LS/MM	LS/MM
Cultural Resources	LS/MM	NI	LS/MM	LS/MM	LS/MM
Geology and Soils	LS/MM	NI	LS/MM	LS/MM	LS/MM-
Hazards	LS/MM	LS/MM-	LS/MM	SU	LS/MM
Hydrology/Water Quality	LS/MM	NI	LS/MM-	LS/MM+	LS/MM+
Land Use Planning	LS	SU	LS+	LS	SU
Noise	LS/MM	NI	LS/MM-	LS/MM+	LS/MM+
Population & Housing	LS	NI	LS	LS	LS
Public Services & Facilities	LS	NI	LS	LS	LS-
Transportation/ Traffic	SU/MM	NI	LS/MM	SU/MM	LS/MM
Utilities & Service Systems	LS	NI	LS	LS/MM+	LS
Consistency with Project Objectives	Consistent	Inconsistent	Less consistent	Less Consistent	Inconsistent

NI = No impact would occur.
LS = All impacts would be less than significant, no mitigation required.
LS/MM = All impacts would be less than significant after mitigation.
SU/MM = One or more impacts would be significant and unavoidable, even after mitigation.
- = Alternative impacts are less severe than the Proposed Project.
+ = Alternative impacts are more severe than the Proposed Project.
Where no **+** or **-** is indicated, impacts of the Proposed Project and the Alternative are identical or very similar.

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5.0 CUMULATIVE IMPACTS

This section of the DEIR identifies the proposed project's cumulative impacts as required by CEQA. The following discussion considers the potential implications of the cumulative impacts to relevant environmental areas. This information is largely drawn from the various analyses within Section 3.0 of this DEIR.

5.1 ANALYSIS REQUIREMENT

CEQA Guidelines

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed project. According to CEQA Guidelines section 15130(a): "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in relation with the related effects of past projects, the effects of other current projects, and the effects of probable future projects. As defined in CEQA Guidelines Section 15355, cumulative impacts refer to two or more individual effects which, when considered together, are substantial or which compound or increase other environmental impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. CEQA Guidelines section 15130(a) also states the following with regard to cumulative impacts that are not significant:

- An EIR is not required to discuss impacts that do not result in part from the project evaluated in the EIR (section 15130(a)(1))
- When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR (section 15130(a)(2))
- An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact (section 15130(a)(3))

In addition, section 15130(b) identifies two alternative methods for predicting cumulative conditions:

(1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan.

The cumulative impact analysis in this DEIR uses a blended approach, incorporating a summary of projections from the City General Plan as well as a list of approved and pending City projects prepared for this DEIR, listed in Table 5-1.

5.2 CUMULATIVE IMPACT ANALYSIS AND ASSUMPTIONS

The project's incremental contribution to cumulative impacts was discussed for each of the topic areas in Section 3.0, Environmental Setting, Impacts and Mitigation Measures. The cumulative impact scenario for the project considers development projections from the City General Plan, supplemented with a list of pending and approved projects. Cumulative projects evaluated, in addition to the proposed project, are listed in Table 5-1. This list was compiled in consultation with City staff.

The City General Plan contains long-range plans and projections for the City's growth to the year 2020, including a focus on contiguous planning to channel future growth near existing development in order to preserve agricultural lands and provide services to new development in the most cost-effective, efficient manner (City of Delano, 2005; pgs. 1-1 and 1-3). Under buildout conditions in the General Plan, the City is projected to reach a population of 62,000 by 2020 and become more urban, with commercial development aimed at neighborhood needs to be located along arterial and collector streets, and larger commercial developments projected for the State Route 99 corridor (City of Delano, 2005; pgs. 2-1, 2-5, 2-15 to 2-17, and 10-1). Retail demand and related development are expected to expand (City of Delano, 2005; pg. 10-2).

For each section of this DEIR, the discussion of cumulative impacts of these projects follows direct project impacts and mitigation measures. Throughout the cumulative analysis presented in this DEIR, the appropriate basis of the cumulative analysis or the "cumulative context," including geographic scope, is described and considered in light of the types of impacts created by the project. The basis of the cumulative context varies by technical area. For example, the traffic and noise analyses assume development that is planned and/or anticipated in the City. Cumulative air quality impacts are evaluated against conditions in the San Joaquin Valley Air Basin because emissions are free flowing throughout that basin, as opposed to traffic and noise, which are more geographically limited.

TABLE 5-1
APPROVED AND PENDING PROJECTS IN THE CITY OF DELANO

#	Project Title	Description	Status as of January 2014
		APPROVED PROJECTS	
1	Bakersfield College Satellite Campus by Kern Community College District (KCCD) on 50 acres	Annexation No. 41 was completed mid-2005. Land was purchased by KCCD and the site plan has been approved by the State Architect and Department of Toxic Substances Control (DTSC). The Science and Math Classroom Facilities component have now been completed.	An additional academic building and student campus center are included in a 2020 Master Plan.
2	Delano Union Education Complex: Delano Union Elementary School District (DUESD) on 28 acres	The project site was acquired in 2002 and is being developed in three phases. The third phase is the construction of the new DUESD Administration Complex.	Elementary and Middle School are complete; Administrative complex is pending.
3	Annexation No. 34: Tract 6326 and Tract 6327 by Maximus III Company on 66 acres	Annexation was approved by the City Council and LAFCO approval was received in July 2004. The project consists of two subdivisions: Tract 6326 for 135 single family lots and Tract 6327 for 126 single family lots. The final maps for both tracts were approved in Spring 2005.	Preliminary grading of streets and lots complete; site improvements have occurred; development could begin by 2015.
4	Annexation No. 35: Tract 6176 (Legacy Estates) by Oakfield Development on 80 acres	Annexation was approved by the City Council and LAFCO approval was received in January 2004. Tract 6176 consists of 355 single family residential lots and was approved by the City Council in October 2003.	Remaining 30 lots completed as of December 2014.
5	Annexation No. 31: Tentative Parcel Map 11519 by Millenium III, LLC on 17.65 acres	This project proposes division of 17.65 acres into 11 commercial/industrial parcels and one landscaping lot in the industrial zone district located west of Garzoli Avenue, one-quarter mile south of Woollomes Avenue. Tentative Parcel Map was approved by the City Council in July 2006.	Final Map recorded; no construction to date.
6	Tentative Parcel Map 11639 by Maximus III Company on 7.38 acres	The project originally proposed division of 7.38 acres into 4 general commercial lots. A subsequent parcel map divided the southern undeveloped half into 5 more parcels. Maximum expected remaining development potential is 40,000 to 60,000 square feet. Development is in progress with follow-up Parcel Map 12044.	About 50% of the site is developed with commercial uses; remaining commercial development pending for the southern portion.
7	Pizza Parlor	Approximately 10,000-square-foot restaurant and game arcade use to be located at the southwest corner of County Line Road and High Street	Approved by City Council in June, 2013

TABLE 5-1
APPROVED AND PENDING PROJECTS IN THE CITY OF DELANO

#	Project Title	Description	Status as of January 2014
		FUTURE PROJECTS	
1	Annexation No. 40: General Plan Amendment 05-03, Pre-zoning Amendment No. 290 on 37.5 acres	Annexation No. 40 includes a proposal to amend the General Plan Land Use Element from low-density residential to a combination low- and medium-density residential and related pre-zoning of property to R-2.	Annexation is pending LAFCO approval; submittal of a revised tract map is anticipated.
2	Tentative Tract 6570 by Florsheim Land Company on 320 acres	Tentative Tract 6570 proposes approximately 1,325 single family residential lots within the western and southwestern portion of Annexation No. 43 and south of Tentative tract 6682. Master parks plan and school site are incorporated into the project. Design meetings are in progress with City staff.	Development Agreement and Tentative Map approved. Construction will be phased over 15 years.
3	Block H Project: Community Redevelopment Agency of Delano	This City-initiated redevelopment project is a critical component of the City's Downtown Economic Strategic Plan. A July 2006 design charrette gauged the community's development ideas for the 16-acre site. A master plan is included in the project.	On hold due to State-mandated abolition of local redevelopment agencies. Commercial buildout is expected by 2025.
4	Annexation No. 36: YK America – Community Residential on 25 acres	The property is planned for higher-density single family residential lots (141 single family residential units and 120 apartment units) to support the planned community retail portion of the Grapevine Project.	Residential development not included in application for the Grapevine Project.
5	Annexation No. 49: YK America on 77 acres	The project applicant proposes community retail commercial uses on 50 acres and residential on 27 acres. Approximately 340,837 square feet of commercial space, 128 single family residential lots, and 168 units of senior housing are proposed.	Project applicant intends to restart annexation and prezoning application process for this site after several years of inactivity.
6	Paramount Office Expansion	17,550-square-foot, two-story office building addition adjacent to the recently completed Paramount citrus processing plant at 1701 South Lexington Street (east of Highway 99, one-half mile south of Woollomes Avenue).	Approved by Delano Planning Commission September 11, 2013.
7	Paramount Cold Storage	44,540-square-foot cold storage building adjacent to existing citrus processing plant at 1901 South Lexington Street adjacent to plant at 1901 South Lexington Street).	Approved by Delano Planning Commission October 10, 2013.
8	Asphalt Plant near Sears	A drum mix asphalt manufacturing plant and asphalt concrete and Portland cement processing plant on a 14.72-acre parcel located south of Schuster Road, east of Randolph Street.	Approved by Delano Planning Commission October 10, 2013.

Source: City of Delano Community Development Department.
Approved and Cumulative Projects in the City of Delano. updated January 2014

5.3 SUMMARY OF CUMULATIVE IMPACTS

Potential cumulative impacts of the project are analyzed at the end of each environmental analysis section of this DEIR, beginning in Section 3.1, Aesthetics, to Section 3.14, Utilities and Service Systems. Each cumulative impact is determined to have one of the following levels of significance: no impact, less than significant, potentially significant, or significant and unavoidable.

When considered together with past, present and reasonably foreseeable future projects, cumulative impacts to some resource areas would be significant and more severe than those caused by the proposed project alone. Two potential impact areas of the project were found to be cumulatively considerable, namely, the proposed project's incremental contribution to cumulative local air quality conditions and to cumulative regional air quality conditions as a result of operations (see Section 3.3, Air Quality and Greenhouse Gas Emissions).

Following is a listing of cumulative impacts for each issue area discussed in the DEIR.

Aesthetics

The proposed project, combined with other similar projects in the area, may result in a cumulative aesthetic impact to the existing visual character of the project area.

However, the proposed project would extend the existing development of commercial land uses in the area. While this alters the area's visual character, this change would not constitute any degradation of visual quality – particularly where the City's General Plan and Zoning Ordinance contain specific development standards to ensure that new commercial development is attractive and of high-quality design (City of Delano, 2005; pg. 6-5). Mitigation Measure **MM 3.10-1** (see Section 3.10, Noise) has also been proposed that will reduce the proposed project's incremental contribution to nighttime lighting impacts to less than significant levels. Therefore, compliance with the City's existing design review process and proposed Mitigation Measure **MM 3.10-1** will ensure that the proposed project will not have a cumulatively considerable aesthetic impact in combination with other closely related past, present, and reasonably foreseeable probable future projects in the area. With implementation of Mitigation Measure **MM 3.10-1**, the cumulative visual impact is considered to be **less than significant.**

Agricultural Resources

The proposed project would convert approximately 44.64 acres of land designated as "Grazing Land" in the Important Farmlands Map of Kern County.

However, the project is located within City limits, is designated as developed land in the City General Plan, and the majority of the project site is zoned "CRC" (Community Retail Commercial) with a small portion zoned as "GC" (General Commercial) along the western property line. As such, implementation of this project to urban uses would not contribute to the cumulative loss of agricultural land in the region.

As established in Section 3.9 Land Use Planning, the proposed project would not result in the conversion of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Important Farmlands Map of Kern County (DOC, 2010) classifies the proposed project site as lower quality "Grazing" land.

Moreover, the City's General Plan policies are designed to protect its best farmlands from development through a number of objectives and policies, including:

- Creation of an Agricultural/Urban Reserve and Agriculture Preservation Area land use designation to maintain the integrity of farm activities (City of Delano, 2005; pgs. 2-14)
- Encouraging new development on infill parcels and areas near existing development to protect prime soil and eliminate "leap frog" development (City of Delano, 2005; pg. 4-17)
- Giving preference to new development projects that are proposed for non-prime agricultural soils (City of Delano, 2005; pg. 4-17)

Thus, General Plan policies protect Prime Farmland in the City in part by focusing new development in areas such as the project site. The project site is not located within an area identified by the City as fit for agricultural preservation. Rather, the site has already been designated as "developed" in the map of vacant and agricultural lands in the City (City of Delano, 2005; pg. 2-4, Fig. 2-2). Further, the project site is located close to a major highway and has been identified by the City as particularly fit for urban, commercial uses in the General Plan (City of Delano, 2005, pgs. 2-3 and 2-10). In addition, the City has identified agricultural land in the vicinity of the proposed project for planned urban, commercial uses. Commercial uses are already in operation and/or under construction in the eastern and southeastern vicinity of the project site. Nearby land to the southeast has been designated as "Industrial" by the City's General Plan; adjacent properties to the south and east are designated "Commercial;" and adjacent properties to the west and north are designated as residential (City of Delano, 2005; pgs. 2-3 and 2-10). Development of the project would help the City attain its aim of channeling development near existing development and infrastructure and away from designated agricultural reserve and preservation areas.

Therefore, the proposed project would not contribute incrementally to the conversion of Prime agricultural land to urban uses. The proposed project's contribution to the cumulative loss of agricultural land in the region would be **less than significant**.

Air Quality and Greenhouse Gas Emissions

Cumulative Regional Air Quality Impacts

Impact 3.3-7 Implementation of the proposed project could result in a cumulatively considerable net increase of the criteria pollutants which the project region is non-attainment under an applicable federal or state ambient air quality standard (Air Quality Standard of Significance 3). Implementation of the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Greenhouse Gas Standard of Significance 1). Implementation of

the proposed project could also conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Greenhouse Gas Standard of Significance 2).

Project-generated emissions would contribute incrementally to cumulative existing and future regional nonattainment conditions within the SJVAB, as well as an increase in greenhouse gas emissions. This impact is considered potentially significant.

The SJVAPCD's approach towards assessing cumulative impacts is based, in part, on the projected increases in emissions attributable to the proposed project, as well as the project's consistency with the growth projections used for development of air quality attainment plans. In accordance with SJVAPCD-recommended methodology, projects anticipated to have a significant impact at the project level would also be considered to have significant cumulative air quality impacts (SJVAPCD, 2002; pg. 29). In addition, a project would be considered to conflict with or obstruct implementation of the regional air quality plans if it would be inconsistent with the emissions inventories contained in the regional air quality plans. Emission inventories are developed based on projected increases in population growth and vehicle miles traveled (VMT) within the region. Project-generated increases in population or VMT could, therefore, potentially conflict with regional air quality attainment plans.

Actions identified in Mitigation Measure **MM 3.3-3** would reduce mobile-source pollutants of regional and local concern.

Greenhouse Gas

The SJVAPCD requires proposed projects that require preparation of an EIR to quantify project-specific GHG emissions (SJVAPCD, 2009c; pg. 3). The proposed project would contribute to increases in greenhouse gas (GHG) emissions that are associated with global climate change. A large majority of the GHGs attributable to the proposed project would be comprised of carbon dioxide (CO_2) emissions generated by mobile sources. Additional emissions of GHGs would be associated with energy consumption.

The proposed project incorporates a number of design features and characteristics that reduce its GHG emissions. The combination of restaurants, drive-through fast food, a 12-screen theater, and retail stores will encourage multi-purpose shopping trips, which is expected to reduce fuel consumption by reducing the number of trips some people might otherwise make between different stores. The project has been designed to reduce travel from Delano to nearby towns through the provision of services which are not otherwise available in the community, such as the movie theater.

In addition, the following measures identified in Mitigation Measure **MM 3.3-3** will reduce electricity use by the project and in turn lower the project's incremental contribution to cumulative GHG emissions (SJVAPCD, 2009c; pg. 7).

- *Day lighting (skylights/dimming):* The shopping center will include a day lighting system, which automatically and continuously dims all of the lights as the daylight contribution increases
- *Night Dimming:* The project applicant will require retailers to dim lighting during hours of non-operation

- *White Roof:* Where feasible, the shopping center will have a "white" membrane roof vs. traditional retail stores that have a darker color. The high solar reflectivity of this membrane results in lowering the "cooling" load by about 10 percent, reducing the amount of power required to cool the building and lowering the project's incremental contribution to GHG emissions. Energy Star-equivalent materials are also acceptable
- *LED Illumination:* The shopping center will use LED lighting wherever possible. The application of LED technology is over 70 percent more energy-efficient than fluorescent illumination. With lamp life ranging to 100,000 hours, using LEDs significantly reduces need to manufacture and dispose of fluorescent lamps. This feature would reduce both the project's direct electricity use during operations, and its indirect electricity use related to the manufacturing of lamps, both of which would reduce the project's incremental contribution to cumulative GHG emissions

The proposed project would also be designed and equipped to recycle cardboard, vegetable oil, bottles and cans, plastic waste, and electronic waste. Recycling can substantially reduce GHG emissions associated with the manufacturing of such products. Implementation of the these measures, along with compliance with the most recent California Building Standards and the California Energy Commission Energy Efficiency Standards, would help to reduce the project's contribution to global GHGs and climate change.

Table 3.3-11 quantifies GHG emissions of the project and indicates how the project design features and characteristics described above would reduce GHG emissions of the proposed project.

TABLE 3.3-11
CalEEMod PROPOSED PROJECT OPERATIONAL GHG EMISSIONS WITH AND WITHOUT PROJECT DESIGN FEATURES

Greenhouse Gas	Total CO_2 (MT/Year)	CH_4 (MT/Year)	N_20 (MT/Year)
Without Features			
With Features	8,638.93	2.02	0.02
Percent Reduction			
Total Average Percent Reduction: =			**44.26**

Source: BSK Associates, 2014 Appendix 3.3

As indicated in Table 3.3-11, the project's design features under the CalEEMod model reduce the proposed project's operational GHG emissions by 44.26%. SJVAPCD GHG emission guidance states that in order for a project to be determined to have a less than significant cumulative impact on GHG emissions, a project must either implement SJVAPCD BPS, or achieve a 29% reduction in GHG emissions (SJVAPCD, 2009c; pg. 5). The proposed project's GHG emission reduction project features meet the threshold described in SJVAPCD guidance, because they achieve a 29% reduction in GHG Emissions as

estimated through CalEEMod. Therefore, the project's incremental contribution to cumulative GHG emissions is considered **less than significant.**

Emissions of ROG and NO_x

Implementation of the proposed project would contribute to increases in emissions of ROG and NO_X. However, with implementation of Mitigation Measure **MM 3.3-3**, the project's contribution to cumulative air quality impacts would be reduced, but not to a less than significant level. Thus, the proposed project's contribution to cumulative regional air quality conditions would be considered **significant and unavoidable**.

Cumulative Localized Air Quality Impacts

IMPACT 3.3-8a *Cumulative Localized Odor Impacts* Project-generated emissions could theoretically contribute, on a cumulative basis, to localized increases in odor concentrations. This impact is considered potentially significant. However, no major sources of odors were identified in the project vicinity, and emissions of odors attributable to the proposed project would be considered less than significant. Therefore, the project's incremental contribution to cumulative odor impacts would be considered **less than significant**.

IMPACT 3.3-8b *Cumulative Air Impacts*

Cumulative Localized Stationary Source TAC Impacts Project-generated emissions of TACs could contribute, on a cumulative basis, to localized increases in TAC concentrations. This impact is considered potentially significant.

As previously discussed, sensitive land uses located in the vicinity of the project site consist primarily of residential land uses. The analysis of cumulative conditions assumes buildout and occupancy of the currently undeveloped residential development located approximately 180 feet (55 m) north of the northern boundary of the project site, which is much closer to the project than the existing day care center located approximately 0.29 mile (1,531.2 feet) north of the project site. This residential development is the nearest sensitive receptor for the cumulative scenario.

The SJVAPCD considers impacts of local pollutants (CO, TACs) to be cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards (SJVAPCD, 2002; pg.29). Cumulative TACs depend on the future mix of local uses, which are not known. A surrogate approach was used to assess the potential TAC impacts on sensitive receptors. The cumulative TAC scenario represents the likely emissions from other future development projects planned in the area, in addition to the proposed project. Therefore, the cumulative modeling examined the TAC emissions from the likeliest TAC source (fast food restaurants) for each of the proposed developments, at the same ratio as the proposed project. The risk associated with cumulative operational stationary source TACs is 5.60 E-07. This risk is less than the 10 in 1 million MEI threshold and is therefore considered **less than significant.** Modeling results are supplied in Appendix 3.3 of this DEIR.

Cumulative Localized CO Impacts Project-generated emissions of CO could contribute, on a cumulative basis, to localized increases in CO pollutant concentrations. This impact is considered potentially significant. As noted in Impact 3.3-5, implementation of the proposed project would not be anticipated to contribute to localized concentrations of mobile source CO under future cumulative conditions. Cumulative mobile source emissions of TACs (e.g., CO and DPM) will be lessened with the proposed roadway improvements set forth in the traffic study and listed in Mitigation Measures **MM 3.13.1-a, 3.13-1b, 3.13-1c,** and **MM 3.13-2a** through **MM 3.13-2g**. (Omni-Means, 2014; pgs. 38-44; Appendix 3.13). These mitigation measures will decrease CO by improving traffic congestion. By improving roadway LOS above LOS "E" or "F", the cumulative CO emissions will not create a hotspot according to the SJVAPCD GAMAQI (SJVAPCD, 2002; pg. 49). By eliminating hotspot potential, mobile source CO emissions will be considered **less than significant**.

Cumulative Localized DPM Impacts Project-generated emissions of DPM could contribute, on a cumulative basis, to localized increases in DPM pollutant concentrations. This impact is considered potentially significant.

Before mitigation, DPM is not expected to exceed the 10 in 1 million MEI threshold based upon the Existing Plus Project traffic volumes identified in the traffic study, and the DPM modeling conducted with the same traffic volumes. The risk from cumulative DPM emissions is estimated from the SJVAPCD-provided mall spreadsheet and the surrogate approach explained in Impact 3.3-8b. The DPM risk from truck travel is 7.80 E-07 and truck idling is 1.74 E-07. This modeling represents a "worst case scenario" because intersection improvement mitigation measures were not included in the model. Cumulative impacts would be lessened even further with the proposed project traffic mitigation in Mitigation Measures **MM 3.13-1a, MM 3.13-1b, MM 3.13-1c,** and **MM 3.13-2a** through **MM 3.13-2g**. This is below the 10 in 1 million MEI threshold and therefore cumulative DPM emissions are considered **less than significant**.

Conclusion

The cumulative localized TAC emissions from future developments associated with all sources (stationary and mobile) is 1.5 E-06. This is below the 10 in one million MEI threshold and is therefore considered **less than significant.**

Biological Resources

The proposed project, in addition to anticipated cumulative development in the project vicinity, may disturb special status species and associated wildlife movement throughout the local area. These impacts would be considered potentially significant cumulative impacts that would be reduced to **less than significant** levels with the implementation of Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g**.

As presented in the impact discussions in Section 3.4 Biological Resources, implementation of the proposed project could theoretically result in a loss of foraging habitat and contribute to biological resource impacts, including potential disturbance of special status species. Anticipated development

and urban expansion of the area may further contribute to these impacts and is considered a potentially significant cumulative impact to biological resources.

However, based on the analysis presented, implementation of Mitigation Measures **MM 3.4-1a** through **MM 3.4-1g** would reduce the proposed project's incremental contribution to cumulative biological resources.

Appropriate performance measures are incorporated within these mitigation measures to ensure that the proposed project would not contribute to the potential loss and/or restriction of biological resources in the region. Therefore, the proposed project, when combined with other development proposed in the area, would result in would have a **less than significant** cumulative impact to special status species, critical habitats, and wildlife movement.

Cultural Resources

Though not likely, construction activities associated with the proposed project could contribute to the cumulative loss of archaeological and paleontological resources and result in adverse cumulative impacts.

No historical or archaeological resources were identified in the course of studies for this project. Excavation activities associated with the proposed project in conjunction with other projects in the area could contribute to the progressive loss of fossil remains, as-yet unrecorded cultural or paleontological resources, associated geological and geographic data, and fossil-bearing strata. With implementation of Mitigation Measures **MM 3.5-1** and **MM 3.5-4**, impacts on archaeological resources and buried human remains, including those interred outside of formal cemeteries, resulting from the project would be less than significant. With respect to paleontological resources or unique geologic features, implementation of Mitigation Measure **MM 3.5-3** would reduce the impact from the project to a level less than significant. Similar mitigation would also be imposed on other projects in the City of Delano to reduce each individual project's impact on cultural and paleontological resources.

Therefore, the cumulative impact is considered **less than significant**.

Geology and Soils

As discussed in Section 3.6 Geology and Soils, the proposed project is in a seismically active area and near the Pond Poso Fault and the northwest-trending San Andreas Fault.

The proposed project, combined with other similar projects in the area, may result in a cumulative impact to the geological conditions of the project area. However, the effects of these projects are not of a nature to cause cumulatively significant effects from geologic impacts or on soils because such impacts are site specific and would only have the potential to combine with impacts of the proposed project if they occurred in the same location as the project. This effect is considered a **less than significant** impact with implementation of Mitigation Measures **MM 3.6-1a** through **MM 3.6-5**.

Additionally, onsite soils are located on fairly level slopes (typically zero to five percent slopes) which generally limit erosion potential. As a result, the proposed project is not highly susceptible to erosion. Implementation of the required SWPPP and BMPs would reduce erosion from the proposed project. Impacts from erosion or loss of topsoil for other cumulative projects would require site-specific analysis to determine the soils' permeability, slope angle and length, extent of groundcover, and human influence on the sites. All planned projects in the vicinity of the proposed project are subject to review in separate environmental documents that would require conformance to the Delano General Plan and Building Code, including mitigation of seismic hazards and engineering to ensure soil stability. With implementation of Mitigation Measure **MM 3.6-1a** through **MM 3.6-5**, the proposed project would not contribute to any cumulative impacts for geologic, seismic hazards or related events. Moreover, any potential geologic impacts would be site specific and are generally not affected by cumulative development in the region. The proposed project will not combine with past, present, and reasonably foreseeable future projects in the area to form a new impact greater or more significant than the project impact alone. As currently designed, and with the identified mitigation measures incorporated, the proposed project would not contribute to a cumulative impact related to geology and soils, including seismic hazards. Therefore, the cumulative impact is considered **less than significant** and the project's incremental contribution is **less than significant**.

Hazards and Hazardous Materials

Implementation of the proposed project in addition to cumulative development associated with build out of the General Plan may result in cumulative hazardous risk impacts.

In the absence of mitigation, implementation of the proposed project could result in potential short-term impacts during construction activities associated with exposure to hazardous substances such as waste oil and hazards due to abandoned septic systems and water wells. However, hazardous materials impacts would be site-specific and are generally not affected by cumulative development in the region. As described in this section, with proper implementation of Mitigation Measures **MM 3.7-1 and 3.7-2**, the proposed project would not contribute to an increase in the potential impacts related to the creation of a hazard through upset or accident conditions involving the release of hazardous materials. Additionally, implementation of Mitigation Measures **MM 3.7-5** through **3.7-6** would reduce the likelihood of attracting vectors such as flies and other insects to the project site, and therefore reduce the potential cumulative increase of disease vectors to less than significant levels. The proposed project will not combine with any planned growth in the area to form an impact greater or more significant than the project impact alone. Therefore, the cumulative impact is considered **less than significant**.

Hydrology and Water Quality

The proposed project, in combination with future development in the area, could incrementally contribute to a cumulative effect with regard to drainage and water quality. Each of the cumulative projects may include designs for stormwater drainage systems to capture and discharge waters from project sites, as required by the City of Delano. Thus, some of the cumulative projects in the area would

transmit stormwater into retention facilities that would be developed as part of the respective projects, which would then percolate water back into groundwater aquifers.

Development of the project site would contribute to cumulative local and regional drainage flows and surface water quality impacts when combined with future growth and development in the project vicinity. However, the City requires that new development mitigate storm drainage impacts through the construction or expansion of detention basins with adequate capacity to contain projected flows generated by each development. To this end, the project applicant will be required to expand the City's stormwater detention basin to accommodate project stormwater drainage system from the project as specified in **MM 3.14-2a**, **MM 3.14-2b** and **MM 3.14-2c** in Section 3.14, Utilities and Service Systems.

Additionally, these cumulative projects may alter drainage conditions and increase the amount of urban pollutants, which could ultimately affect surface water and groundwater. Stormwater pollutants may include grease, oil, rubber, silt, pesticides, fertilizers, and/or general debris. As part of new development projects, these types of uses would be subject to the requirements of the CWA, which are implemented by Kern County statewide NPDES requirements, as well as the City of Delano Grading Code and floodplain management requirements. Water quality standards are achieved through the implementation of BMPs during design, construction, and post-construction operations. Similar to other projects, the proposed project would be subject to these requirements. **MM 3.8-1** and **MM 3.8-2** would reduce cumulative impacts of the project to a less than significant level.

The proposed project will be subject to requirements of the RWQCB regarding short-term and long-term water quality impacts. Short-term construction impacts to water quality will also be mitigated to a less than significant level by **MM 3.8-1b**. Once the project is operational, compliance with **MM 3.8-1a** and **MM 3.8-1b** will ensure that non-point source pollutant loads from project runoff are mitigated to a less than significant level. **MM 3.8-7a and MM 3.8-7b** will ensure that the proposed project does not result in any development in a FEMA Special Flood Hazard Zone.

The application of these standards, practices, and implementation of Mitigation Measures **MM 3.6-1b**, **MM 3.7-2, MM 3.8-1** through **MM 3.8-7b**, as well as **MM 3.14-2a** through **MM 3.14-2c** to the proposed project would reduce the project's incremental contribution to a less than significant level. Therefore, the project's cumulative storm water runoff, drainage, and water quality impacts would be considered **less than significant**.

Land Use Planning

The proposed project is consistent with land use as outlined in City of Delano land use plans, policies, and ordinances.

Land uses proposed for the project are consistent with the overall direction of the City's plans for the future as expressed in the City's General Plan as noted in Section 3.9 Land Use Planning. As analyzed in Section 3.9 Land Use Planning, the Project is also consistent with the City Municipal Code (including its Zoning Ordinance), the City airport compatibility review process, and the City Strategic Economic Development Plan (City of Delano, 2005b). No physical disruption of an existing developed portion of

the community will occur under the project, and there will be no conflict with any applicable Habitat Conservation Plan. Therefore, because the proposed project would not contribute incrementally to adverse land use effects or inconsistency with applicable land use plans and provisions, there would be **no cumulative impact** on land use as a result of the project.

Noise

Predicted noise levels at residential dwellings located along primarily affected roadways would not exceed the transportation noise source standard of 65 L_{dn} dBA for the City's land use compatibility standards (Table 3.10-2), and operations will not exceed the land use compatibility guidelines Conditionally Acceptable level of 60-70 dBA (Table 3.10-1) at nearby residential dwellings.

In the cumulative project scenario, the nearest sensitive receptor will be a future residential development located approximately 175 feet (0.03 mile) north of the northern boundary of the project site. The noise modeling conducted used the cumulative scenario traffic volumes to determine the impact from traffic-related noise. The future residential development would experience approximately 49.4 L_{dn} with the full project buildout and the barrier wall along the northern project boundary. This is within the City's Land use standards. Due to the localized nature of noise impacts and the distance of sensitive receptors from the project sites, the proposed project would not contribute to significant cumulative noise impacts. Construction activities associated with other projects in proximity to the project site could occur at the same time as the proposed project. These related projects would also be subject to local noise standards and established thresholds pertaining to increased noise at the locations of sensitive receptors, as well as similar mitigation measures. Given the remote nature of the project site, and the distance from sensitive receptors, project-related noise impacts would be **less than significant**. No significant cumulative noise impact is anticipated to occur. Therefore, noise impacts of past, present, and reasonably foreseeable projects would have a **less than significant** cumulative impact.

Population and Housing

Because the proposed project would not cause an increase in population and there is a relatively high unemployment rate in the City, the proposed project is not anticipated to result in a direct or indirect impact on population and housing.

The proposed project, combined with other similar projects in the area, is unlikely to result in a cumulative impact due to the limited growth-inducing impacts of the project. Thus, the cumulative impacts of past, present, and reasonably foreseeable future projects would be less than cumulatively considerable.

As analyzed in Section 3.11 Population and Housing, the project will provide approximately 617 new jobs that are likely to be filled largely by local residents, minimizing growth-inducing impacts on the population in the City. No new off-site roads or housing are proposed as part of the project (other than short segments to provide ingress to and egress from the project), nor will the project trigger the building of new roads or housing elsewhere. Given the project's minimal potential to induce growth,

the proposed project would not contribute to a cumulative increase in population and housing impacts. The proposed project will not combine with any planned growth in the area to form an impact greater or more significant than the project impact alone. Therefore, the cumulative impact is considered **less than significant**. No mitigation is required.

Public Services

The proposed project, in addition to anticipated cumulative development in the project vicinity, may result in the need for increased public services and facilities.

The proposed project's incremental contribution to cumulative public services and facilities impacts will be addressed by payment of existing applicable development impact fees, which would also be assessed on any future development in the City. Additionally, all planned projects in the vicinity of the proposed project would be subject to environmental review and the possible preparation of separate environmental documents. As currently proposed, the project, as well as past, present, or reasonably foreseeable projects would not contribute to any cumulative impact for public services and are considered **less than significant**.

Transportation/Traffic

Impact 3.13-2

Implementation of the proposed project combined with cumulative conditions could result in long-term traffic conditions conflicting with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. This is considered a potentially significant impact that will be reduced to **less than significant** with mitigation.

The proposed project's incremental contribution to cumulative public services and facilities impacts will be addressed in part by payment of existing applicable circulation development impact fees, which would also be assessed on any future development in the City. Additionally, the project would be required to pay fair-share fees, as detailed in mitigation measures **MM 3.13-2a** through **MM 3.13-2g**.

Table 3.13-20 indicates which intersections would not meet City LOS standards with the new traffic generated by the proposed project in combination with all other projects that would exist with build out of the Delano General Plan. The table also displays the LOS expected with proposed mitigation. Before mitigation, all study intersections are projected to operate at unacceptable LOS at some point during the week (primarily during PM peak hours) under Cumulative Plus Project conditions, except for the SR 99 ramps. With the following mitigation, all intersections can maintain acceptable LOS conditions during peak hours under cumulative conditions including the proposed project. Figure 3.13-18 Cumulative Mitigated Lane Geometrics and Control Types shows lane geometrics and control types after mitigation. Table 3.13-20 and Figure 3.13-18 appear in Section 3.13 Transportation/Traffic.

Mitigation Measures

MM 3.13-2a *Woollomes Avenue/Stradley Avenue* In order to achieve and maintain a LOS no worse than D, an additional westbound right lane will be constructed (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because the westbound approach to this intersection is not part of the City.

MM 3.13-2b *Woollomes Avenue/Belmont Street* In order to achieve and maintain a LOS no worse than D, this intersection will be signalized and the eastbound and westbound approaches will be widened to two through lanes in each direction, with a dedicated eastbound left turn pocket (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because this portion of Woollomes is not part of the City.

MM 3.13-2c *Woollomes Avenue/Project Driveway* In order to achieve and maintain an LOS no worse than D, the eastbound and westbound approaches will be widened to two through lanes in each direction and have a dedicated eastbound left turn pocket (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because this portion of Woollomes is not part of the City.

MM 3.13-2d *Woollomes Avenue/Dover Parkway* In order achieve and maintain an LOS no worse than D, the eastbound and westbound approaches of this intersection will be widened to include dual left turn lanes, dedicated right turn lanes, and three through lanes. The northbound and southbound approaches will be widened to include dual left turn lanes, two through lanes, and dedicated right turn lanes (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement. Construction of this improvement shall be coordinated with the Kern County Roads Department because the eastbound approach of this intersection is not part of the City.

MM 3.13-2e *Woollomes Avenue/Home Depot West* In order to achieve and maintain an LOS no worse than D, the eastbound and westbound approaches of the intersection will be widened to include dual left turn lanes, dedicated right turn lanes, and three through lanes (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement.

MM 3.13-2f *Woollomes Avenue/Home Depot East* In order to achieve and maintain an LOS no worse than D, eastbound and westbound left turns will be prohibited at this intersection and redirected to the next downstream signalized intersection. Also, a westbound through lane will be constructed (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement.

MM 3.13-2g *Woollomes Avenue/Lexington Street* In order to achieve and maintain an LOS no worse than D, a second eastbound lane will be constructed from the SR 99 northbound ramps to Lexington Street. This lane will become a dedicated left turn lane at the intersection (see Figure 3.13-18). The project applicant will pay a fair-share towards the construction of this improvement.

These mitigation measures, along with mitigation measures **MM 3.13-1a**, **MM 3.13-1b**, and **MM 3.13-1c**, would ensure that cumulative impacts would be **less than significant**.

Utilities and Service Systems

Impact 3.14-6 The geographic scope of the cumulative utilities analysis is the City, the provider of most services to the project. The proposed project would not contribute incrementally to a need for new water, wastewater, stormwater, or solid waste disposal facilities in the project area and so the project would have a **less than significant** cumulative impact.

The proposed project would be required to pay water and sewer impact fees to cover its share of the cumulative impact upon municipal utility systems. Mitigation measures aimed at conservation will ensure that the project's incremental contribution to cumulative impacts remains less than significant, including **MM 3.14-3** (water conservation practices); and **MM 3.7-2**, **MM 3.14-5a**, **MM 3.14-5b**, **MM 3.14-5c**, and **MM 3.14-5d** (solid waste recycling measures).

Because the project will result in a need for an expanded storm water detention facility, the project will be required to implement its fair share of mitigation measures designed to alleviate its incremental contribution to the impact. Under Mitigation Measures **MM 3.14-2b** and **MM 3.14-2c**, the project would expand the City's existing off-site storm water basin to accommodate storm water runoff from the project.

Therefore, because the project's incremental contribution to utility impacts would be less than considerable, the project would have a **less than significant** cumulative impact.

5.4 REFERENCES

City of Delano, 2005. General Plan Update, adopted December 5, 2005; (http://www.cityofdelano.org/DocumentCenter/View/99) web accessed March 18, 2014.

DOC (California Department of Conservation), 2010. Farmland Mapping and Monitoring Program. Kern County Important Farmland Map. 2010; (ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/ker10_central.pdf) web accessed January 3, 2014.

SJVAPCD, 2009. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA, December 17, 2009; (http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf) web accessed January 13, 2014.

6.0 OTHER SECTIONS REQUIRED BY CEQA

This section discusses the long-term implications of the proposed project as required by CEQA. The topics discussed include significant irreversible environmental changes/irretrievable commitment of resources, growth-inducing impacts and significant and unavoidable environmental effects, and effects found not to be significant.

6.1 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL EFFECTS

Public Resources Code section 21100(b)(2)(A) requires an EIR to include a detailed statement setting forth any significant effects on the environment that cannot be avoided if a project is implemented. CEQA Guidelines section 15126.2(b) states that such impacts include those that can be mitigated but not reduced to a level of insignificance. In addition, section 15093(a) of the CEQA Guidelines allows the decision-making agency to determine if the benefits of a proposed project outweigh the unavoidable adverse environmental impacts of implementing the proposed project. The City can approve a proposed project with unavoidable adverse impacts if it prepares a "Statement of Overriding Considerations" setting forth the specific reasons for making such a judgment. The Statement of Overriding Considerations is a statement of the City's views on the ultimate balancing of the merits of approving a project despite its environmental damage. The Statement of Overriding Considerations must be in writing and state specific reasons supporting the City's action based on the Final EIR or other substantial evidence in the record. Substantial evidence includes facts, reasonable assumptions predicated upon facts, and expert opinions supported by facts.

Based upon the environmental analysis provided in Section 3.0, the majority of the proposed project's potentially significant impacts can be avoided or reduced to a less than significant level through the application of mitigation measures that would be implemented in conjunction with the proposed project. However, this DEIR has identified significant and unavoidable impacts related to Transportation/Traffic that cannot be feasibly mitigated to a less than significant level. In the area of Transportation/Traffic, short-term project-level traffic impacts on the Woollomes Avenue/State Route 99 northbound ramps would be temporarily significant and unavoidable, on a short-term basis between operation of the proposed project and full build out under cumulative conditions.

The proposed project is consistent with the City's General Plan, including the City's plans for economic development and critical infrastructure improvements, despite these impacts. The City has analyzed alternative locations and designs and the feasibility of other potential mitigation measures, and has determined that the project as proposed is the most consistent with the project objectives and the General Plan.

6.2 EFFECTS FOUND NOT TO BE SIGNIFICANT

A significant effect on the environment is generally defined as a substantial or potentially substantial adverse change in the physical environment (CEQA Guidelines section 15328). The term "environment," as used in this definition, means the physical conditions that exist within the area that will be affected by a proposed project including land, air, water, minerals, plants, animals, ambient noise, and objects of historic or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the proposed project. The "environment" includes both natural and man-made conditions (CEQA Guidelines section 15360).

Detailed analyses and discussion of environmental topics found to be significant is provided within Section 3.0 of this DEIR. Listed below are those environmental issues found not to be significant with implementation of the proposed project. This determination is based on the scope of the environmental documentation for the proposed project, standards of significance contained within the CEQA Guidelines, and the NOP process for the proposed project. The completed NOP and responses from the public and affected agencies and organizations are included in Appendix 1.0 of this DEIR.

LIST OF EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 3.1 Aesthetics

- Whether the project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway

Section 3.2 Agricultural Resources

- Conflict with existing agricultural zoning or Williamson Act contracts
- Conflict with existing zoning for forest or timberland
- Loss of forest land or conversion of forest land to non-forest use

Section 3.4 Biological Resources

- Substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act

Section 3.6 Geology and Soils

- Whether the project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides
- Whether soils at the project site are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available

Section 3.7 Hazards and Hazardous Materials

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school

- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and as a result would create a significant hazard to the public or the environment
- Be located within the vicinity of a private airstrip, and thus result in a safety hazard for people residing or working in the project area
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

Section 3.8 Hydrology and Water Quality

- Whether the project would result in an increase in any pollutant for which a water body is listed as impaired under section 303(d) of the CWA (In addition to the proposed project having no impact in this area, this effect is not among the CEQA Guidelines Appendix G standards of significance. See discussion in Section 3.8 of this DEIR under Standards of Significance)
- Whether the project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map
- Whether the project would result in inundation by seiche, tsunami, or mudflow

Section 3.9 Land Use Planning

- Whether the project would physically divide an established community
- For a project within the vicinity of a private airstrip, whether the project would expose people residing or working in the project area to excessive noise levels

Section 3.11 Population and Housing

- Whether the project would displace substantial numbers of existing houses, necessitating the construction of replacement housing elsewhere
- Whether the project would displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

Section 3.12 Public Services

- Whether the project will result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
    - Schools
    - Parks
    - Other public facilities

Section 3.14 Utilities and Service Systems

- Whether the project would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board Environmental Impact Areas

Topical Areas Found Not to Be Significant

In addition to the no-impact effects listed above, the NOP/IS identified the following topics as having less than significant impacts upon the environment:

- Mineral Resources
- Recreation

6.3 IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Requirement

Public Resources Code section 21100(b)(2)(B) requires an EIR to include a detailed statement setting forth any significant effects on the environment that would be irreversible if a proposed project is implemented. Examples of irreversible environmental changes, as set forth in CEQA Guidelines section 15126.2(c), include the following:

- Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely (see also CEQA Guidelines, Appendix F)
- The primary and secondary impacts of a proposed project would generally commit future generations to similar uses (e.g., a highway providing access to a previously inaccessible area)
- The proposed project involves uses in which irreversible damage could result from any potential environmental accidents associated with the proposed project
- The phasing of the proposed consumption of resources is not justified (e.g., the proposed project involves the wasteful use of energy) (see also CEQA Guidelines, Appendix F)

A proposed project would result in significant irreversible effects if it is determined that key resources would be degraded or destroyed to the extent that there is little possibility of restoring them. Irreversible environmental changes should be evaluated to assure that such current consumption is justified (CEQA Guidelines section 15126.2(c)).

Analysis

The proposed project would result in an increased intensity of development through the conversion of vacant, rural land to a community shopping center. A variety of nonrenewable and limited resources would be irretrievably committed for proposed project construction and maintenance, including, but not limited to, oil, natural gas, gasoline, diesel, lumber, sand and gravel, cement, asphalt, steel, water,

land, energy, electricity, other construction materials, and human resources. In addition, the proposed project would result in an increase in demand on public services and utilities.

An increase in the intensity of land uses on the site would result in a nominal increase in regional electric energy consumption to satisfy additional electricity demands from the proposed project. These energy resource demands relate to initial proposed project construction, transport of people and goods, and operational uses for the lighting, heating, and cooling of buildings.

Regarding energy use, development of the site will not preempt future energy conservation but instead will encourage it by increasing the variety of local shopping opportunities and providing a local multi-screen movie theater so that residents can shop and be entertained locally rather than venturing out of town, which will reduce vehicle miles traveled, as described in Section 6.4 below.

Development of the site to support urban uses may be regarded as a permanent and irreversible change. Site development would essentially eliminate any potential agricultural production on the site. Grading, utility extensions, drainage improvements, new and improved roadways, and construction of buildings would permanently alter the character of the site to one that is fully urbanized. The proposed project would likely commit future generations to similar urban uses on the project site.

6.4 ENERGY ANALYSIS

CEQA Requirement

The CEQA Guidelines state that an EIR must "include a discussion of the potential energy impacts" of a proposed project (CEQA Guidelines Appendix F). Under CEQA, an EIR is required to state mitigation measures proposed "to reduce the wasteful, inefficient, and unnecessary consumption of energy" (Pub. Resources Code, section 21100 (b)(3)). CEQA Guidelines Appendix F provides guidance on energy analysis items that may be discussed in the Project Description, Environmental Setting, Environmental Impacts, Mitigation Measures, Alternatives, and other portions of an EIR (CEQA Guidelines Appendix F, II.A through II.I).

Energy Supply

As is identified in Section 3.14, Utilities and Service Systems, energy is supplied to the City through Southern California Edison and Southern California Gas Company, and it is expected that these utilities would serve the proposed project. The use of renewable energy generation features at the site was considered but would be infeasible due to the project site location 0.61 mile from the Delano Municipal Airport. Use of rooftop or ground-mounted solar panels could be a source of daytime glare that could directly interfere with aircraft approaching or departing from the airport. Wind turbines would increase noise and vibration significantly and lead to bird and bat mortality. These and other forms of on-site energy supply are incompatible with project uses, project objectives, and the available site footprint.

Energy Use

Construction Energy Use

The proposed project's construction-related energy consumption is not directly quantified. However, mitigation measures within this DEIR will reduce the energy consumption from construction activities. The mitigation measures and reasoning are listed below.

Air Quality and Greenhouse Gas Emissions Mitigation Measure **MM 3.3-2**

- Off-road construction equipment will achieve fleet average emissions equal to or cleaner than the Tier II emissions standards set forth in section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations. (SJVAPCD, 2013). This measure greatly increases the efficiency of construction equipment thus reducing the energy consumption from gasoline
- When not in use, on-site equipment shall not be left idling longer than 10 minutes. This mitigation measure will use the minimum amount of fuel to operate and complete the project. This prevents unnecessary fuel consumption and energy loss
- On-site equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. Equipment maintenance records shall be kept on-site and made available upon request by the SJVAPCD or City

Operational Energy Use

The overall energy consumption from the proposed project's operations is illustrated in **Table 6-1** and **Table 6-2**. These tables represent the kWh/yr of the proposed project land uses and their relation to GHG emissions. The tables below show the energy by land use before and after mitigation. Table 6-1 represents the kWH/yr of operations before mitigation measures, and Table 6-2 represents the kWH/yr of operations after mitigation. The mitigation measures and reasoning are listed below.

TABLE 6-1
ENERGY BY LAND USE ELECTRICITY
BEFORE MITIGATION

	Electricity Use	Total CO_2	CH_4	N_2O	CO_2e
Land Use	**kWh/yr**	**MT/yr**			
Parking Lot	1.30539 E+006	373.56	0.017	3.55 E-003	375.02
Regional Shopping Center	3.97814 E+006	1138.41	0.0523	0.01	1142.87
Total	**5,280,000**	**1511.97**	**0.07**	**0.01**	**1517.89**

TABLE 6-2 ENERGY BY LAND USE ELECTRICITY AFTER MITIGATION					
	Electricity Use	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Land Use	**kWh/yr**	**MT/yr**			
Parking Lot	352455	100.86	4.64 E-003	9.60 E-004	101.26
Regional Shopping Center	266 E+006	760.98	0.0350	7.24 E-003	763.95
Total	**3,012,455**	**861.84**	**0.039**	**0.0082**	**865.21**

Transportation Energy Use

Transportation energy use by the proposed project will be generated through an estimated 14,712 average daily weekday trips to the project (Omni Means, 2014; pg. 15). Air Quality and Greenhouse Gas Emissions Mitigation Measure **MM 3.3-3** reduces overall VMT to the proposed project site. The mitigation measure does this in a variety of ways, including public transit access, bike access, pedestrian walkways, improved traffic movements, neighborhood electric vehicles (NEVs), parking space reduction, and encouraging lower-emission vehicle use for fleet vehicles and carpooling. Each of these improvements reduces the number of vehicles visiting the project. This limits energy consumption in the form of gasoline as well as reduces overall air emissions from vehicle travel (BSK Associates, 2013; Appendix 3.3).

The Department of Transportation's National Highway Traffic Safety Administration (NHTSA) finalized the Corporate Average Fuel Economy (CAFE) standards for model years 2013 through 2016 at 35.5 miles per gallon (mpg). This is an increase from the current CAFE standards of 27.5 mpg for passenger cars model year 1985 and thereafter (NHTSA, 2014). Taking a conservative approach, this analysis bases its analysis upon the previous standard of 27.5 mpg for passenger cars, which will comprise the highest percentage of vehicles visiting the site. Multiplying the fuel economy of 27.5 mpg by the annual vehicle miles traveled (VMT) by vehicle visits to the project (25,797,277), the total unmitigated consumption of gasoline is 938,083 gallons per year. After mitigation measures, the annual VMT will be reduced to approximately 12,832,314. This will lower the gasoline consumption to approximately 466,630 gallons per year.

Energy-Saving Project Features

Although the proposed project will consume quantities of energy typical of a large retail facility, project features and mitigation will help manage the amount and efficiency of energy consumption and will ensure that the related consumption is not inefficient, wasteful, or unnecessary.

The Project Description identifies that one of the project objectives is to provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods

and services at neighboring cities. Another project objective is to provide a multi-screen movie theater entertainment venue in combination with a shopping experience with the goal of reducing vehicle trips. This project objective will reduce vehicle miles traveled and related energy use by adding a multi-screen movie theater to the City's entertainment opportunities for residents. The City currently lacks an operating movie theater, which requires Delano residents to drive out of town to see a movie (California Polytechnic State University, San Luis Obispo, Community Planning Laboratory, 2009; pgs. 93 and 106; City of Delano, 2005; pgs. 44 and 46; and Google Maps, 2013a). The nearest multiplex movie theaters are located in Porterville, approximately 30.8 miles away (a 61.6-mile round trip); Tulare's Galaxy Theater, approximately 32.7 miles away (a 65.4-mile round trip); and theaters in Bakersfield, approximately 32 miles away (a 64-mile round trip) (Google Maps 2013a; Google Maps 2013b; Google Maps 2013c; and Google Maps 2013d). Also, a bus stop will be added as part of the proposed project to encourage use of public transit to and from the project location (City of Delano, 2013).

The City enforces the requirements of the California Building Standards Code, energy conservation requirements in Title 24, Part 6, California Code of Regulations, for non-residential buildings. The California Energy Commission adopted new Energy Efficiency Standards for Residential and Non-residential Buildings that went into effect in January 2013 (California Energy Commission, 2013a; and California Energy Commission, 2013b; pgs. 2 to 5). For non-residential buildings, the standards establish minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs. New amendments to the standards took effect on January 1, 2014 that requires new non-residential buildings to be "solar ready," among other changes.

Pursuant to the California Building Standards Code and the Energy Efficiency Standards, the Building Inspection Division will review the design components of the project's energy conservation measures when the project's building plans are submitted to assure they meet current California Building Standards Code and the Energy Efficiency Standards requirements.

The California Green Building Standards Code (Title 24, Part 11 California Code of Regulations), took effect in 2011 and mandates more energy efficient and water efficient building methods and resource conservation measures for all newly constructed commercial projects (California Building Standards Commission, 2012; pg. 1; and KCWMD, 2013).

The Green Building Standards Code's provisions on Construction Waste Reduction, Disposal and Recycling ensure that buildings use environmentally advanced construction practices, including construction waste diversion. Specifically, projects are required to submit and obtain approval of a construction waste management plan from the local building department before construction, recycle or reuse a minimum of 50% of construction and demolition waste, and recycle or reuse 100% of tree stumps, rocks, and vegetation unearthed by land clearing (California Building Standards Commission, 2012; pgs. 43 to 45 and 171 to 172). The Green Building Standards Code, along with the rest of the California Building Standards Code (Title 24, California Code of Regulations) is incorporated by reference in the City Municipal Code (City of Delano, 2002; section 14.03.010).

Energy-Saving Project Mitigation Measures

Additionally, several sections of this DEIR contain mitigation measures that will "reduce the wasteful, inefficient, and unnecessary consumption of energy" in compliance with CEQA:

- Section 3.3, Air Quality and Greenhouse Gas, Mitigation Measure **MM 3.3-3** includes the following measures, which, in addition to reducing regional air pollutants, also reduce energy consumption:

    1. Bus or streetcar service provides headways of one hour or less for stops within 1/4 mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting).

    2. Entire project is located within 1/2 mile of an existing Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing off-site facility. Existing facilities are defined as those facilities that are physically constructed and ready for use prior to the first 20% of the project's occupancy permits being granted. Project design includes a designated bicycle route connecting all units, on-site bicycle parking facilities, off-site bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within 1/2 mile. Bicycle route connects to all streets contiguous with project site. Bicycle route has minimum conflicts with automobile parking and circulation facilities. All streets internal to the project wider than 75 feet have Class II bicycle lanes on both sides.

    3. The project provides a pedestrian access network that internally links all uses and connects to existing external streets and pedestrian facilities. Existing facilities are defined as those facilities that are physically constructed and ready for use prior to the first 20% of the project's occupancy permits being granted.

    4. The project provides a pedestrian access network that internally links all uses for connecting to planned external streets and pedestrian facilities (facilities must be included in pedestrian master plan or equivalent).

    5. Site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation are eliminated. Barriers to pedestrian access of neighboring facilities and sites are minimized. This measure is not meant to prevent the limited use of barriers to ensure public safety by prohibiting access to hazardous areas, etc.

    6. Provide traffic-calming measures through street and intersection improvements with either 50% of streets with improvement and 100% of intersections with Improvements; or 75% of streets with improvement and 75% of intersections with Improvements; or 75% of streets with improvement and 100% of intersections with Improvement.

7. Make physical development consistent with requirements for neighborhood electric vehicles (NEV).
8. Limit parking spaces by at least 18%.
9. Develop and implement a voluntary program to encourage employers to promote carpooling and/or the use of low-emission vehicles, thus providing emission reductions. The program may include financial incentives, preferred parking, or other benefits for employees and businesses that use low-emission vehicles.
10. Limit architectural coatings to low VOC paint for non-residential exteriors with a maximum VOC content of 50 g/L.
11. Use low-energy light-emitting diode (LED) demand lighting or other energy-saving features (e.g., motion sensors) for electronic displays and interior lighting, where practical. During hours of non-operation, interior lighting should be dimmed to reduce energy demands.
12. Use white membrane roof coatings/materials or Energy Star equivalent, where possible, to increase solar reflectivity and reduce interior building cooling demands.
13. Installation of energy-efficient lighting and appliances (e.g., "Energy Star" rated.).
14. Apply water conservation strategy with minimum reductions of 20% in accordance with California's 20x2020 Water Conservation Plan. Strategy includes low-flow bathroom and kitchen faucets, toilets, and showers.
15. Implement a water-efficient irrigation system for the project site's reduced turf area.
16. Encourage commercial fleets to use newer lower-emission or alternatively fueled vehicles. For existing fleet vehicles, incentives are available through the CARB's Carl Moyer Memorial Air Quality Standards Attainment Program to assist in the conversion of in-use vehicles to cleaner-than-required engines. For older fleet vehicles, conversion to newer, cleaner technologies can reduce emissions by up to approximately 85 percent.
17. Reduction in the number of parking spaces for the project from 2,512 spaces to 2,060, a number sufficient to mitigate air quality impacts and reduce energy consumption while still supplying the required number of parking spaces under the City Zoning Ordinance.

- Section 3.13, Transportation/Traffic, Mitigation Measure **MM 3.13-7a**, includes the following measures to provide bicycle facilities, which would also serve to reduce vehicle trips, fuel consumption, and energy use:

  1. Class II bicycle lanes along in the project street frontages.
  2. Bicycle racks and/or lockers to accommodate bicycle travel by customers and employees Bicycle parking facilities will be located in high visibility areas in order to encourage bicycle travel and discourage theft and vandalism.

- Section 3.13, Transportation/Traffic, Mitigation Measure **MM 3.13-7b** requires that the project incorporate pedestrian crosswalks and traffic signals at all legs of the Woollomes Avenue proposed site access intersections. This would promote pedestrian travel to the site, reducing vehicle trips, fuel consumption, and energy use.
- Section 3.14, Utilities and Service Systems, Mitigation Measure **MM 3.14-3b** specifies that the proposed project will incorporate water conservation requirements of the City Municipal Code (City of Delano, 2008a; sections 13.04.110 and 13.04.120; and City of Delano, 2011c; pg. 6-1 to 6-2). These water conservation actions will also save energy by reducing electricity consumed in pumping and transporting water to the project.
- Section 3.14, Utilities and Service Systems, Mitigation Measure **MM 3.14-5a** would reduce energy consumption and avoid energy waste by requiring the project applicant to provide documentation to the City establishing that all commercial businesses at the project have contracted with a franchise hauler that will maintain a recycling program that appropriately segregates recyclable materials, compostable materials, and trash in compliance with state mandatory commercial recycling requirements (AB 341).
- Section 3.14, Utilities and Service Systems, Mitigation Measure **MM 3.14-5b** would reduce energy consumption and encourage recycling by providing fenced storage areas for recyclable materials that are clearly identified for recycling. A site plan showing the recycling storage area will be submitted to the City Community Development Department prior to construction of the project.
- Section 3.14, Utilities and Service Systems, Mitigation Measure **MM 3.14-5c** would reduce energy consumption and encourage recycling by requiring the project applicant to provide refuse and source-separated consolidation containers located both inside and outside the shopping center, in order to comply with AB 341. Consolidation containers located inside the shopping center will be designed to promote the separation of solid waste and recyclable material. Design features for consolidation containers located outside the shopping center will include adequate storage for refuse and source-separated materials and will be designed to provide safe access for employees and/or customers to use the containers.
- Section 3.14, Utilities and Service Systems, Mitigation Measure **MM 3.14-5d** would reduce energy consumption and encourage recycling by requiring the project applicant to provide documentation to the City that the solid waste segregation programs of all commercial tenants provide for collection of universal waste or other hazardous waste, which is prohibited from disposal at solid waste facilities.

6.5 GROWTH INDUCING IMPACTS

CEQA Requirement

Public Resources Code section 21100(a)(5) requires an EIR to describe a proposed project's growth-inducing impacts. A project may be growth-inducing if it directly or indirectly fosters economic or population growth or additional housing, removes obstacles to growth, taxes community services facilities, or encourages or facilitates other activities that cause significant environmental effects (CEQA Guidelines section 15126.2(d)). Direct growth-inducing impacts result when the development associated with a project directly induces population growth or the construction of additional developments within the same geographic area. These impacts may impose burdens on a community or encourage new local development, thereby triggering subsequent growth-related impacts.

The analysis of potential growth-inducing impacts includes a determination of whether a project would remove physical obstacles to population growth. This often occurs with the extension of infrastructure facilities that can provide services to new development. Indirect growth-inducing impacts result from projects that serve as catalysts for future unrelated development in an area. Development of public institutions such as colleges, and the introduction of employment opportunities, within the same geographic area, are examples of projects that may result in direct growth-inducing impacts.

Analysis

Growth inducing impacts are analyzed in Section 3.11, Population and Housing (Impact 3.11-1a and Impact 3.11-1b) of this DEIR. The following discussion summarizes analysis contained in Section 3.11 and includes related analysis from Section 3.9, Land Use Planning; Section 3.8, Hydrology and Water Quality; and Section 3.13, Transportation/Traffic.

The project site is located within the city limits of Delano and approval of the proposed project would represent a commitment of rural lands for urban development. However, the land is not Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and instead is lower quality "Grazing" land (DOC, 2010). The City General Plan identifies the area of the project site along the State Route 99 corridor for commercial development. Commercial development of the site aligns with the General Plan goal of channeling future growth near existing development in order to preserve agricultural lands and provide services to new development in the most cost-effective, efficient manner (City of Delano, 2005; pgs. 1-1 and 1-3).

The project site has an existing General Plan land use designation of "Commercial." The majority of the project site is currently zoned "CRC" (Community Retail Commercial), with a portion zoned "GC" (General Commercial) (City of Delano, 2011a; and City of Delano, 2011b). One of the primary purposes of the CRC zone district is to provide suitable locations for commercial uses requiring large parcels (City of Delano, 2007; section 20.6.20 Employment districts). The primary purpose of the GC zone district is to provide sites for commercial uses that will serve a large segment of the population with a wide variety of retail, wholesale, service, and office uses (City of Delano, 2008b; section 20.5.20 Commercial

development districts). Therefore, the proposed project would be consistent with acceptable uses for land use and zoning designations and would not represent a new commitment of land for urban development. Further analysis of the proposed project's land use consistency appears in Section 3.9, Land Use Planning. Mitigation measures incorporated into the EIR for the proposed project include improvements to the State Route 99/Woollomes Avenue interchange and portions of Woollomes Avenue, Albany Street/Stradley Avenue, and Dover Parkway in the vicinity of the project site. However, as analyzed in Section 3.13, Transportation/Traffic, expansion and extension of roads for the project and mitigation to reduce traffic impacts on these roads will only be sufficient to accommodate traffic generated by the project and already-approved and pending projects. Therefore, widening of these streets would not involve construction of excess infrastructure capacity beyond that identified in the City of Delano General Plan.

The proposed project would expand a City stormwater detention basin, but expansion of the basin would only accommodate storm water flow from the proposed project, and would not constitute construction of excess infrastructure capacity. For further detail, see Section 3.8, Hydrology and Water Quality.

The proposed regional shopping center could theoretically stimulate growth by providing employment opportunities, as well as indirect growth through demand for goods and services. However, analysis in Section 3.11, Population and Housing, indicates that jobs generated by the construction and operation of the project would likely be filled by local residents rather than attracting new residents. The retail establishments could generate significant sales tax revenue for the City, which could enable expenditures on capital improvement projects and/or City programs that would also stimulate secondary economic activity.

In summary, the project does not commit new lands for urban development, does not create excess infrastructure capacity to facilitate growth, does not construct new housing, and does not provide employment opportunities of a type likely to attract new residents. Therefore, the proposed project does not foreseeably promote additional population growth or development.

Economic Impact Analysis Under CEQA

CEQA provides that economic and social impacts "shall not be treated as significant effects on the environment." (OPR 2013a; section 15131, subd. (a).) At the same time, case law interpreting CEQA has held that economic effects should be analyzed for certain commercial projects when the evidence indicates that negative economic impacts will lead to urban decay. (See, e.g., *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1220-1221 (*Bakersfield Citizens*). This exception, however, is narrow and has been applied to EIRs analyzing Wal-Mart and other "supercenter" retail stores (see, e.g., *Bakersfield Citizens* at pg. 1213; *American Canyon Community United for Responsible Growth v. City of American Canyon* (2006) 145 Cal. App.4th 1062, 1078 (*American Canyon*)). The massive square footage (200,000-plus square feet in the *Bakersfield Citizens* case) and 24-hour operations characteristic of big box, supercenter-type establishments set them apart from other retail operations (see *Bakersfield Citizens* at pg. 1213; *American Canyon* at pgs. 1073 and 1075 (noting that

supercenters are "a unique type of retail operation" and holding change of development plan from shopping center to supercenter required additional environmental review)).

Even in this narrow context, however, recent case law clarifies that there is no presumption of urban decay resulting from these "supercenter" projects (*Melom v. City of Madera* (2010) 183 Cal.App.4th 41, 53-54; *Bakersfield Citizens,* 124 Cal.App.4th at 1207; see also *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, 1185). In other words, even for a supercenter project, an urban decay analysis is only required when there is specific evidence that urban decay may occur.

Here, in contrast, the Grapevine project is not a supercenter project: the largest anchor retail tenant would be 42,000 square feet, much less than the 200,000-square-foot size of a supercenter (Section 2.0, Project Description, Table 2-1). Rather than the 24-hour operations of a supercenter, the majority of the retail stores and restaurants at the Grapevine Project would operate between 6:00 a.m. to 10:00 p.m., Mondays through Saturdays, and approximately 7:00 a.m. to 8:00 p.m. on Sundays. Only a select few users would operate 24 hours a day (Section 2.0, Project Description). Thus, the proposed project has none of the unique characteristics of a supercenter project that in some instances result in negative economic impacts that may ultimately lead to urban decay. Additionally, development of the project is consistent with the City's Strategic Economic Development Plan goals of reducing retail leakage and establishing the City as a retail hub for the surrounding communities (City of Delano, 2005b; pg. 27). The Strategic Economic Development Plan notes that 2003 figures reveal that retail leakage of $258 million dollars is being lost to Bakersfield and Tulare. For example, over 70% of sales from specialty stores are purchased outside the trade area. The City's strategic plans for economic strength will return sales tax revenues to the community by building new, attractive stores (such as those planned for the Grapevine Project) that offer desired goods and services that are high quality and competitively priced (City of Delano, 2005b; pg. 26).

Thus, in the absence of contrary evidence, this EIR adheres to the general mandate in the CEQA Guidelines and interpretive case law not to consider whether the project will result in significant economic impacts.

6.6 CHILD CARE ASSESSMENT

City of Delano General Plan and Ordinances

The Public Services and Facilities Element of the City of Delano General Plan (2005) contains specific requirements for the analysis of child care facilities needs in the City:

Public Services and Facilities Element: Child Care Facilities

Goal: To develop a comprehensive child care delivery system that builds child care services into the fabric of community development.

Policy 2 New developments having more than 50 housing units or 50,000 square feet of commercial or industrial space shall prepare a Child Care Facilities Needs Assessment. The purpose

> is to assess new child care demand created by new residents and employees against available community resources, and to determine child care facility needs in new project areas.
>
> (City of Delano, 2007; pg. 8-12-A.)

As required by the General Plan, a Child Care Facilities Needs Assessment was prepared for the proposed project, available as Appendix 6-1 to this DEIR (BSK Associates, 2013). The assessment was prepared based on methodologies and data supplied by the Early Childhood Council of Kern. The assessment estimated that approximately 72 child care spaces would be required to accommodate the employees of the proposed project and that approximately 334 vacancies are available for child care for ages 0-12. Based on the significantly higher availability than demand for employee child care needs, the assessment concluded that the current child care capacity in the City is adequate to accommodate child care needs associated with the project.

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7.0 REPORT PREPARERS

7.1 PREPARERS OF THE ENVIRONMENTAL IMPACT REPORT

City of Delano Staff

Maribel G. Reyna, City Manager
Roman Dowling, Engineering/Public Works Director
Alan Peake, J.D., City Attorney
Patrick Soluri, J.D., City CEQA Legal Consultant
Mark DeRosia, Police Chief
Jerome Keene, Interim City Development Director (City Consultant)

Report Preparers

Lead Consultant:

BSK Associates
3140 Gold Camp Drive, Suite 160
Rancho Cordova, CA 95670
(916) 853-9293

Erik Ringelberg, Project Manager
Lucinda Calvo, Senior Environmental Permitting Analyst
Megan Cambridge, Senior Professional Scientist
Vanessa Emerzian, Project Environmental Scientist
Martin Cline, C.E.G., Engineering Geologist
Kevin Grove, Staff Planner
Carly Rozell, Staff Engineer
Louise D'Amico, Project Administrator
Janelle H. Krattiger, Staff Planner and Legal Researcher
Deborah Kruse, Project Environmental Scientist
Erin Basel, Staff Scientist

Subconsultants:

EcoBridges Environmental
Biological Resources
Ann Wallace

Omni-Means, Engineers and Planners
Transportation/Traffic
Paul Miller
Todd Treganza
Mrudang Shah

Three Girls and a Shovel
Cultural Resources
Dorothy Fleagle
Catherine Lewis Pruett
Peggy Murphy

Cornerstone Engineering
Surface Water Hydrology Resources
Derrill Whitten, P.E.

West Consultants, Inc.
Surface Water Hydrology Resources
David S. Smith, P.E.

Javier Arreola
Translation Services