

## 3.14 Transportation and Circulation

### 3.14.1 Affected Environment

The transportation topics addressed for each site are motor vehicle traffic, transit, pedestrian access, bicycle access, site access and circulation, and construction traffic.

The following scenarios are evaluated to identify the potential transportation impacts of the Proposed Action and alternatives under consideration:

- ▶ Existing Conditions,
- ▶ Existing plus Project Conditions,
- ▶ Cumulative 2035 Without Project Conditions, and
- ▶ Cumulative 2035 plus Project Conditions.

Existing Conditions reflect conditions in 2010. The term “cumulative” herein refers to year 2035 conditions, including all reasonably foreseeable improvements to existing conditions.

#### ***Environmental Setting***

This section provides a description of the existing transportation conditions near the Proposed Action and Alternative 1 Sites. Included in this section are descriptions of the existing roadway, transit, pedestrian, and bikeway networks and documentation of the existing traffic, transit, pedestrian, bicycle, and site access and circulation.

#### **Proposed Action**

*Roadway Network* Exhibit 3.14-1 shows the roadway network around the Proposed Site.

U.S. Highway 50 (U.S. 50) extends eastward in the Sacramento region through downtown Sacramento into El Dorado County. Immediately west of Hazel Avenue, U.S. 50 is a six-lane facility with additional median high-occupancy vehicle (HOV) lanes in each direction. Immediately east of Hazel Avenue, U.S. 50 is a four-lane facility with additional median HOV lanes in each direction. U.S. 50 is part of the Interregional Transportation Strategy Plan and is classified as a “High Emphasis Route,” one of Caltrans’s highest priority route designations for interregional routes. High Emphasis Routes are intended to have priority for programming and construction to minimum facility standards to better assure that a statewide trunk system is in place and able to handle higher volume interregional trip movements between urbanized areas. U.S. 50 is identified by the California Department of Transportation (Caltrans) in the *Highway 50 Corridor System Management Plan* (CSMP) (Caltrans 2009) as operating at LOS E with existing conditions, as discussed in “Traffic Conditions” below. Improvements are proposed to result in a six-lane facility with two HOV lanes and auxiliary lanes from Sunrise Boulevard to Hazel Avenue. The proposed ultimate facility is an eight-lane facility with two HOV lanes and auxiliary lanes. U.S. 50 provides freeway access to both the Proposed Action and Alternative 1 Sites.

## Joint Operations Center Relocation Project

Hazel Avenue is a four-lane north-south secondary road through Sacramento County and into Placer County, where it becomes Sierra College Boulevard. The Hazel Avenue Widening Project is currently under construction (since April 2009), with an expected July 2011 completion date for Phase 1. Construction of Phase 2 (Curragh Downs to Sunset Boulevard) is anticipated to begin in May 2014 with an anticipated completion date in December 2015. Construction of Phase 3 (Sunset Boulevard to Madison Avenue) is anticipated to begin in 2016. After completion, Hazel Avenue will be widened from a four-lane facility to a six-lane facility from Madison Avenue to U.S. 50. The Hazel Avenue Widening Project would modify the Hazel Avenue Bridge that crosses the American River near the Proposed Site and improve access to the American River Parkway, adding bike paths or stairways in all four quadrants of the bridge. The U.S. 50/Hazel Avenue interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

Gold Country Boulevard is a two- or four-lane east-west roadway that intersects Hazel Avenue at a signalized intersection. Gold Country Boulevard extends west from Hazel Avenue through the Gold River area to Sunrise Boulevard. East of Hazel Avenue, the roadway provides access to Nimbus Dam, Lake Natoma, and the Sacramento State Aquatic Center on the American River. Access to the Proposed Site is from U.S. 50 via Hazel Avenue and Gold Country Boulevard.

Tributary Point Drive, Tributary Crossing, and Gold Pointe Lane are two-lane roads that provide access to the residential development south of the Proposed Site.

*Traffic Conditions* Construction is underway on Phase 1 of the Hazel Avenue Widening Project, and traffic conditions near the Proposed Site are not representative of unimpeded roadway conditions in the area. To establish a more representative picture of conditions with Existing Conditions (year 2010), the traffic analysis derived 2010 projections based on 2006 traffic volumes for the roadways as provided the *Rio del Oro Specific Plan Project Draft EIR/EIS* (EDAW 2006). Traffic signal timing data for intersections were collected in the field during the weekday morning (a.m.) and weekday evening (p.m.) peak hours on Wednesday, December 8, 2010.

*Intersections* For the Proposed Site, five intersections (shown in Exhibit 3.14-1) were selected for analysis in coordination with Sacramento County (County) and Caltrans staff:

- ▶ Intersections not owned or operated by Caltrans:
  1. Nimbus Road/Gold Country Boulevard (*one-way stop-controlled*)
  2. Hazel Avenue/Gold Country Boulevard (*signalized*)
  3. Hazel Avenue/Folsom Boulevard (*signalized*)
- ▶ Intersections owned and operated by Caltrans:
  4. Hazel Avenue/U.S. 50 Eastbound (EB) Ramps (*signalized*)
  5. Hazel Avenue/U.S. 50 Westbound (WB) Off-Ramp/Tributary Point Drive (*signalized*)

Intersection operating conditions were analyzed at the five key intersections near the Proposed Site for the peak hour of the weekday a.m. and p.m. peak periods (7 a.m.–9 a.m. and 4 p.m.–6 p.m.). Existing traffic conditions and LOS at these intersections are identified in Table 3.14-1. The intersection geometries and existing traffic volumes are shown in Appendix C4a, “Traffic Impact Technical Report,” Exhibits C4-7 and C4-8.

Table 3.14-1 Intersection Level of Service Near Proposed Site—Existing Conditions						
#	Intersection	Control Type	Peak Hour	Existing Conditions		
				LOS	Delay <sup>1</sup>	v/c Ratio <sup>2</sup>
Non-Caltrans Intersections						
1	Nimbus Road/ Gold Country Boulevard	OWSC	a.m.	A	0.0	-
			p.m.	A	0.0	-
2	Hazel Avenue/ Gold Country Boulevard	Signal	a.m.	A	-	0.48
			p.m.	E	-	0.96
3	Hazel Avenue/ Folsom Boulevard	Signal	a.m.	A	-	0.25
			p.m.	E	-	0.96
Caltrans Intersections						
4	Hazel Avenue/ U.S. 50 EB Ramps	Signal	a.m.	A	7.8	-
			p.m.	B	14.6	-
5	Hazel Avenue/ U.S. 50 WB Off-Ramp/ Tributary Point Drive	Signal	a.m.	<b>F</b>	<b>&gt; 80.0</b>	<b>1.23</b>
			p.m.	E	79.2	-
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, OWSC = one-way stop control, EB = eastbound, WB = westbound						
Bold indicates intersection operates at LOS F						
<sup>1</sup> Seconds of delay are presented for Caltrans intersections and non-Caltrans unsignalized intersections						
<sup>2</sup> Volume-to-capacity ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS						

The following study intersection operates at an unacceptable LOS (LOS F) under Existing Conditions according to Caltrans standards (see “Regulatory Setting – Regional and Local”):

- ▶ Caltrans intersection:
  5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive (weekday a.m. peak hour)

*Roadway Segments* For the Proposed Site, five roadway segments (shown in Exhibit 3.14-1) were selected for analyses:

- ▶ Non-Caltrans roadway segments:
  1. Hazel Avenue—South of Gold Country Boulevard

## Joint Operations Center Relocation Project

- ▶ Caltrans roadway segments:
  2. EB U.S. 50—West of Hazel Avenue Off-Ramp
  3. EB U.S. 50—East of Hazel Avenue On-Ramp
  4. WB U.S. 50—West of Hazel Avenue On-Ramp
  5. WB U.S. 50—East of Hazel Avenue Off-Ramp

Existing Conditions roadway segment volumes were obtained from the Freeway Performance Measurement System (PeMS). Roadway segment volumes were obtained for the weekday a.m. and weekday p.m. peak hours on Wednesday, April 13, 2011. The freeway mainline segment volumes were balanced using study ramp intersection traffic volumes.

In the Sacramento County General Plan, the Hazel Avenue—South of Gold Country Boulevard roadway segment is designated as an arterial, high-access control facility, with only LOS F considered unacceptable conditions, and the Hazel Avenue Widening Project is underway to construct improvements on this segment. The type of facility and number of lanes have corresponding daily volume thresholds for LOS, as described in “Methodology” below. Until the improvements are complete, however, this roadway segment is a four-lane facility, for which LOS E is considered unacceptable. Thus, segment 1 is designed to operate at an acceptable LOS once ongoing improvements are complete (anticipated to be in July 2011).

With existing conditions, all roadway segments operate at an acceptable level according to Caltrans standards (see “Regulatory Setting,” subsection “Regional and Local”) (Table 3.14-2).

Table 3.14-2				
Roadway Segment Level of Service Near Proposed Site—Existing Conditions				
#	Roadway Segment	Peak Hour	Existing Conditions	
			LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>				
1	Hazel Avenue—South of Gold Country Boulevard	--	<i>E</i>	0.89
Caltrans Roadway Segments <sup>2</sup>				
2	EB U.S. 50—West of Hazel Avenue Off-Ramp	a.m.	C	0.58
		p.m.	D	0.76
3	EB U.S. 50—East of Hazel Avenue On-Ramp	a.m.	C	0.56
		p.m.	C	0.67
4	WB U.S. 50—West of Hazel Avenue On-Ramp	a.m.	D	0.80
		p.m.	D	0.71
5	WB U.S. 50—East of Hazel Avenue Off-Ramp	a.m.	C	0.57
		p.m.	C	0.51
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound				
<b>Bold</b> indicates that roadway segment operates at LOS F				
Italic indicates that roadway segment improvements are in process				
<sup>1</sup> Non-Caltrans roadway segments are evaluated using Sacramento County Guidelines methodology (Sacramento County 2004) for average daily traffic				
<sup>2</sup> Caltrans roadway segments are evaluated using 2000 Highway Capacity Manual methodology (TRB 2000) for peak hour				
Source: Freeway Performance Measurement System 2010				

In addition, according to the CSMP (Caltrans 2009), the entire segment of U.S. 50 from Sunrise Boulevard to Folsom Boulevard operates with a current concept LOS E and would operate with a concept LOS F in all future scenarios.

**Ramps** For the Proposed Site, four Caltrans ramps (shown in Exhibit 3.14-1) were selected for analysis in coordination with Sacramento County (County) and Caltrans staff:

1. EB U.S. 50—Off-Ramp to Hazel Avenue (*diverge*)
2. EB U.S. 50—On-Ramp from SB Hazel Avenue (*merge*)
3. WB U.S. 50—Off-Ramp to Hazel Avenue (*diverge*)
4. WB U.S. 50—On-Ramp from SB Hazel Avenue (*merge*)

Ramp merge/diverge area operating conditions were analyzed at the four key ramps near the Proposed Site for the peak hour of the weekday a.m. and p.m. peak periods (7 a.m.–9 a.m. and 4 p.m.–6 p.m.). Existing traffic conditions and LOS at these ramps are identified in Table 3.14-3. At locations where long acceleration and deceleration lanes exist, ramp density calculations can report densities below zero. As a result, for all LOS A locations the density is presented simply as “less than 10.0 passenger cars per mile per lane” (< 10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis.

Table 3.14-3 Ramp Merge/Diverge Level of Service—Existing Conditions					
#	Ramp	Type	Peak Hour	Existing Conditions	
				LOS	Density (pc/mi/ln)
1	<b>EB U.S. 50</b> Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0
			p.m.	A	< 10.0
2	<b>EB U.S. 50</b> On-Ramp from SB Hazel Avenue	Merge	a.m.	B	13.7
			p.m.	B	15.7
3	<b>WB U.S. 50</b> Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0
			p.m.	A	< 10.0
4	<b>WB U.S. 50</b> On-Ramp from SB Hazel Avenue	Merge	a.m.	B	18.6
			p.m.	B	17.5
Notes: LOS = level of service, pc/mi/ln = passenger cars per mile per lane. LOS A reported as < 10.0 pc/mi/ln, EB = eastbound, WB = westbound <b>Bold</b> indicates intersection operates at LOS E or LOS F LOS A reported as < 10.0 pc/mi/ln Source: Freeway Performance Measurement System 2010					

With existing conditions, all Caltrans ramps operate at an acceptable level according to Caltrans standards (see “Regulatory Setting,” subsection “Regional and Local”) (Table 3.14-2).

*95th Percentile Queues* For the Proposed Site, two off-ramp terminal intersections (shown in Exhibit 3.14-1) were selected for 95th percentile queue analysis in coordination with County and Caltrans staff:

4. Hazel Avenue/U.S. 50 EB Ramps
5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive

95th percentile queues were analyzed at the two key intersections near the Proposed Site for the peak hour of the weekday a.m. and p.m. peak periods. Existing queue lengths at these intersections are identified in Table 3.14-4.

Table 3.14-4 95th Percentile Queues—Existing Conditions					
#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)
4	Hazel Avenue / U.S. 50 EB Ramps	EBLR	1,350	a.m.	275
				p.m.	625
		EBR	750	a.m.	75
				p.m.	50
5	Hazel Avenue / U.S. 50 WB Off-Ramp/ Tributary Point Drive	WBL	325	a.m.	200
				p.m.	175
		WBTR	2,200	a.m.	575
				p.m.	825
		WBR	2,200	a.m.	325
				p.m.	775
Notes: Storage capacities and queue lengths rounded to the nearest 25 feet EBLR = ,eastbound left/right; EBR = eastbound right; WBL = westbound left; WBR = westbound right; WBTR = westbound through/right <b>Bold</b> indicates that queue length exceeds storage capacity					

With existing conditions, 95th percentile queue lengths do not exceed available storage capacity at any of the study intersections.

*Transit Conditions* Sacramento Regional Transit (SacRT) operates bus and light rail transit (LRT) services in Sacramento County. An online Trip Planning application (<http://www.infoweb.sacrt.com>) is available to assist transit users. Park-and-ride lots are located at the Hazel Avenue/Folsom Boulevard (432 spaces and 33 spaces) and Sunrise Boulevard/Folsom Boulevard SacRT Gold Line Station (487 spaces). According to Caltrans transit performance measures and SacRT ridership data, transit near the Proposed Site operates under capacity (i.e., space is available for additional riders). Existing transit services near the Proposed Site are shown in Appendix C4a, “Traffic Impact Technical Report,” Exhibit C4-9.

Route 109 (Hazel Express) provides bus service along U.S. 50 during weekday peak commuter periods only. Route 109 is an express bus route between Orangevale and downtown Sacramento with a daily ridership of 46% and peak-hour ridership of 79% (Caltrans 2009). During the morning commute period, the route operates between 6:00 a.m. and 8:00 a.m. on approximately 30-minute headways in the westbound direction

only. During the evening commute period, the route operates between 4:35 p.m. and 6:20 p.m. on approximately 45-minute headways in the eastbound direction only. The nearest stop is at the Hazel Avenue/Gold Country Boulevard intersection, approximately 1 mile from the Proposed Site.

Gold Line LRT service is provided from downtown Sacramento along the U.S. 50 corridor to Folsom, including a stop at the Sunrise Gold Line Station. The Gold Line runs between Folsom and downtown Sacramento and connects to Route 74 at the Sunrise Gold Line Station. The Gold Line operates between 5:00 a.m. and 10:30 p.m. in the eastbound direction and between 4:00 a.m. and 9:00 p.m. in the westbound direction. The headway on weekdays is approximately 15 minutes throughout the day, except in the early morning and late evening when the headway increases to approximately 30 minutes. The headway on weekends is approximately 30 minutes throughout the day. The closest station is located approximately 0.5 mile from the Proposed Site, at the Folsom Boulevard/Hazel Avenue intersection.

The Proposed Site can be accessed from downtown Sacramento (DWR headquarters) during weekdays through Route 109, Gold Line LRT, and Route 38. The total travel time via transit from downtown Sacramento to the Proposed Site is from 40 minutes to 1 hour 20 minutes.

*Pedestrian Conditions* Sidewalks are currently provided near the residential area on both sides of Gold Country Boulevard near the Proposed Site. A discontinuous sidewalk is provided along Hazel Avenue. Crosswalks are provided at most signalized intersections near the Proposed Site. A push-button activated signalized crosswalk 10 feet in width is provided on all legs of the Hazel Avenue/Gold Country Boulevard and Gold Pointe Lane/Gold Country Boulevard intersections. No sidewalks are provided on the project access road. Existing transit services near the Proposed Site are described below and shown in Appendix C4a, “Traffic Impact Technical Report,” Exhibit C4-9.

As indicated in the Bicycle, Pedestrian, and Trails Master Plan (SACOG 2009), pedestrian improvements on Hazel Avenue are planned as part of the Hazel Avenue Widening Project. Planned improvements include separated sidewalks on both sides of the street, planter strips, shade trees, improved intersection crossings, and midblock crossings from the U.S. 50/Hazel Avenue intersection to the Madison Avenue/Hazel Avenue intersection.

*Bicycle Conditions* Bicycle facilities are typically classified as Class I, Class II, and Class III. The existing bicycle facilities near the Proposed Site are illustrated in Appendix C4a, “Traffic Impact Technical Report,” Exhibit C4-10.

Class I is also known as a bicycle path. This is a dedicated path for bicyclists and pedestrians that does not permit motorized travel. The American River Bike Trail, a Class I off-street bicycle path, connects downtown Sacramento to Folsom along the American River. The Jedediah Smith Memorial Trail, a portion of the American River Bike Trail, borders the Nimbus Fish Hatchery, east of the Proposed Site, and extends along the American River.

Class II is also known as a bicycle lane, a portion of the roadway network that has been striped and signed for bicycle use. Bicycle lanes are typically used along collector or major streets with medium to high traffic volumes, providing additional travel space for bicyclists along busy roadway segments. Class II bicycle lanes exist on Gold Country Boulevard and on Folsom Boulevard south of the Proposed Site.

Class III is also known as a bicycle route, a bikeway that primarily connects other facilities and destinations in the bikeway network but provides a lower level of service than Class I or Class II bikeway facilities. These routes include signage but do not have roadway markings or striping to indicate reserved space for the bicyclist. No Class III bicycle routes are present near the Proposed Site.

### **Alternative 1**

*Roadway Network* Exhibit 3.14-2 shows the roadway network around the Alternative 1 Site.

U.S. 50 (described above) provides freeway access to the Alternative 1 Site at the interchange with Sunrise Boulevard.

Sunrise Boulevard is a six-lane north-south roadway that has an interchange with U.S. 50 and intersects White Rock Road at a signalized intersection. North of U.S. 50, Sunrise Boulevard extends north into Citrus Heights, where it becomes Sunrise Avenue. South of White Rock Road, Sunrise Boulevard continues through Rancho Cordova into unincorporated areas of Sacramento County.

Zinfandel Drive is a six-lane north-south roadway that intersects White Rock Road at a signalized intersection. Zinfandel Drive extends northeast into Kirkwood Place, where it intersects Sunrise Boulevard. White Rock Road is a four-lane east-west roadway that extends through Rancho Cordova and into Springfield Meadows, where it becomes Silva Valley Parkway.

Kilgore Road is a four-lane north-south roadway that intersects White Rock Road at a signalized intersection east of Sunrise Boulevard. Access to the Alternative 1 Site is from Kilgore Road.

Crawford Drive is a two-lane east-west roadway that intersects Kilgore Road at an unsignalized one-way stop-controlled intersection. Crawford Drive provides access to the Alternative 1 Site and to Delta Dental from Kilgore Road.

International Drive is a two-lane east-west roadway that has recently been extended from east of the Folsom South Canal by means of a bridge crossing and now intersects Kilgore Road south of Crawford Drive. The International Drive extension opened for traffic in late January 2011.



*Traffic Conditions*

*Intersections* For the Alternative 1 Site, eight intersections, shown in Exhibit 3.14-2, were selected for analysis in coordination with the City of Rancho Cordova (City), County, and Caltrans staff:

- ▶ Non-Caltrans intersections:
  1. Kilgore Road/Crawford Drive (*one-way stop-controlled*)
  2. Kilgore Road/White Rock Road (*signalized*)
  3. Sunrise Boulevard/White Rock Road (*signalized*)
  4. Zinfandel Drive/White Rock Road (*signalized*)
- ▶ Caltrans intersections:
  5. Sunrise Boulevard/U.S. 50 EB Ramps (*signalized*)
  6. Sunrise Boulevard/U.S. 50 WB Ramps (*signalized*)
  7. Zinfandel Drive/U.S. 50 WB Off-Ramp (*signalized*)
  8. Zinfandel Drive/U.S. 50 EB Ramps/Gold Center Drive (*signalized*)

Intersection operating conditions were analyzed at the eight key intersections near the Alternative 1 Site for the peak hour of the weekday a.m. and p.m. peak periods (7 a.m.–9 a.m. and 4 p.m.–6 p.m.). Table 3.14-5 presents the existing traffic conditions and LOS for these intersections. The intersection geometries are shown in Appendix C4a, “Traffic Impact Technical Report,” Exhibit C4-11 and existing traffic volumes are shown in Exhibit C4-12.

- ▶ Non-Caltrans intersection:
  3. Sunrise Boulevard/White Rock Road (weekday a.m. and p.m. peak hours)
- ▶ Caltrans intersection:
  8. Zinfandel Drive/U.S. 50 EB Ramps /Gold Center Drive (weekday a.m. and p.m. peak hours)

*Roadway Segments* For the Alternative 1 Site, five roadway segments (shown in Exhibit 3.14-2) were selected for analyses:

- ▶ Non-Caltrans roadway segment:
  1. Sunrise Boulevard—North of White Rock Road
- ▶ Caltrans roadway segments:
  2. EB U.S. 50—West of Zinfandel Drive Off-Ramp
  3. EB U.S. 50—East of Sunrise Boulevard On-Ramp
  4. WB U.S. 50—East of Sunrise Boulevard Off-Ramp
  5. WB U.S. 50—West of Zinfandel Drive On-Ramp

Two study roadway segments (Table 3.14-6) operate at unacceptable LOS (LOS E or LOS F) with existing conditions:

Table 3.14-5 Intersection Level of Service—Existing Conditions						
#	Intersection	Control Type	Peak Hour	Existing Conditions		
				LOS	Delay <sup>1</sup>	v/c Ratio <sup>2</sup>
Non-Caltrans Intersections						
1	Kilgore Road / Crawford Drive	TWSC	a.m.	C	16.5	--
			p.m.	C	16.0	
2	Kilgore Road / White Rock Road	Signal	a.m.	A	--	0.55
			p.m.	D	--	0.83
3	Sunrise Boulevard / White Rock Road	Signal	a.m.	<b>E</b>	--	<b>0.94</b>
			p.m.	<b>F</b>	--	<b>1.02</b>
4	Zinfandel Drive/ White Rock Road	Signal	a.m.	B	--	0.65
			p.m.	C	--	0.79
Caltrans Intersections						
5	Sunrise Boulevard / U.S. 50 EB Ramps	Signal	a.m.	C	28.7	--
			p.m.	D	39.3	--
6	Sunrise Boulevard / U.S. 50 WB Ramps	Signal	a.m.	C	34.3	--
			p.m.	D	46.1	--
7	Zinfandel Drive/ U.S. 50 WB Off-Ramp	Signal	a.m.	B	12.7	--
			p.m.	B	12.0	--
8	Zinfandel Drive/ U.S. 50 EB Ramps/Gold Center Drive	Signal	a.m.	<b>F</b>	<b>&gt;80.0</b>	<b>1.08</b>
			p.m.	<b>F</b>	<b>&gt;80.0</b>	<b>1.17</b>
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, TWSC = two-way stop control, EB = eastbound, WB = westbound						
<b>Bold</b> indicates intersection operates at LOS E or LOS F						
"--" indicates not applicable to scenario						
<sup>1</sup> Seconds of delay presented for Caltrans intersections and non-Caltrans unsignalized intersections						
<sup>2</sup> v/c ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS						

- Caltrans roadway segments:
  2. EB U.S. 50—West of Zinfandel Drive Off-Ramp (weekday a.m. and p.m. peak hours)
  5. WB U.S. 50—West of Zinfandel Drive On-Ramp (weekday a.m. and p.m. peak hours)

**Ramps** For the Alternative 1 Site, four Caltrans ramps (shown in Exhibit 3.14-2) were selected for analysis in coordination with City of Rancho Cordova (City), Sacramento County (County), and Caltrans staff:

1. WB U.S. 50—Off-Ramp to Sunrise Boulevard (*diverge*)
2. EB U.S. 50—On-Ramp from NB Sunrise Boulevard (*merge*)
3. EB U.S. 50—Off-Ramp to Zinfandel Drive (*diverge*)
4. WB U.S. 50—On-Ramp from NB Zinfandel Drive (*merge*)

Ramp merge/diverge area operating conditions were analyzed at the four key ramps near the Alternative 1 Site for the peak hour of the weekday a.m. and p.m. peak periods (7 a.m.–9 a.m. and 4 p.m.–6 p.m.). Existing traffic conditions and LOS at these ramps are identified in Table 3.14-7. At locations where long acceleration and deceleration lanes exist, ramp density calculations can report densities below zero. As a result, for all LOS A locations the density is presented simply as “less than 10.0 passenger cars per mile per lane” (<10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis.

Table 3.14-6				
Roadway Segment Level of Service Near Alternative 1 Site—Existing Conditions				
#	Roadway Segment	Peak Hour	Existing Conditions	
			LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>				
1	Sunrise Boulevard North of White Rock Road	--	D	1.03
Caltrans Roadway Segments <sup>2</sup>				
2	EB U.S. 50 West of Zinfandel Drive Off-Ramp	a.m.	E	0.90
		p.m.	E	0.85
3	EB U.S. 50 East of Sunrise Boulevard On-Ramp	a.m.	C	0.58
		p.m.	D	0.76
4	WB U.S. 50 East of Sunrise Boulevard Off-Ramp	a.m.	D	0.80
		p.m.	D	0.71
5	WB U.S. 50 West of Zinfandel Drive On-Ramp	a.m.	E	0.98
		p.m.	F	1.00
Notes: LOS = level of service, V/C ratio = vehicle-to-capacity ratio, EB = eastbound, WB = westbound				
Bold indicates that roadway segment operates at LOS E or LOS F				
<sup>1</sup> Non-Caltrans Roadway Segments are evaluated using Sacramento County Guidelines methodology (Sacramento County 2004) for average daily traffic				
<sup>2</sup> Caltrans Roadway Segments are evaluated using 2000 Highway Capacity Manual (TRB 2000) methodology for peak hour				
Source: Freeway Performance Measurement System 2010				

With Existing Conditions, all Caltrans ramps operate at an acceptable level according to Caltrans standards (see “Regulatory Setting,” subsection “Regional and Local”) (Table 3.14-2).

*95th Percentile Queues* For the Alternative 1 Site, two off-ramp terminal intersections (shown in Exhibit 3.14-2) were selected for 95th percentile queue analysis in coordination with City, County, and Caltrans staff:

6. Sunrise Boulevard/U.S. 50 WB Ramps
8. Zinfandel Drive/U.S. 50 EB Ramps

**Table 3.14-7**  
**Ramp Merge/Diverge Level of Service—Existing Conditions**

#	Ramp	Type	Peak Hour	Existing Conditions	
				LOS	Density (pc/mi/ln)
1	WB U.S. 50 Off-Ramp to Sunrise Boulevard	Diverge	a.m.	A	< 10.0
			p.m.	A	< 10.0
2	EB U.S. 50 On-Ramp from NB Sunrise Boulevard	Merge	a.m.	B	11.3
			p.m.	B	17.6
3	EB U.S. 50 Off-Ramp to Zinfandel Drive	Diverge	a.m.	A	< 10.0
			p.m.	A	< 10.0
4	WB U.S. 50 On-Ramp from NB Zinfandel Drive	Merge	a.m.	A	< 10.0
			p.m.	B	19.0

Notes: LOS = level of service, pc/mi/ln = passenger cars per mile per lane. LOS A reported as < 10.0 pc/mi/ln, EB = eastbound, WB = westbound  
**Bold** indicates intersection operates at LOS E or LOS F  
Source: Freeway Performance Measurement System 2010

The 95th percentile queues were analyzed at the two key intersections near the Alternative 1 Site for the peak hour of the weekday a.m. and p.m. peak periods. Existing queue lengths at these intersections are identified in Table 3.14-8.

**Table 3.14-8**  
**95th Percentile Queues—Existing Conditions**

#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)
6	Sunrise Boulevard / U.S. 50 WB Ramps	WBL	1,875	a.m.	650
				p.m.	250
		WBT	1,875	a.m.	325
				p.m.	400
		EBL	1,125	a.m.	350
				p.m.	400
8	Zinfandel Drive / U.S. 50 EB Ramps	EBLTR	1,325	a.m.	1,250
				p.m.	350
		EBR	425	a.m.	<b>1,175</b>
				p.m.	300

Notes: Storage capacities and queue lengths rounded to the nearest 25 feet  
EBL = eastbound left; EBLR = ,eastbound left/through/right; EBR = eastbound right; WBL = westbound left; WBT = westbound through. **Bold** indicates that queue length exceeds storage capacity

With Existing Conditions, the Zinfandel Drive/U.S. 50 EB Ramps (EBR—weekday a.m. peak hour) 95th percentile queue length exceeds available storage capacity.

*Transit Conditions* According to Caltrans transit performance measures and SacRT ridership data, transit near the Alternative 1 Site operates at less than full capacity.

Existing transit services near the Alternative 1 Site are described below and shown in Appendix C4a, “Traffic Impact Technical Report,” Exhibit C4-13.

Route 74 bus service runs between Mather Field Road and Citrus Road and connects to the Gold Line LRT at the LRT station on Sunrise Boulevard. SR 74 operates between 6:00 a.m. and 9:00 p.m. on weekdays in both directions, both with a headway of approximately 60 minutes. The nearest stop to the Alternative 1 Site is Prospect Park Drive/White Rock Road, which is slightly more than a 0.5-mile walk to the site.

Gold Line LRT service is provided from downtown Sacramento along the U.S. 50 corridor to the Sunrise Gold Line Station is discussed above. The closest station is located approximately 1 mile from the Alternative 1 Site, at the Sunrise Boulevard/Folsom Boulevard intersection.

The Alternative 1 Site can be accessed from downtown Sacramento (DWR headquarters) during the weekdays through SR 109, Gold Line LRT, and SR 38. The total travel time via transit from downtown Sacramento to the Alternative 1 Site is between 50 minutes to 1 hour and 5 minutes.

*Pedestrian Conditions* Sidewalks are currently provided on both sides of Kilgore Road and White Rock Road and the south side of Crawford Drive near the Alternative 1 Site. All sidewalks are in generally adequate condition.

A signalized crosswalk using push button actuation is provided on the north and west leg of the Kilgore Road/International Drive intersection with a width of 12 feet. A crosswalk is provided on the north, south, and west legs of the Kilgore Road/White Rock Road intersection with a width of 10 feet. Crosswalks are provided at most signalized intersections near the Alternative 1 Site.

*Bicycle Conditions* Bikeways are typically classified as Class I, II, and III, as described above for the Proposed Site. The existing bicycle facilities near the Alternative 1 Site are illustrated in Appendix C4a, “Traffic Impact Technical Report,” Exhibit C4-14.

A Class I off-street bicycle path known as the Folsom South Canal Recreation Trail is provided on both sides of the Folsom South Canal. This trail joins the American River Bike Trail and Jedediah Smith Memorial Trail and connects downtown Sacramento to Folsom along the American River. The American River Bike Trail borders the American River near the Proposed Site and, now known as the Folsom South Canal Recreation Trail, travels along both sides of the Folsom South Canal, east of the Alternative 1 Site and extending south.

Class II (on-street) bike lanes are provided on White Rock Road and International Drive near the Alternative 1 Site, as well as on Sun Center Drive and Folsom Boulevard.

No Class III bikeways exist near the Alternative 1 Site.

Special Treatment Facilities are corridors with unique circumstances requiring treatment options and actions that remove barriers to bicycle circulation and improve the quality of

the facility. These corridors include the use of on-street and off-street facilities and special or additional signalization specifically for bicycles. A Special Treatment Facility is provided near the Alternative 1 Site along Sunrise Boulevard and extending north of U.S. 50 and south into Rancho Cordova.

### ***Regulatory Setting***

**Federal Plans, Policies, Regulations, and Laws** No Federal plans, policies, regulations, or laws related to transportation and circulation are relevant to the JOC Relocation Project. Federal requirements for traffic analysis under NEPA are described below in “Environmental Consequences and Mitigation Measures.”

**State Plans, Policies, Regulations, and Laws** State requirements for traffic analysis under CEQA are described in below in “Environmental Consequences and Mitigation Measures.”

Caltrans Transportation Corridor Concept Reports (TCCRs) (Caltrans 2010) are long-range (20-year) planning documents for each State highway that identify existing route conditions and future needs. Each TCCR includes a route summary, segment summaries, existing and forecasted travel data, route maps, and a list of planned, programmed, and needed projects for the highway over the next 20 years. The TCCR establishes the minimum standard at which Caltrans expects the highway to function. If travel forecasting predicts that the LOS may drop below the minimum standard, Caltrans will design improvements to maintain acceptable highway conditions.

The CSMP (Caltrans 2009) serves as the TCCR for U.S. 50 from its origin at Interstate (I-) 80 in West Sacramento to the Cedar Grove exit in El Dorado County.

**Regional and Local Plans, Policies, Regulations, and Ordinances** The JOC Relocation Project is jointly proposed by Reclamation, a Federal agency, and DWR, a State agency. The Proposed Site is Federal property owned by Reclamation. A Federal agency operating on Federal land is not required to comply with regional or local plans, policies, regulations, or ordinances. However, a Federal agency normally will conform with local regulations and state laws that do not interfere with the agency’s ability to “carry out the purposes of the government,” such as building, health, and safety codes (*Fort Leavenworth R.R. v. Lowe*, 114 U.S. 525 [1885]).

Activities at the Proposed Site would not be required to comply with regional or local regulations, but Reclamation has committed to a “good neighbor” policy and would conform with those regulations to the extent that such compliance would not conflict with or hinder the mission and purposes of the agency or the departments located at the site. Activities at the Alternative 1 Site would take place on private property and would require full compliance with all regional and local regulations.

***Metropolitan Transportation Plan for 2035*** The *Metropolitan Transportation Plan 2035* (MTP) (SACOG 2008) is a long-range regional planning document prepared by the Sacramento Area Council of Governments (SACOG) that identifies and programs roadway improvements through the Sacramento region through 2035. The MTP 2035 has

a history of being able to fund and deliver identified Tier I projects through State and local funding.

*Sacramento Regional Bicycle, Pedestrian, and Trails Master Plan* The *Sacramento Regional Bicycle, Pedestrian, and Trails Master Plan* (Bicycle, Pedestrian, and Trails Master Plan) (SACOG 2009) identifies existing and planned pedestrian and bicycle routes through Sacramento County. The Bicycle, Pedestrian, and Trail Master Plan is intended to guide the long-term decisions for the Bicycle and Pedestrian Funding Program, adopted by the SACOG Board of Directors in September 2003.

*Transit Master Plan* SacRT's 20-year master plan for transit facilities includes planned feeder bus service for Sunrise Boulevard, Mather Boulevard, and Zinfandel Drive. These bus lines are intended to support LRT service along the Folsom Boulevard/U.S. 50 corridor, which currently extends as far east as Sunrise Boulevard. LRT service has recently been extended to the city of Folsom and includes a stop at Hazel Avenue.

*Sacramento County General Plan* The *1993 Sacramento County General Plan* (Sacramento County 1993) is a long-term planning document developed to guide planning decisions for important community issues, such as new growth, housing needs, environmental protection, as well as project future growth demand services for sewer, water, roadways, parks, and emergency services. The Circulation Element of the Sacramento County General Plan (Sacramento County 2007) focuses on encouraging alternative modes of transportation through regional coordination, improved funding, better land use and design, and fair pricing.

In addition, County requirements for traffic analysis under CEQA are described below in "Environmental Consequences and Mitigation Measures."

*Sacramento County General Plan Update* Sacramento County is in the process of preparing a draft *Sacramento County General Plan Update* (Sacramento County 2010) and EIR to plan for growth in the period 2010–2030. Until that EIR has been certified and the update has been adopted by the Sacramento County Board of Supervisors, the 1993 general plan remains in effect. Following receipt of a third-party review in December 2010, hearings on the general plan began in spring 2011 and are ongoing.

*Sacramento City/County Bikeway Master Plan* The *2010 Sacramento City/County Bikeway Master Plan* (Bikeway Master Plan) (Sacramento County 1992) identifies existing and planned bicycle routes in the city and county of Sacramento, including the vicinity of the proposed project sites. The Folsom South Canal Recreation Trail, an existing off-street path, is located along the Folsom South Canal west of Sunrise Boulevard, connecting Hazel Avenue north of U.S. 50 with Grant Line Road. On-street bike lanes are planned on Sunrise Boulevard, Grant Line Road, Jackson Highway (State Route [SR] 16) (just past Grant Line Road), Kiefer Boulevard west of Sunrise Boulevard, Douglas Road west of Sunrise Boulevard, White Rock Road, and Gold Country Boulevard. The Bikeway Master Plan also contains design, safety, and traffic control standards for use in constructing and/or upgrading facilities.

*Mobility Strategies for County Corridors* The *Mobility Strategies for County Corridors* (Mobility Study) (Sacramento County and Fehr & Peers 2004) developed candidate strategies for 11 of Sacramento County's most congested corridors. The purposes of the study were to enhance mobility, as defined by reduced travel times and improved travel-time reliability; increase people-moving capacity; and improve safety for all users of the transportation system. Within Rancho Cordova, the Mobility Study identified optional strategies to improve mobility on Sunrise Boulevard, including pedestrian and bicycle enhancements, Bus Rapid Transit (BRT), transitway development compatibility, lane additions, and intelligent transportation systems. The Mobility Study is a planning-level opportunities study.

*City of Rancho Cordova General Plan* Because the City formally adopted the County's traffic impact study guidelines upon incorporation, plans and policies from the County Guidelines (Sacramento County 2004) were used in this analysis, except where the Circulation Element of the *Rancho Cordova General Plan* (City General Plan) (City of Rancho Cordova 2006) superseded County thresholds and requirements.

The City General Plan incorporates strategies identified in the Mobility Study, including certain components of the study, such as BRT.

The Circulation Element of the City General Plan (City of Rancho Cordova 2006) also identifies bicycle facilities near the study area.

*City of Rancho Cordova Capital Improvement Plan* The City has been operating under a capital improvement plan (CIP) spanning the years 2005 to 2010 (City of Rancho Cordova 2005), which includes several roadway facilities in the project study area, including improvements to Douglas Road, Jaeger Road, Kiefer Boulevard, International Drive, Sunrise Boulevard, and SR 16. Funding sources associated with the current CIP include development fees, financing districts, Measure A sales taxes, and State and Federal funding sources. The CIP has been expanded and now includes updated development fees and additional roadway improvements identified in the Circulation Element of the City General Plan (City of Rancho Cordova 2006). The City's CIP consists of identification of planned roadway improvements within Rancho Cordova, cost estimates of identified roadway improvements, and a nexus study to identify fair-share contributions of new development to identified roadway improvements.

### **3.14.2 Environmental Consequences**

#### ***Methods***

**Intersection Operations** The operations of the study intersections identified above were evaluated using the level of service (LOS) methodology. This methodology qualitatively characterizes traffic conditions associated with varying levels of vehicular traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in queuing and delay). Intersection LOS for the non-Caltrans unsignalized and Caltrans signalized study intersections was calculated using Trafficware's Synchro 7 (Build 773) software package. Intersection LOS for the non-



Caltrans signalized intersections was calculated using the Traffix 8.0 software package with Circular 212 methodology.

*Signalized Intersections* Non-Caltrans, county-owned and -operated signalized study intersections were analyzed using the *Interim Materials on Highway Capacity* (1980) prepared by the Transportation Research Board, Circular 212 methodology, consistent with the County Guidelines. Use of this methodology ties project impacts to limited lane capacities at the study locations and is consistent with current study requirements in Sacramento County and other jurisdictions within the State. This methodology determines LOS by comparing the sum of critical-lane volumes by signal phasing at the signalized intersection to the thresholds summarized in Table 3.14-9.

<b>Table 3.14-9 Intersection Level of Service Definitions—Circular 212 Methodology</b>				
LOS	v/c Ratio	Sum of Critical Lane Volumes by Signal Phasing (vehicles/critical lane/hour)		
		2-Phase	3-Phase	4 or more Phase
A	< 0.60	0–990	0–930	0–900
B	0.60–0.69	991–1,155	931–1,085	901–1,050
C	0.70–0.79	1,156–1,320	1,086–1,240	1,051–1,200
D	0.80–0.89	1,321–1,485	1,241–1,395	1,201–1,350
E	0.90–0.99	1,486–1,650	1,396–1,550	1,351–1,500
F	> 1.00	> 1,650	> 1,550	> 1,500

Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio  
Source: Sacramento County 2004

Caltrans-owned and -operated signalized study intersections were analyzed using the Transportation Research Board's (TRB's) *2000 Highway Capacity Manual* (HCM) operations methodology (TRB 2000). The operations analysis uses various intersection characteristics (e.g., traffic volumes, lane geometry, and signal phasing/timing) to estimate the average control delay experienced by motorists at an intersection. The HCM operations methodology for signalized and unsignalized intersections is summarized in Table 3.14-10.

*Unsignalized Intersections* At unsignalized (one-way, two-way, and all-way stop-controlled) study intersections, traffic conditions were evaluated using the HCM operations methodology. With this methodology, LOS is related to the total delay per vehicle for the intersection as a whole (for all-way stop-controlled intersections) or for the worst stop-controlled approach (for one- and two-way stop-controlled intersections). Total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the queue. This time includes the time required for a vehicle to travel from the last-in-queue position to the first-in-queue position. The HCM operations methodology for signalized and unsignalized intersections is summarized in Table 3.14-10.

<b>Table 3.14-10</b>			
<b>Intersection Level of Service Definitions—HCM Methodology</b>			
LOS	Description	Average Delay (sec/veh)	
		Signalized Intersections	Unsignalized Intersections
A	Little or no delay	< 10.0	< 10.0
B	Short traffic delay	> 10.0 and < 20.0	> 10.0 and < 15.0
C	Average traffic delay	> 20.0 and < 35.0	> 15.0 and < 25.0
D	Long traffic delay	> 35.0 and < 55.0	> 25.0 and < 35.0
E	Very long traffic delay	> 55.0 and < 80.0	> 35.0 and < 50.0
F	Extreme traffic delay	> 80.0	> 50.0
Notes: LOS = level of service, HCM = 2000 Highway Capacity Manual, sec/veh = seconds per vehicle For signalized intersections, average delay represents the average of all approaches. For unsignalized intersections, average delay represents the average of all approaches (all-way stop control) or the worst approach (one- or two-way stop control). Source: TRB 2000			

Because of limitations in the HCM methodology, delay values over 80.0 seconds are typically considered unreliable. In these cases, the delay is presented simply as “greater than 80.0” (> 80.0), with the understanding that the intersection is operating poorly. For unsignalized intersections, delay values over 50.0 seconds are considered unreliable, and delay is presented as “greater than 50.0” (> 50.0).

**Roadway Segment Operations** The operations of non-Caltrans roadway segments are evaluated using the Sacramento County Guidelines methodology (Sacramento County 2004). Average daily traffic (ADT) volume is compared with daily volume thresholds by various facility types, as summarized in Table 3.14-11.

Caltrans facilities are evaluated using the HCM methodology. HCM capacity analysis provides a roadway LOS methodology, similar to intersection LOS, based on the volume-to-capacity (v/c) ratio of the roadway. The assumed capacities are 2,200 vehicles per hour per lane for typical freeway segments. LOS A, B, C, and D are generally considered acceptable and LOS E and F are considered unacceptable. As indicated in the Caltrans’ CSMP, the segment of U.S. 50 from Sunrise Boulevard to Folsom Boulevard operates with a current concept LOS E and would operate with a concept LOS F in all future scenarios. Concept LOS defines the minimum acceptable LOS established by Caltrans as the owner and operator of the facility. The HCM methodology for roadway segments is summarized in Table 3.14-12.

If travel forecasting predicts the LOS would drop below an acceptable level, Caltrans District 3 will design improvements to maintain acceptable highway conditions. Caltrans’s *Highway 50 Corridor System Management Plan* (CSMP) (Caltrans 2009) serves as the TCCR for U.S. 50 from its origin at Interstate (I-) 80 in West Sacramento to the Cedar Grove Exit.

<b>Table 3.14-11</b> <b>Roadway Segment Level of Service Definitions—Sacramento County</b>						
Facility Type	Number of Lanes	Daily Volume Thresholds (LOS)				
		LOS A	LOS B	LOS C	LOS D	LOS E
Residential	2	600	1,200	2,000	3,000	4,500
Residential Collector, with frontage	2	1,600	3,200	4,800	6,400	8,000
Residential Collector, without frontage	2	6,000	7,000	8,000	9,000	10,000
Arterial, low access control	2	9,000	10,000	12,000	13,500	15,000
	4	18,000	21,000	24,000	27,000	30,000
	6	27,000	31,500	36,000	40,500	45,000
Arterial, moderate access control	2	10,800	12,600	14,400	16,200	18,000
	4	21,600	25,200	28,800	32,400	36,000
	6	32,400	37,800	43,200	48,600	54,000
Arterial, high access control	2	12,000	14,000	16,000	18,000	20,000
	4	24,000	28,000	32,000	36,000	40,000
	6	36,000	42,000	48,000	54,000	60,000
Notes: LOS = level of service Source: Sacramento County 2004						

<b>Table 3.14-12</b> <b>Roadway Segment Level of Service Definitions—HCM Methodology</b>		
LOS	Description	v/c Ratio
A	Vehicles travel at free-flow speeds and can maneuver almost freely within the traffic stream.	$\leq 0.30$
B	Vehicles travel at free-flow speeds and movement within the traffic stream is only slightly restricted.	$> 0.30$ and $\leq 0.50$
C	Vehicles travel at or near free-flow speed and movement is somewhat restricted. Incidents can cause local queuing.	$> 0.50$ and $\leq 0.71$
D	Vehicle speed declines as density increases, and maneuverability within the traffic stream is noticeably limited.	$> 0.71$ and $\leq 0.89$
E	Roadway is operating at or near capacity, with vehicles closely spaced.	$> 0.89$ and $\leq 1.00$
F	Roadway operates beyond capacity, with significant queuing at bottlenecks such as key intersections or lane drops.	$> 1.00$
Notes: HCM = Highway Capacity Manual, LOS = level of service, v/cratio = volume-to-capacity ratio Source: TRB 2000		

**Ramp Merge/Diverge Area Operations** The operations of study ramps were evaluated using the LOS methodology. This methodology qualitatively characterizes traffic conditions associated with varying levels of vehicular traffic, ranging from LOS A (indicating free-flow traffic conditions) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in ramp failure). Ramp LOS for the Caltrans ramps were calculated using the HCS2000 software package and the 2000 HCM Methodology. The 2000 HCM Methodology for ramp merge/diverge area analysis is summarized in Table 3.14-13.

<b>Table 3.14-13</b> <b>Ramp Merge/Diverge Level of Service Definitions—HCM Methodology</b>		
LOS	Description	Maximum Density (pc/mi/ln)
A	Vehicles travel at free-flow speeds and can maneuver almost freely within the traffic stream.	< 10
B	Vehicles travel at free-flow speeds and movement within the traffic stream is only slightly restricted.	> 10 – 20
C	Vehicles travel at or near free-flow speed and movement is somewhat restricted. Incidents can cause local queuing.	> 20 – 28
D	Vehicle speed declines as density increases, and maneuverability within the traffic stream is noticeably limited.	> 28 – 35
E	Roadway is operating at or near capacity, with vehicles closely spaced, merge/diverge maneuvers are difficult.	> 35
F	Ramp failure, indicated by stop and go vehicular flow, often results in long vehicular queues that may block adjacent intersections.	Demand exceeds capacity
Notes: HCM = <i>Highway Capacity Manual</i> , pc/mi/ln = passenger cars per mile per lane Source: TRB 2000		

**95th Percentile Queues** The 95th percentile queue is defined to be the queue length that has a 5% probability of being exceeded during the analysis time period. The storage capacity is taken as the distance to the nearest intersection, major driveway, pedestrian crossing, or freeway mainline. The 95th percentile queue analysis was conducted using intersection LOS analysis output to compare the 95th percentile queues to the available storage lengths at off-ramp terminal intersections, to determine if the project would result in, or contribute to, queue spillback on the U.S. 50 mainline.

**Project Travel Demand Methodology** Travel demand refers to the new vehicle, transit, pedestrian, and other trips that would be generated by the project. Project travel demand, with the exception of project trip distribution/assignment, would be the same for both sites being evaluated. This section provides an estimate of the travel demand that would be generated by the project.

*Trip Generation* Travel demand estimates were primarily based on information contained in the Institute of Transportation Engineers' (ITE's) *Trip Generation* (8th Edition) (ITE 2008), the industry standard for land use-based trip generation. The rates presented were derived from a national sample of sites of similar land uses. Project vehicle-trip generation was estimated using the ITE code for general office use (731).

*Mode Split* Vehicle-trip generation for the proposed land uses was taken from ITE's *Trip Generation* (8th Edition) (ITE 2008) and for the sake of a more conservative analysis, a 100% automobile mode split was assumed. (Mode split describes the distribution of transportation modes such as bicycle, walk, automobile, and transit.)

*Trip Distribution/Assignment* Trip distribution was determined from information provided in SACOG's most recently modified *Sacramento Regional Travel Demand Model* (SACMET 01) (DKS 2002) and the *Rio del Oro Specific Plan Project Draft EIR/EIS* (EDAW 2006).

### Project Travel Demand

*Trip Generation* ITE's *Trip Generation* (8th Edition) (ITE 2008) provides vehicle-trip generation rates for typical land uses. As currently defined, the project would consist entirely of new uses, composed of approximately 200,000 sq. ft. of office space with approximately 600 employees. Project vehicle-trip generation is presented in Table 3.14-14.

Table 3.14-14 Vehicle-Trip Generation								
Land Use	Square Feet	Daily	a.m. Peak Hour			p.m. Peak Hour		
			In	Out	Total	In	Out	Total
General Office	200,000	2,275	287	39	326	51	251	302
Notes: <sup>1</sup> ITE Land Use Code 710—General Office Building, X = 1,000 square feet ITE Land Use Code 710—Daily Equation: Ln(T) = (0.77) Ln(X) + 3.65 ITE Land Use Code 710—a.m. Peak Hour Equation: Ln(T) = (0.80) Ln(X) + 1.55 ITE Land Use Code 710—p.m. Peak Hour Equation: T = 1.12(X) + 78.81 Source: ITE 2008								

Based on ITE rates and proposed square footage, the project would generate approximately 326 vehicle trips during the weekday a.m. peak hour and 302 vehicle trips during the weekday p.m. peak hour.

*Mode Split* The State encourages use of alternative transportation through an existing incentive program for State workers to use public transit or alternative-commute modes, which would be implemented at the new JOC. The program includes transit-pass subsidies for employees; preferential parking for carpools, vanpools, and ride-share programs; bicycle storage; showers; and locker facilities. In an effort to develop a more conservative analysis, no mode split was assumed for analysis of project-generated vehicle traffic impacts (i.e., 100% automobile mode split).

*Trip Distribution/Assignment* The trips generated by the project were distributed throughout the network. Trip distribution was based on existing travel patterns.

Exhibits 3.14-3 and 3.14-4 illustrate the distribution of inbound weekday a.m. peak-hour trips and outbound weekday p.m. peak-hour trips, respectively, for the Proposed Site. Exhibits 3.14-5 and 3.14-6 illustrate the same distribution for the Alternative 1 Site.

*Signal Warrants* To determine whether signals should be installed at any one location, signal warrants are typically reviewed. Warrants for traffic signal installation at unsignalized intersections were evaluated based on the peak-hour volume warrant contained in the *Traffic Manual* (Caltrans 1994). The peak-hour warrant is a subset of the standard traffic-signal warrants recommended in the *Manual on Uniform Traffic Control* (MUTCD) (FHWA 2009) and associated Caltrans guidelines. The peak-hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecasted traffic data, and on a thorough study of traffic and roadway conditions conducted by an experienced engineer. Furthermore, the decision to install a signal should not be based solely on the warrants, because the installation of signals can lead to certain types of collisions (i.e., rear-end collisions). Although signals provide increased capacity at intersections and may be needed (from a capacity perspective) to serve predicted volume demands at the intersection, the potential safety implications associated with signal installation should be reviewed by the responsible State or local agency (depending on whether the intersection is controlled by the State, the County, or the City). The responsible agency should undertake regular monitoring of actual traffic conditions and accident data, and a timely reevaluation of the full set of warrants to prioritize and program intersections that may be identified for signalization in this EIS/EIR.

### ***Assumptions***

Baseline conditions analysis and all future scenarios assume completion of Phase 1 of the Hazel Avenue Widening Project.

### ***Criteria for Determining Significance of Effects***

Because the project and alternatives under consideration would cause traffic impacts on roadways that are under State, county, and city jurisdictions, this analysis was conducted using a combination of policies and guidelines. Sacramento County identifies LOS E as the minimum acceptable standard for intersection operations near the Proposed Site (Proposed Action). The City identifies LOS D as its minimum standard for intersection operations near the Alternative 1 Site (Alternative 1).

For State-controlled facilities, thresholds presented in Caltrans TCCRs were applied. Typical LOS standard in District 3 are LOS D in rural areas and LOS E in urban areas. A local agency may set a higher LOS threshold consistent with community wishes and other local concerns. However, because the Caltrans concept LOS defines the minimum acceptable LOS established by Caltrans as the owner and operator of the facility, the threshold standard LOS established by the local agency should not be lower than the Caltrans concept LOS. The County Guidelines (Sacramento County 2004) and the Caltrans U.S. 50 CSMP identify LOS F as the minimum acceptable operating LOS. The Circulation Element of the City General Plan (City of Rancho Cordova 2006) identifies

LOS D as the minimum acceptable operating LOS for roadway segments within Rancho Cordova.

Determinations of significance in this EIS/EIR are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. These determinations are provided pursuant to CEQA.

The Proposed Action and alternatives under consideration would be considered to have a significant impact related to transportation and circulation if they would:

- ▶ conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities;
- ▶ cause significant traffic delays during peak commute hours;
- ▶ result in an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system;
- ▶ 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;
- ▶ result in substantially increased hazards due to a design feature, such as a sharp curve, or incompatible uses, such as farm equipment; or result in inadequate emergency access.

For the purposes of this analysis, the impact thresholds of Sacramento County and City of Rancho Cordova are used for traffic analyses. An impact would be considered significant:

- ▶ for study intersections and roadway segments when the project results in an intersection or roadway segment operating at acceptable LOS (LOS A, B, C, D, or E in Sacramento County, or LOS A, B, C, or D in Rancho Cordova) to deteriorate to unacceptable LOS (LOS F in Sacramento County, and LOS E or LOS F in Rancho Cordova);
- ▶ for study signalized intersections and roadway segments when the project increases the v/c ratio by 0.05 or more at a signalized intersection or a roadway in Sacramento County or Rancho Cordova that is already operating at an unacceptable LOS (LOS F in Sacramento County, LOS E or LOS F in Rancho Cordova, and LOS F for mainline segments of U.S. 50);
- ▶ for study unsignalized intersections when the project increases the average delay by more than 5 seconds at an unsignalized intersection that is already operating at an unacceptable LOS (LOS F in Sacramento County, and LOS E or LOS F in Rancho Cordova);

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- ▶ for study freeway segments when the project adds 10 trips to a freeway segment that is currently operating at an unacceptable LOS (LOS F in Sacramento County, and LOS E or LOS F in Rancho Cordova);
- ▶ for study roadway segments if the project would result in a significant increase in reliance on single-occupant vehicles to facilitate mobility within Rancho Cordova; or
- ▶ for study intersections and roadway segments when the project disturbs or interferes with existing or planned bicycle, pedestrian, and transit facilities.

CEQA no longer requires an analysis of the adequacy of parking availability and, therefore, no further analysis of parking availability has been conducted. The Federal and State governments encourage their workers to use alternative transportation through existing incentive programs involving public transit or alternative-commute modes, and these programs would be implemented at the new JOC facility. These programs include transit-pass subsidies for employees, preferential parking for carpools and vanpools, ride-share programs, bicycle storage, showers, and locker facilities.

### ***Environmental Consequences and Mitigation Measures***

#### **Impact 3.14-1: Increases to Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service under Existing plus Project Conditions**

##### **No-Action**

Under the No-Action Alternative, no development would occur and no project-generated traffic would affect the regional transportation system; thus, **no direct** or **indirect** impacts would occur.

##### **Proposed Action**

Table 3.14-15 presents the Existing plus Project traffic conditions and LOS for intersections that may be used for access to the Proposed Site. The Existing plus Project intersection LOS is shown in Exhibit 3.14-7. Detailed LOS calculations are included in Appendix C4a, "Traffic Impact Technical Report," Attachment B.

The following study intersection would operate at unacceptable LOS (LOS F) under Existing plus Project conditions.

Caltrans intersection:

5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive (weekday a.m. peak hours)

This intersection was evaluated to determine if the project would contribute to any intersection impacts. The results of the evaluation are as follows:

5. Hazel Avenue/U.S. 50 WB Off-Ramps/Tributary Point Drive  
This signalized intersection operates at LOS F under Existing Conditions and would continue to operate at LOS F under Existing plus Project Conditions during the weekday a.m. peak hour. The intersection operates with a v/c Ratio of 1.23 under Existing Conditions and would operate at 1.25 under Existing



Table 3.14-15 Intersection Level of Service—Existing plus Project Conditions								
#	Intersection	Peak Hour	Existing Conditions			Existing plus Project Conditions		
			LOS	Delay <sup>1</sup>	v/c Ratio <sup>2</sup>	LOS	Delay <sup>1</sup>	v/c Ratio <sup>2</sup>
Non-Caltrans Intersections								
1	Nimbus Road / Gold Country Boulevard	a.m.	A	0.0	-	C	17.1	-
		p.m.	A	0.0	-	C	19.1	-
2	Hazel Avenue / Gold Country Boulevard	a.m.	A	-	0.48	A	-	0.50
		p.m.	E	-	0.96	E	-	0.98
3	Hazel Avenue / Folsom Boulevard	a.m.	A	-	0.25	C	-	0.72
		p.m.	E	-	0.96	E	-	0.97
Caltrans Intersections								
4	Hazel Avenue / U.S. 50 EB Ramps	a.m.	A	7.8	<b>1.23</b>	A	9.8	-
		p.m.	B	14.6	-	B	15.1	-
5	Hazel Avenue / U.S. 50 WB Off-Ramp/ Tributary Point Drive	a.m.	F	> <b>80.0</b>	-	<b>F</b>	> <b>80.0</b>	<b>1.25</b>
		p.m.	E	79.2	-	E	79.3	-
Notes: V/C ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound <b>Bold</b> indicates intersection operating at LOS F '-' indicates not applicable to scenario <sup>1</sup> Seconds of delay are presented for Caltrans intersections and non-Caltrans unsignalized intersections <sup>2</sup> v/c ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS								

plus Project Conditions during the weekday a.m. peak hour. The project would not increase the v/c ratio of the intersection beyond the 0.05 threshold; therefore, the project would have a **less-than-significant** impact on this intersection.

Overall, the project would result in a **less-than-significant** impact at all of the study intersections under Existing plus Project Conditions, including the Hazel Avenue/U.S. 50 WB Off-Ramps/Tributary Point Drive intersection.

LOS for the selected roadway segments is summarized in Table 3.14-16.

All of the study roadway segments would operate at acceptable LOS under Existing Conditions and would continue to operate at acceptable LOS under Existing plus Project Conditions.

Existing plus Project LOS for the selected ramps are summarized in Table 3.14-17. At locations where long acceleration and deceleration lanes exist, ramp density calculations may report densities below zero. As a result, for all LOS A locations, the density is presented simply as “less than 10.0 passenger cars per mile per lane” (< 10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis.

## Joint Operations Center Relocation Project

All of the study ramps would operate at acceptable LOS under Existing Conditions and would continue to operate at acceptable LOS under Existing plus Project Conditions.

Table 3.14-16 Roadway Segment Level of Service—Existing plus Project Conditions						
#	Roadway Segment	Peak Hour	Existing Conditions		Existing plus Project Conditions	
			LOS	v/c Ratio <sup>1</sup>	LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>						
1	Hazel Avenue South of Gold Country Boulevard	--	E	0.89	E	0.90
Caltrans Roadway Segments <sup>2</sup>						
2	EB U.S. 50 West of Hazel Avenue Off-Ramp	a.m.	C	0.58	C	0.60
		p.m.	D	0.76	D	0.76
3	EB U.S. 50 East of Hazel Avenue On-Ramp	a.m.	C	0.56	C	0.56
		p.m.	C	0.67	C	0.67
4	WB U.S. 50 West of Hazel Avenue On-Ramp	a.m.	D	0.80	D	0.80
		p.m.	D	0.71	D	0.72
5	WB U.S. 50 East of Hazel Avenue Off-Ramp	a.m.	C	0.57	C	0.57
		p.m.	C	0.51	C	0.51
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound <b>Bold</b> indicates that roadway segment operates at LOS F <sup>1</sup> Non-Caltrans roadway segments are evaluated using Sacramento County Guidelines methodology (Sacramento County 2004) for average daily traffic <sup>2</sup> Caltrans roadway segments are evaluated using 2000 Highway Capacity Manual methodology (TRB 2000) for peak hour Source: Freeway Performance Measurement System 2010						

Table 3.14-17 Ramp Merge/Diverge Level of Service—Existing plus Project Conditions							
#	Ramp	Type	Peak Hour	Existing Conditions		Existing plus Project Conditions	
				LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>
1	<b>EB U.S. 50</b> Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
2	<b>EB U.S. 50</b> On-Ramp from SB Hazel Avenue	Merge	a.m.	B	13.7	B	13.8
			p.m.	B	15.7	B	15.9
3	<b>WB U.S. 50</b> Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
4	<b>WB U.S. 50</b> On-Ramp from SB Hazel Avenue	Merge	a.m.	B	18.6	B	18.7
			p.m.	B	13.2	B	13.7
Notes: LOS = level of service , EB = eastbound, WB = westbound							
<sup>1</sup> Density measured in passenger cars per mile per lane (pc/mi/ln), LOS A reported as < 10.0 pc/mi/ln							
<b>Bold</b> indicates intersection operates at LOS E or LOS F							

Existing plus Project Conditions for 95th percentile queue lengths for the selected intersections are summarized in Table 3.14-18.

Table 3.14-18						
95th Percentile Queues—Existing plus Project Conditions						
#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)	
					Existing Conditions	Existing plus Project Conditions
4	Hazel Avenue / U.S. 50 EB Ramps	EBLR	1,350	a.m.	275	350
				p.m.	625	650
		EBR	750	a.m.	75	75
				p.m.	50	50
5	Hazel Avenue / U.S. 50 WB Ramps	WBL	325	a.m.	200	200
				p.m.	175	175
		WBTR	2,200	a.m.	575	625
				p.m.	825	850
		WBR	2,200	a.m.	325	450
				p.m.	775	800

Notes: Storage capacities and queue lengths rounded to the nearest 25 feet  
EBLR = eastbound left/right; EBR = eastbound right; WBL = westbound left; WBR = westbound right; WBTR = westbound through/right  
**Bold** indicates that queue length exceeds storage capacity

The 95th percentile ramp queues would not exceed available storage capacity at either study intersection under Existing Conditions or Existing plus Project Conditions.

Overall, the Proposed Action would result in a less-than-significant impact at all of the study intersections, road segments, freeway ramps, and ramp queues under Existing plus Project Conditions.

### **Alternative 1**

Table 3.14-19 presents the Existing Plus Project traffic conditions and LOS for intersections that may be used for access to the Alternative 1 Site. The Existing Plus Project intersection LOS is shown in Exhibit 3.14-8. Detailed LOS calculations are included in Appendix C4a, “Traffic Impact Technical Report,” Attachment B.

The following study intersections would operate at unacceptable LOS (LOS E or LOS F) under Existing plus Project Conditions:

- ▶ Non-Caltrans intersections:
  2. Kilgore Road/White Rock Road (weekday p.m. peak hours)
  3. Sunrise Boulevard/White Rock Road (weekday a.m. and p.m. peak hours)

Table 3.14-19 Intersection Level of Service—Existing plus Project Conditions								
#	Intersection	Peak Hour	Existing Conditions			Existing plus Project Conditions		
			LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>	LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>
Non-Caltrans Intersections								
1	Kilgore Road / Crawford Drive	a.m.	C	16.5	--	E <sup>3</sup>	43.5 <sup>3</sup>	--
		p.m.	C	16.0	--	F <sup>3</sup>	>50.0 <sup>3</sup>	--
2	Kilgore Road / White Rock Road	a.m.	A	--	0.55	B	--	0.67
		p.m.	D	--	0.83	E	--	0.90
3	Sunrise Boulevard / White Rock Road	a.m.	E	--	0.94	E	--	0.99
		p.m.	F	--	1.02	F	--	1.04
4	Zinfandel Drive/ White Rock Road	a.m.	B	--	0.65	B	--	0.65
		p.m.	C	--	0.79	C	--	0.80
Caltrans Intersections								
5	Sunrise Boulevard / U.S. 50 EB Ramps	a.m.	C	28.7	--	C	29.8	--
		p.m.	D	39.3	--	D	39.8	--
6	Sunrise Boulevard / U.S. 50 WB Ramps	a.m.	C	34.3	--	D	43.2	--
		p.m.	D	46.1	--	D	47.7	--
7	Zinfandel Drive/ U.S. 50 WB Off-Ramp	a.m.	B	12.7	--	B	12.8	--
		p.m.	B	12.0	--	B	12.2	--
8	Zinfandel Drive/ U.S. 50 EB Ramps	a.m.	F	>80.0	1.08	F	>80.0	1.13
		p.m.	F	>80.0	1.17	F	>80.0	1.20
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound Bold indicates intersection operates at LOS E or LOS F ‘-’ indicates not applicable to scenario <sup>1</sup> Seconds of delay presented for Caltrans intersections and non-Caltrans unsignalized intersections <sup>2</sup> v/c ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS <sup>3</sup> Inclusion of additional new right-turn-only driveway north of Crawford Avenue at the Kilgore Road/Crawford Drive intersection as part of project description ensures that this intersection operates at an acceptable LOS								

- Caltrans intersection:
  - 8. Zinfandel Drive/U.S. 50 EB Ramps (weekday a.m. and p.m. peak hours)

These intersections were evaluated to determine if Alternative 1 would contribute to significant intersection impacts:

## 2. Kilgore Road/White Rock Road

This signalized intersection would deteriorate from LOS D under Existing Conditions to LOS E under Existing plus Project Conditions during the weekday p.m. peak hour. Therefore, Alternative 1 would have a direct **significant** impact on this intersection.

### 3. Sunrise Boulevard/White Rock Road

This signalized intersection would operate at unacceptable LOS (LOS E in a.m., LOS F in p.m.) under Existing Conditions and would continue to operate at unacceptable LOS (LOS E in a.m., LOS F in p.m.) under Existing plus Project Conditions during the weekday a.m. and p.m. peak hour. The intersection would operate with a v/c ratio of 0.94 (a.m.) and 1.02 (p.m.) under Existing Conditions, which would deteriorate to 0.99 (a.m.) and 1.04 (p.m.) under Existing plus Project Conditions during the weekday a.m. and p.m. peak hours. Alternative 1 would increase the v/c ratio of the intersection by 0.05 during the weekday a.m. peak hour, which meets the 0.05 threshold, and by 0.02 during the weekday p.m. peak hour, which does not meet the threshold. Therefore, Alternative 1 would have a direct **significant** impact at this intersection.

### 8. Zinfandel Drive/U.S. 50 EB Ramps

This signalized intersection would operate at LOS F under Existing Conditions and would continue to operate at LOS F under Existing plus Project Conditions during the weekday a.m. and p.m. peak hour. The intersection would operate with a v/c ratio of 1.08 (a.m.) and 1.17 (p.m.) under Existing Conditions and 1.13 (a.m.) and 1.20 (p.m.) under Existing plus Project Conditions during the weekday a.m. and p.m. peak hours. Alternative 1 would increase the v/c ratio of the intersection by 0.05 during the weekday a.m. peak hour, which meets the 0.05 threshold, and by 0.03 during the weekday p.m. peak hour, which does not meet the threshold. Therefore, Alternative 1 would have a direct **significant** impact at this intersection.

Alternative 1 would contribute to a significant impact at the following study intersections:

- ▶ Non-Caltrans intersections:
  2. Kilgore Road/White Rock Road (weekday p.m. peak hours)
  3. Sunrise Boulevard/White Rock Road (weekday a.m. peak hours)
- ▶ Caltrans intersection:
  8. Zinfandel Drive/U.S. 50 EB Ramps (weekday a.m. peak hours)

Existing plus Project Conditions roadway segment LOS for the selected roadway segments are summarized in Table 3.14-20.

The following study roadway segments would operate at unacceptable LOS (LOS E or F) under Existing plus Project Conditions:

- ▶ Non-Caltrans roadway segment:
  1. Sunrise Boulevard—North of White Rock Road

<div>Table 3.14-20</div> <div>Roadway Segment Level of Service—Existing plus Project Conditions</div>						
#	Roadway Segment	Peak Hour	Existing Conditions		Existing plus Project Conditions	
			LOS	v/c Ratio <sup>1</sup>	LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>						
1	<b>Sunrise Boulevard</b> North of White Rock Road	--	D	1.03	<b>E</b>	<b>1.04</b>
Caltrans Roadway Segments <sup>2</sup>						
2	<b>EB U.S. 50</b> West of Zinfandel Drive Off-Ramp	a.m.	<b>E</b>	<b>0.90</b>	<b>E</b>	<b>0.92</b>
		p.m.	<b>E</b>	<b>0.85</b>	<b>E</b>	<b>0.85</b>
3	<b>EB U.S. 50</b> East of Sunrise Boulevard On-Ramp	a.m.	C	0.58	C	0.58
		p.m.	D	0.76	D	0.76
4	<b>WB U.S. 50</b> East of Sunrise Boulevard Off-Ramp	a.m.	D	0.80	D	0.80
		p.m.	D	0.71	D	0.72
5	<b>WB U.S. 50</b> West of Zinfandel Drive On-Ramp	a.m.	<b>E</b>	<b>0.98</b>	<b>E</b>	<b>0.98</b>
		p.m.	<b>F</b>	<b>1.00</b>	<b>F</b>	<b>1.01</b>
Notes: LOS = level of service, V/C ratio = vehicle-to-capacity ratio, EB = eastbound, WB = westbound <b>Bold</b> indicates that roadway segment operates at LOS E or LOS F <sup>1</sup> Non-Caltrans roadway segments are evaluated using Sacramento County Guidelines (Sacramento County 2004) methodology for average daily traffic <sup>2</sup> Caltrans roadway segments are evaluated using 2000 Highway Capacity Manual (TRB 2000) methodology for peak hour Source: Freeway Performance Measurement System 2010						

- Caltrans roadway segments:
  2. EB U.S. 50—West of Zinfandel Drive Off-Ramp (weekday a.m. and p.m. peak hours)
  5. WB U.S. 50—West of Zinfandel Drive On-Ramp (weekday a.m. and p.m. peak hours)

These roadway segments were evaluated to determine if Alternative 1 would contribute to significant roadway segment impacts:

1. Sunrise Boulevard—North of White Rock Road

This roadway segment would deteriorate from LOS D to LOS E under Existing plus Project Conditions. Therefore, the project would cause a direct **significant** impact.

2. EB U.S. 50—West of Zinfandel Drive Off-Ramp

This roadway segment would continue to operate at LOS E during the weekday a.m. and p.m. peak hour under Existing plus Project Conditions. The roadway segment operates with a v/c ratio of 0.90 (a.m.) and 0.85 (p.m.) under Existing Conditions, and would operate at 0.92 (a.m.) and 0.85 (p.m.)

under Existing plus Project Conditions, during the weekday a.m. and p.m. peak hours. Alternative 1 would not increase the v/c ratio of the roadway segment beyond the 0.05 threshold. However, Alternative 1 would add approximately 132 and 23 vehicle trips to the roadway segment during the weekday a.m. and p.m. peak hours, respectively, which would exceed the County's 10-vehicle threshold. Project traffic would exacerbate the existing unacceptable operations; therefore, Alternative 1 would contribute to a **significant** impact at this roadway segment.

#### 5. WB U.S. 50—West of Zinfandel Drive On-Ramp

This roadway segment would continue to operate at unacceptable LOS (LOS E in a.m., LOS F in p.m.) under Existing plus Project Conditions during the weekday a.m. and p.m. peak hours. The roadway segment operates with a v/c ratio of 0.98 (a.m.) and 1.00 (p.m.) under Existing Conditions, and would operate at 0.98 (a.m.) and 1.01 (p.m.) under Existing plus Project Conditions, during the weekday a.m. and p.m. peak hours. Alternative 1 would not increase the v/c ratio of the roadway segment beyond the 0.05 threshold. However, Alternative 1 would add approximately 43 and eight vehicle trips to the roadway segment during the weekday a.m. and p.m. peak hours, respectively, which would exceed the 10-vehicle threshold for the a.m. peak hour but not the p.m. peak hour. Project traffic would exacerbate the existing unacceptable operations during the weekday a.m. peak hour; therefore, Alternative 1 would contribute to a **significant** impact at this roadway segment.

Alternative 1 would contribute to a significant impact at three of the study roadway segments:

- ▶ Non-Caltrans roadway segment:
  1. Sunrise Boulevard—North of White Rock Road
- ▶ Caltrans roadway segments:
  2. EB U.S. 50—West of Zinfandel Drive Off-Ramp (weekday a.m. and p.m. peak hours)
  5. WB U.S. 50—West of Zinfandel Drive On-Ramp (weekday a.m. peak hours)

LOS for the selected ramps is summarized in Table 3.14-21. At locations where long acceleration and deceleration lanes exist, ramp density calculations can report densities below zero. As a result, for all LOS A locations, the density is presented simply as “less than 10.0 passenger cars per mile per lane” (< 10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis.

Table 3.14-21 Ramp Merge/Diverge Level of Service—Existing plus Project Conditions							
#	Ramp	Type	Peak Hour	Existing Conditions		Existing plus Project Conditions	
				LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>
1	<b>WB U.S. 50</b> Off-Ramp to Sunrise Boulevard	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
2	<b>EB U.S. 50</b> On-Ramp from NB Sunrise Boulevard	Merge	a.m.	B	13.7	B	13.8
			p.m.	B	15.7	B	15.9
3	<b>EB U.S. 50</b> Off-Ramp to Zinfandel Drive	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
4	<b>WB U.S. 50</b> On-Ramp from NB Zinfandel Drive	Merge	a.m.	B	18.6	B	18.7
			p.m.	B	13.2	B	13.7
Notes: LOS = level of service, EB = eastbound, WB = westbound, NB = northbound <sup>1</sup> Density measured in passenger cars per mile per lane (pc/mi/ln), LOS A reported as < 10.0 pc/mi/ln <b>Bold</b> indicates intersection operates at LOS E or LOS F Source: Freeway Performance Measurement System 2010							

All of the study ramps would operate at acceptable LOS under Existing Conditions and would continue to operate at acceptable LOS under Existing plus Project Conditions. Alternative 1 would not contribute to a significant impact on any of the study ramp merge/diverge areas under Existing plus Project Conditions.

The 95th percentile queue lengths for the selected intersections are summarized in Table 3.14-22. The 95th percentile queues exceed available storage capacity at the following intersection under Existing Conditions and would continue to exceed available storage capacity under Existing plus Project Conditions:

- Caltrans intersection:
  8. Zinfandel Drive/U.S. 50 EB Ramps (EBLTR, EBR—weekday a.m. peak hour)

Under Existing plus Project Conditions, queues in the eastbound left-through-right lane group would exceed capacity by approximately 50 feet during the weekday a.m. peak hour. Queues in the eastbound right lane group exceed capacity by approximately 750 feet during the weekday a.m. peak hour under Existing Conditions, and that exceedance would increase by another 100 feet to approximately 1,275 feet during the weekday a.m. peak hour under Existing plus Project Conditions.



Table 3.14-22 95th Percentile Queues—Existing plus Project Conditions						
#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)	
					Existing Conditions	Existing plus Project Conditions
6	Sunrise Boulevard / U.S. 50 WB Ramps	WBL	1,875	a.m.	650	725
				p.m.	250	250
		WBT	1,875	a.m.	325	350
				p.m.	400	400
8	Zinfandel Drive / U.S. 50 EB Ramps	EBL	1,125	a.m.	350	350
				p.m.	400	400
		EBLTR	1,325	a.m.	1,250	<b>1,375</b>
				p.m.	350	350
		EBR	425	a.m.	<b>1,175</b>	<b>1,275</b>
				p.m.	300	300

Notes: Storage capacities and queue lengths rounded to the nearest 25 feet  
EBLR = ,eastbound left/right; EBR = eastbound right; WBL = westbound left; WBR = westbound right; WBTR = westbound through/right  
**Bold** indicates that queue length exceeds storage capacity

The Zinfandel Drive off-ramp consists of two lanes that later split into four lanes approaching the Zinfandel Drive/U.S. 50 EB Ramps intersection. The second (outside) lane on the ramp serves the eastbound left-through-right and eastbound right lane groups, and is part of an auxiliary lane along eastbound U.S. 50 that begins at the upstream interchange at Mather Field Road. Any queues stretching past the gore area would be contained within the auxiliary lane and would not disrupt mainline operations in the adjacent travel lanes. Caltrans defines a significant impact for a 95th percentile queue as extending beyond the existing storage capacity and disrupting mainline operations. As a result, because the auxiliary lane would contain the additional queue length and prevent it from disrupting the freeway mainline, Alternative 1 is not expected to result in significant queuing impacts at the Zinfandel Drive/U.S. 50 EB Ramps intersection.

Overall, Alternative 1 would have a **significant** impact at three intersections (Kilgore Road/White Rock Road, Sunrise Boulevard/White Rock Road, and Zinfandel Drive/U.S. 50 EB Ramps) and three roadway segments (Sunrise Boulevard—North of White Rock Road, EB U.S. 50—West of Zinfandel Drive Off-Ramp, and WB U.S. 50—West of Zinfandel Drive On-Ramp) under Existing plus Project Conditions. Alternative 1 would have a less-than-significant impact at all freeway ramps and ramp queues.

**Mitigation Measure 3.14-1a: Improve Kilgore Road/White Rock Road Intersection (Alternative 1—Intersection #2)**

**Alternative 1**

Reclamation and DWR will contribute a fair share to the addition of one exclusive northbound right-turn lane at the Kilgore Road/White Rock Road intersection.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and the City of Rancho Cordova contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-1a would reduce the significant impacts under Existing plus Project Conditions to a less-than-significant level, when implemented, by expanding the northbound right-turn capacity at the intersection and allowing it to operate at LOS B, as indicated in Appendix C4a, “Traffic Impact Technical Report,” Attachment B under “Kilgore-Crawford Site—Existing plus Project Conditions Mitigations, Weekday AM Peak Hour.”

Until the City of Rancho Cordova implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will improve operations to a LOS B condition.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project’s significant impact on this intersection, but the impact would remain **significant and unavoidable** until improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the City, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the City, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the City can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-1b: Improve Sunrise Boulevard/White Rock Road Intersection (Alternative 1—Intersection #3)**

**Alternative 1**

Reclamation and DWR will contribute a fair share to addition of one exclusive southbound right-turn lane at the Sunrise Boulevard/White Rock Road intersection.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and the City of Rancho Cordova contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-1b would reduce the significant impacts under Existing plus Project Conditions to a less-than-significant level, by expanding the southbound right-turn capacity and allowing this intersection to operate at LOS C during the weekday a.m. peak hour, as indicated in Appendix C4a, “Traffic Impact Technical Report,” Attachment B under “Kilgore-Crawford Site—Existing plus Project Conditions Mitigations, Weekday AM Peak Hour.”

Until the City of Rancho Cordova implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will improve operations to a LOS C condition.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project’s significant impact on this intersection, but the impact would remain **significant and unavoidable** until improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the City, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the City, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the City can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-1c: Improve Zinfandel Drive/U.S. 50 EB Ramps Intersection (Alternative 1—Intersection #8)**

**Alternative 1**

Reclamation and DWR will contribute a fair share to the addition of one exclusive eastbound right-turn lane and to convert the eastbound through-right shared lane to a through lane at the Zinfandel Drive/U.S. 50 EB Ramps intersection.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and Caltrans contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-1c would reduce the significant impacts under Existing plus Project Conditions to a less-than-significant level, by reducing the increase in the v/c ratio to below the 0.05 threshold during the weekday a.m. peak hour, as indicated in Appendix C4a, “Traffic Impact Technical Report,” Attachment B under “Zinfandel-U.S. 50 EB Ramps Site—Existing plus Project Conditions Mitigations, Weekday AM Peak Hour.”

Until Caltrans implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will improve operations to below the 0.05 threshold.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's significant impact on this intersection, but the impact would remain **significant and unavoidable** until improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of Caltrans, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with Caltrans, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that Caltrans can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-1d: Participate in Improvements on Sunrise Boulevard, North of White Rock Road (Alternative 1—Roadway Segment #1)**

**Alternative 1**

Reclamation and DWR will contribute a fair share to widening Sunrise Boulevard north of White Rock Road by at least one lane.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and the City of Rancho Cordova contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-1d would reduce the significant impacts under Existing plus Project Conditions to a less-than-significant level, by reducing the increase in v/c ratio on Sunrise Boulevard north of White Rock Road to less than the 0.05 threshold, as indicated in Appendix C4a, "Traffic Impact Technical Report," Attachment C under "Roadway Segment Level of Service (Mitigated) - Alternative 1 Site."

Until the City of Rancho Cordova implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will improve operations to an acceptable LOS condition.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's significant impact on this intersection, but the impact would remain **significant and unavoidable** until improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the City, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the City, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the City can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-1e: Participate in improvements on U.S. 50; Eastbound—West of Zinfandel Drive Off-Ramp (Alternative 1—Roadway Segment #2); and Westbound—West of Zinfandel Drive On-Ramp (Alternative 1—Roadway Segment #5)**

**Alternative 1**

Reclamation and DWR will contribute a fair share for the following improvements on U.S. 50:

- ▶ construction of auxiliary lanes at Zinfandel Drive;
- ▶ extension of HOV lanes from Zinfandel Drive to downtown Sacramento; and
- ▶ HOV enhancements, such as bypass lanes at existing metered on-ramps.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and Caltrans contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-1e would allow these roadway segments to operate at an acceptable LOS (LOS C or D), as indicated in Appendix C4a, “Traffic Impact Technical Report,” Attachment C under “Roadway Segment Level of Service (Mitigated) - Alternative 1 Site.”

Until Caltrans implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will improve operations to an acceptable LOS condition.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project’s significant impact on this intersection, but the impact would remain **significant and unavoidable** until improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of Caltrans, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with Caltrans, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that Caltrans can and should cooperate with them in implementing the mitigation.

**Impact 3.14-2: Increases in Peak-Hour Transit Trips**

**No-Action**

Under the No-Action Alternative, no development would occur and no project-generated trips would affect the regional transportation system; thus, **no direct or indirect** impacts would occur.

### **Proposed Action and Alternative 1**

Under all traffic analysis scenarios that assume implementation of the proposed project, project implementation would increase transit trips.

The Proposed Site is located less than 1 mile from the SacRT LRT station located just east of Hazel Avenue on Folsom Boulevard. The State encourages use of alternative transportation through an existing incentive program for State workers to use public transit or alternative-commute modes, which would be implemented at the JOC. The program includes transit-pass subsidies for employees; preferential parking for carpools, vanpools, and ride-share programs; bicycle storage; showers; and locker facilities.

Estimates of project-generated transit and walk trips were developed using mode split data from various sources. Vehicle-trip generation was combined with mode split data from SACOG's SACMET 01 (DKS 2002) travel demand forecasting, which uses year 2000 U.S. Census Journey to Work survey data and *Sacramento Regional Bicycle, Pedestrian, and Trails Master Plan* data to determine mode of travel for different trip purposes. Home-Work mode split data were used to distribute person trips across the various travel modes (e.g., auto, transit, bicycle, and pedestrian). The transit mode split share is 3.2%, which includes transit-walk and transit-drive trips (Sacramento Regional Travel Demand Model Version 2002). Using the transit trips share, the total is 10 transit trips (nine inbound and one outbound) during the weekday a.m. peak hour and 10 transit trips (two inbound and eight outbound) during the weekday p.m. peak hour. The Proposed Site can be accessed by Bus Routes 109 and the Gold Line LRT. According to Caltrans' transit performance measures and SacRT's ridership data, transit near the Proposed Site operates under capacity. The project is expected to generate 10 transit trips during the weekday a.m. peak hour and 10 transit trips during the weekday p.m. peak hour. This level of project-generated transit ridership is not expected to result in a significant impact on transit ridership and capacity.

In addition, although the project would increase vehicular traffic on major transit service corridors, the project's overall effect on intersection LOS and delay is negligible at most study intersections. Therefore, project-generated vehicular traffic would not be expected to result in a significant impact on transit operations.

The Alternative 1 Site is located 1 mile from SacRT Bus Route 74, which connects to the Sunrise LRT station. An incentive program for State workers utilizing alternative transportation and modal split is discussed under Proposed Site "Transit Impacts," above.

The Alternative 1 Site can be accessed by Bus Route 74 and the Gold Line LRT. According to Caltrans's CSMP, Bus Route 74 has a daily ridership equal to 18% of total capacity and a peak-hour ridership equal to 57% of total capacity. The project is expected to generate 10 transit trips during the weekday a.m. peak hour and 10 transit trips during the weekday p.m. peak hour. This level of project-

generated transit ridership is not expected to result in a significant impact on transit ridership and capacity.

In addition, although the project would increase vehicular traffic on major transit service corridors, the project's overall effect on intersection LOS and delay is negligible at most study intersections. Therefore, project-generated vehicular traffic would not be expected to result in a significant impact on transit operations.

Impacts associated with transit trips would be **less than significant**.

**Mitigation Measures:** No mitigation is required.

### **Impact 3.14-3: Increases in Peak-Hour Pedestrian Trips**

#### **No-Action**

Under the No-Action Alternative, no development would occur and no project-generated trips would affect the pedestrian facilities; thus, **no direct** or **indirect** impacts would occur.

#### **Proposed Action and Alternative 1**

Under all traffic analysis scenarios that assume implementation of the proposed project, project implementation would increase pedestrian trips.

For the Proposed Site, the existing pedestrian facilities would be sufficient to accommodate the minor increase in pedestrian trips. Project-generated pedestrian trips would include walking trips from transit facilities (i.e., the LRT station and the nearest bus stop). The project is expected to add 17 pedestrian and transit-walk trips during the weekday a.m. peak hour and 16 pedestrian and transit-walk trips during the weekday p.m. peak hour. Thus, the minor increase in pedestrian trips would not be expected to result in significant impacts on pedestrian conditions near the Proposed Site.

In addition, although project-generated vehicle traffic would increase traffic on roadways, the increase is relatively minor compared with existing traffic volumes. While some minor increase in the potential for vehicle-pedestrian conflict may occur, in general, this effect is negligible and would not be expected to result in significant impacts on pedestrian conditions near the Proposed Site.

For the Alternative 1 Site, the existing pedestrian facilities would be sufficient to accommodate the minor increase in pedestrian trips. Project-generated pedestrian trips would include walking trips from transit facilities (i.e., the LRT station and the nearest bus stop). The project is expected to add 17 pedestrian and transit-walk trips during the weekday a.m. peak hour and 16 pedestrian and transit-walk trips during the weekday p.m. peak hour. Thus, the minor increase in pedestrian trips would not be expected to result in significant impacts on pedestrian conditions near the Alternative 1 Site.

In addition, although project-generated vehicle traffic would increase traffic on roadways, the increase is relatively minor compared with existing traffic volumes. While some minor increase in the potential for vehicle-pedestrian conflict may occur, in general, this effect is negligible and would not be expected to result in significant impacts on pedestrian conditions near the Alternative 1 Site.

Impacts associated with pedestrian trips would be **less than significant**.

**Mitigation Measures:** No mitigation is required.

#### **Impact 3.14-4: Increases in Peak-Hour Bicycle Trips**

##### **No-Action**

Under the No-Action Alternative, no development would occur and no project-generated trips would affect the bicycle facilities; thus, **no direct or indirect** impacts would occur.

##### **Proposed Action and Alternative 1**

Under all traffic analysis scenarios that assume implementation of the proposed project, project implementation would increase bicycle trips.

For the Proposed Site, the existing bicycle facilities are sufficient to accommodate the minor increase in bicycle trips. The project is expected to add 10 bicycle trips during the weekday a.m. peak hour and 10 bicycle trips during the weekday p.m. peak hour. Thus, the minor increase in bicycle trips would not be expected to result in significant impacts on bicycle conditions near the Proposed Site.

For the Alternative 1 Site, the existing bicycle facilities would be sufficient to accommodate the minor increase in bicycle trips. The project is expected to add 10 bicycle trips during the weekday a.m. peak hour and 10 bicycle trips during the weekday p.m. peak hour. Thus, the minor increase in bicycle trips would not be expected to result in significant impacts on bicycle conditions near the Alternative 1 Site.

In addition, although project-generated vehicle traffic would increase traffic on roadways, the increase is relatively minor compared with existing traffic volumes. While some minor increase in the potential for vehicle-bicycle conflict may occur, in general, this effect is negligible and would not be expected to result in significant impacts on bicycle conditions.

Impacts associated with bicycle trips would be **less than significant**.

**Mitigation Measures:** No mitigation is required.

#### **Impact 3.14-5: Increases to Peak-Hour and Daily Traffic Volumes, Affecting Site Access and Circulation**



**No-Action**

Under No-Action Alternative, no development would occur and no project-generated trips would affect site access and circulation; thus, **no direct** or **indirect** impacts would occur.

**Proposed Action and Alternative 1**

Under all traffic analysis scenarios that assume implementation of the proposed project, project implementation would affect site access and circulation.

Vehicle access to the Proposed Site is from U.S. 50 via Hazel Avenue and Gold Country Boulevard. Currently, there is one access driveway off of Gold Country Boulevard. There is adequate access/egress for emergency vehicles, and no additional access driveways would be required.

While the Proposed Site is adjacent to major traffic thoroughfares and has access to public transportation, including bus service and LRT, the total vehicle-trip duration would be approximately 22 minutes, and the total transit-trip duration (depending on mode of travel and transfers) would be approximately 1 hour.

Vehicle access to the Alternative 1 Site is from U.S. 50 via Sunrise Boulevard and White Rock Road. There is adequate access/egress for emergency vehicles, and no additional access driveways would be required.

While the Alternative 1 Site is adjacent to major traffic thoroughfares and has access to public transportation, including bus service and LRT, the total vehicle-trip duration would be approximately 19 minutes and the total transit-trip duration (depending on mode of travel and transfer) would be approximately 1 hour.

Impacts associated with site access and circulation would result in **less-than-significant** impacts.

**Mitigation Measure:** No mitigation is required.

**Impact 3.14-6: Increases to Construction Traffic Activities**

**No-Action**

Under the No-Action Alternative, no development would occur and no project-generated trips would affect the regional transportation system; thus, **no direct** or **indirect** impacts would occur.

**Proposed Action and Alternative 1**

Under all traffic analysis scenarios that assume implementation of the proposed project, project implementation would affect the regional transportation system.

It is anticipated that construction activities would occur Monday through Friday, from 7:00 a.m. to 3:30 p.m.

Temporary traffic impacts would result from truck movements and construction vehicles traveling to and from the Proposed Site. Because of the larger turning

radii and slower movements of construction trucks, a temporary reduction in capacity near the Proposed Site would be expected. Truck traffic during weekday peak hours may worsen LOS and increase delay at nearby intersections. To minimize traffic impacts on neighboring roadways, truck trips should be scheduled during off-peak hours.

U.S. 50 would be used by construction trucks to travel to and from the Proposed Site. Trucks would be used to transport oversized equipment/materials and overweight loads on State highway facilities. A permit must be obtained from Caltrans before transporting oversized materials and overweight loads. It is anticipated that no regular travel lanes or transit bus stops would need to be closed or relocated during the construction period. If it is determined that travel lane closures would be needed, the lane closures would be coordinated with the County and Caltrans to minimize the impacts on local traffic. In general, lane and sidewalk closures are subject to review and approval of the County and Caltrans.

During the construction period, adjacent property owners may experience inconvenience resulting from noise, truck traffic, and possible lane closures. It is recommended that property owners be notified of such activities and durations to minimize the inconvenience.

Construction staging would occur primarily within the confines of the Proposed Site, including all project materials, equipment, and construction vehicles. Parking management and a sufficient supply of parking are recommended to ensure that construction vehicles park within the site.

Project-related construction activity would result in additional trips during the construction period, which may temporarily affect traffic conditions on the local roadways and highways. Construction truck traffic and additional vehicular traffic from construction workers would not substantially affect vehicular, pedestrian, or bicycle circulation. In addition, any potential impacts would not be considered significant because of their temporary and limited duration.

Construction conditions for the Alternative 1 Site would be similar to those discussed for the Proposed Site.

Impacts associated with construction traffic would result in **less-than-significant** impacts.

**Mitigation Measure:** No mitigation is required.

***Residual Significant Impacts***

For the reasons stated above, the following impacts would likely be significant and unavoidable with implementation of all feasible mitigation measures:

- Impact 3.14-1a (Alternative 1)
- Impact 3.14-1b (Alternative 1)
- Impact 3.14-1c (Alternative 1)

Impact 3.14-1d (Alternative 1)

Impact 3.14-1e (Alternative 1)

Until Caltrans and the City of Rancho Cordova implement the improvements identified above, these impacts would be classified as significant but eventually would be reduced to less-than-significant levels once those improvements are constructed. Implementation of the mitigation measures associated with Impacts 3.10-1a, -1b, -1c, -1d, and -1e will improve operations to acceptable LOS conditions.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's significant transportation-related impacts, but the impacts would remain **significant and unavoidable** until improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of Caltrans and the City, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with these other agencies, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that Caltrans and the City can and should cooperate with them in implementing the mitigation.

### 3.14.3 Cumulative Impacts

The geographic scope for analyzing the cumulative effects on traffic of the Proposed Project and Alternative 1 is the roadway network surrounding the two sites and major roadways used to access the sites, including U.S. 50.

#### **Methods**

**Background Growth** Impacts on the roadway system for Cumulative 2035 Conditions were determined by forecasting the increase in weekday a.m. and p.m. peak-hour traffic volumes that would occur with implementation of the project. Projections from the *Rio del Oro Specific Plan Project Draft EIR/EIS* (EDAW 2006) and SACOG's SACMET 01 (DKS 2002) travel demand forecasting were utilized to derive growth rates and develop weekday a.m. and weekday p.m. peak-hour traffic volume forecasts for study intersections and study roadway segments. For the Proposed Site, 2006 Rio del Oro projections were utilized to forecast Existing Conditions year 2010 volumes. Traffic counts could not be conducted at the Proposed Site study intersections because of ongoing construction of the Hazel Avenue Widening Project. Similarly, projected growth rates were applied to 2030 Rio del Oro volumes to forecast Cumulative 2035 Conditions traffic volumes for the Proposed Site. For the Alternative 1 Site, Rio del Oro growth rates were applied to Existing Conditions traffic counts to forecast Cumulative Year 2035 traffic volumes. Volume balancing utilizing Furness methodology was conducted to ensure realistic future year projections and consistency.

**Roadway Network Modifications** Roadway network modifications are based on improvements that are already under construction or are a direct result of approved and funded projects (these improvements were identified by City and County staff). Roadway improvements identified in the County/City's CIP (to be completed before year 2035)

and in the SACOG MTP 2035 were incorporated into the Cumulative 2035 Without Project Conditions analysis. The following local roadway improvements were incorporated into Cumulative 2035 Without Project Conditions analysis:

- ▶ Hazel Avenue from Gold Country Boulevard to U.S. 50 westbound interchange ramps widened to a six-lane facility, and
- ▶ Extension of International Drive from Kilgore Road to Sunrise Boulevard.

### ***Assumptions***

Regional roadway network modifications assumed for Cumulative 2035 Conditions are consistent with improvements identified in the SACOG MTP 2035, depending on the assumed year of completion.

Incorporation of roadway improvements, which were identified in the City's CIP and in the SACOG MTP 2035, into the Cumulative 2035 Conditions analysis assumes that the projects identified in the City's CIP and SACOG MTP 2035 would be fully funded by Year 2035.

### ***Cumulative 2035 without Project Conditions***

#### **Proposed Action**

*Traffic* Intersection geometry changes were assumed at the following four study intersections in Cumulative 2035 Without Project Conditions analysis, as a result of the expected 2011 completion of the proposed Hazel Avenue Widening Project Phase 1 improvements:

- ▶ Non-Caltrans intersections:
  2. Hazel Avenue/Gold Country Boulevard
  3. Hazel Avenue/Folsom Boulevard
- ▶ Caltrans intersections:
  4. Hazel Avenue/U.S. 50 EB Ramps
  5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive

Upon completion of the Hazel Avenue Widening Project in or after 2016, Hazel Avenue will be widened from a four-lane facility to a six-lane facility from U.S. 50 to Madison Avenue. All construction-related impacts would be temporary and no additional significant impacts would result from Phases 2 and 3 of the construction of the Hazel Avenue Widening Project.

Cumulative 2035 Without Project Conditions intersection geometry is shown in Appendix C4a, "Traffic Impact Technical Report," Exhibit C4-21. Cumulative 2035 Without Project Conditions traffic volumes are shown in Exhibit C4-22. Cumulative 2035 Without Project Conditions intersection LOS is summarized in Table 3.14-23. Detailed LOS calculations are included in Appendix C4a, "Traffic Impact Technical Report," Attachment B.

Table 3.14-23								
Intersection Level of Service—Cumulative 2035 Without Project Conditions								
#	Intersection	Peak Hour	Existing Conditions			Cumulative 2035 Without Project Conditions		
			LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>	LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>
Non-Caltrans Intersections								
1	Nimbus Road /Gold Country Boulevard	a.m.	A	0.0	-	A	0.0	-
		p.m.	A	0.0	-	A	0.0	-
2	Hazel Avenue / Gold Country Boulevard	a.m.	A	-	0.48	F	-	1.56
		p.m.	E	-	0.96	F	-	1.04
3	Hazel Avenue / Folsom Boulevard	a.m.	A	-	0.25	F	-	3.00
		p.m.	E	-	0.96	F	-	2.98
Caltrans Intersections								
4	Hazel Avenue / U.S. 50 EB Ramp	a.m.	A	7.8	-	F	> 80.0	1.36
		p.m.	B	14.6	-	F	> 80.0	1.19
5	Hazel Ave. / U.S. 50 WB Off-Ramp / Tributary Point Drive	a.m.	F	> 80.0	1.23	F	> 80.0	1.99
		p.m.	E	79.2	-	F	> 80.0	1.85
Notes: v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound								
Bold indicates intersection operating at LOS F								
‘-’ indicates not applicable to scenario								
<sup>1</sup> Seconds of delay are presented for Caltrans intersections and non-Caltrans unsignalized intersections								
<sup>2</sup> v/c ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS								

The following study intersections would operate at unacceptable LOS F under Cumulative 2035 Without Project Conditions.

- ▶ Non-Caltrans intersections:
  2. Hazel Avenue/Gold Country Boulevard (weekday a.m. and p.m. peak hours),
  3. Hazel Avenue/Folsom Boulevard (weekday a.m. and p.m. peak hours)
- ▶ Caltrans intersections:
  4. Hazel Avenue/U.S. 50 EB Ramp (weekday a.m. and p.m. peak hours)
  5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive (weekday a.m. and p.m. peak hours)

Cumulative 2035 Without Project Conditions roadway segment LOS for the study roadway segments are summarized in Table 3.14-24. Growth rates were derived from the 2006 and 2030 traffic volumes from the *Rio del Oro Specific Plan Project Draft EIR/EIS* (2006). These growth rates were applied to year 2006 traffic volumes to forecast Existing Conditions (2010) and Cumulative 2035 Without Project Conditions traffic volumes and calculate freeway mainline segment volumes.

The non-Caltrans study roadway segment, Hazel Avenue—South of Gold Country Boulevard, is designated as an Arterial, high access control facility, according to the Sacramento County General Plan. Under Cumulative 2035 Without Project Conditions, the study roadway segment would be widened from a four-lane facility to a six-lane

Table 3.14-24						
Roadway Segment Level of Service—Cumulative 2035 Without Project Conditions						
#	Roadway Segment	Peak Hour	Existing Conditions		Cumulative 2035 Without Project Conditions	
			LOS	v/c Ratio	LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>						
1	Hazel Avenue South of Gold Country Boulevard	--	E	0.89	<b>F</b>	<b>1.30</b>
Caltrans Roadway Segments <sup>2</sup>						
2	EB U.S. 50 West of Hazel Avenue Off-Ramp	a.m.	C	0.58	C	0.69
		p.m.	D	0.76	D	0.83
3	EB U.S. 50 East of Hazel Avenue On-Ramp	a.m.	C	0.56	C	0.60
		p.m.	C	0.67	C	0.71
4	WB U.S. 50 West of Hazel Avenue On-Ramp	a.m.	D	0.80	E	0.95
		p.m.	D	0.71	D	0.78
5	WB U.S. 50 East of Hazel Avenue Off-Ramp	a.m.	C	0.57	C	0.60
		p.m.	C	0.51	C	0.54
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound						
<b>Bold</b> indicates that roadway segment operates at LOS F						
<sup>1</sup> Non-Caltrans roadway segments are evaluated using Sacramento County Guidelines (Sacramento County 2004) methodology for average daily traffic						
<sup>2</sup> Caltrans roadway segments are evaluated using 2000 Highway Capacity Manual (TRB 2000) methodology for peak hour						
Source: Freeway Performance Measurement System 2010						

facility from U.S. 50 to Madison Avenue, with the third and final phase of improvements beginning in 2016.

The following study roadway segment would operate at unacceptable LOS (LOS F) under Cumulative 2035 Without Project Conditions.

- Non-Caltrans roadway segment:
  1. Hazel Avenue—South of Gold Country Boulevard

Cumulative 2035 Without Project Conditions ramp LOS for the study ramp merge/diverge areas are summarized in Table 3.14-25. At locations where long acceleration and deceleration lanes exist, ramp density calculations can report densities below zero. As a result, for all LOS A locations the density is presented simply as “less than 10.0 passenger cars per mile per lane” (< 10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis.

All of the study ramps would operate at acceptable LOS under Cumulative 2035 Without Project Conditions.

Table 3.14-25 Ramp Merge/Diverge Level of Service—Cumulative 2035 Without Project Conditions							
#	Ramp	Type	Peak Hour	Existing Conditions		Cumulative 2035 Without Project Conditions	
				LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>
1	EB U.S. 50 Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
2	EB U.S. 50 On-Ramp from SB Hazel Avenue	Merge	a.m.	B	13.7	B	14.6
			p.m.	B	15.7	B	16.6
3	WB U.S. 50 Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
4	WB U.S. 50 On-Ramp from SB Hazel Avenue	Merge	a.m.	B	18.6	B	21.9
			p.m.	B	13.2	B	16.0
Notes: LOS = level of service							
<sup>1</sup> Density measured in passenger cars per mile per lane (pc/mi/ln), LOS A is reported as < 10.0 pc/mi/ln.							
<b>Bold</b> indicates intersection operates at unacceptable LOS (LOS E or LOS F).							

Cumulative 2035 Without Project Conditions 95th percentile queues for the study intersections are summarized in Table 3.14-26.

The 95th Percentile queues would exceed available storage capacity at the following intersection under Cumulative 2035 Without Project Conditions:

- Caltrans intersection:
  5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive (WBL—weekday a.m. peak hour).

### Alternative 1

**Traffic** Because of the extension of International Drive, project and background trips were rerouted utilizing the new roadway for Alternative 1. Trips with an origin or destination south of the Alternative 1 Site were routed from Kilgore Road onto International Drive and then to Sunrise Boulevard, instead of utilizing White Rock Road to get onto Sunrise Boulevard.

Cumulative 2035 Conditions traffic volumes are shown in Appendix C4a, “Traffic Impact Technical Report,” Exhibit C4-23. Growth rates derived from *Rio del Oro Specific Plan Project Draft EIR/EIS* (2006) were applied to existing intersection traffic volumes to forecast Cumulative 2035 Without Project Conditions intersection traffic volumes. The Cumulative 2035 Without Project Conditions intersection LOS is summarized in Table 3.14-27. Detailed LOS calculations are included in Appendix C4a, “Traffic Impact Technical Report,” Attachment B.

Table 3.14-26 95th Percentile Queues—Cumulative 2035 Without Project Conditions						
#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)	
					Existing Conditions	Cumulative 2035 Without Project Conditions
4	Hazel Avenue / U.S. 50 EB Ramp	EBLR	1,350	a.m.	275	575
				p.m.	625	1,200
		EBR	750	a.m.	75	450
				p.m.	50	575
5	Hazel Avenue / U.S. 50 WB Off-Ramp / Tributary Point Drive	WBL	325	a.m.	200	<b>525</b>
				p.m.	175	300
		WBTR	2,200	a.m.	575	675
				p.m.	825	800
		WBR	2,200	a.m.	325	325
				p.m.	775	625

Notes: Storage capacities and queue lengths rounded to the nearest 25 feet  
EBLR = ,eastbound left/right; EBR = eastbound right; WBL = westbound left; WBR = westbound right; WBTR = westbound through/right  
**Bold** indicates that queue length exceeds storage capacity  
Source: Freeway Performance Measurement System 2010

The following study intersections would operate at unacceptable LOS (LOS E or LOS F) under Cumulative 2035 Without Project Conditions:

- ▶ Non-Caltrans intersections:
  1. Kilgore Road/Crawford Drive (weekday a.m. and p.m. peak hours)
  2. Kilgore Road/White Rock Road (weekday a.m. and p.m. peak hours)
  3. Sunrise Boulevard/White Rock Road (weekday a.m. and p.m. peak hours)
  4. Zinfandel Drive / White Rock Road (weekday a.m. and p.m. peak hours)
- ▶ Caltrans intersections:
  6. Sunrise Boulevard/U.S. 50 WB Ramps (weekday a.m. and p.m. peak hours)
  8. Zinfandel Drive/U.S. 50 EB Ramps (weekday a.m. and p.m. peak hours)



Table 3.14-27 Intersection Level of Service—Cumulative 2035 Without Project Conditions								
#	Intersection	Peak Hour	Existing Conditions			Cumulative 2035 Without Project Conditions		
			LOS	Delay <sup>1</sup>	v/c Ratio <sup>2</sup>	LOS	Delay <sup>1</sup>	v/c Ratio <sup>2</sup>
Non-Caltrans Intersections								
1	Kilgore Road / Crawford Drive	a.m.	C	16.5	--	E	37.2	--
		p.m.	C	16.0		F	>50.0	--
2	Kilgore Road / White Rock Road	a.m.	A	--	0.55	E	--	0.91
		p.m.	D	--	0.83	F	--	1.39
3	Sunrise Boulevard / White Rock Road	a.m.	E	--	0.94	F	--	1.50
		p.m.	F	--	1.02	F	--	1.44
4	Zinfandel Drive/ White Rock Road	a.m.	B	--	0.65	F	--	1.12
		p.m.	C	--	0.79	F	--	1.24
Caltrans Intersections								
5	Sunrise Boulevard / U.S. 50 EB Ramps	a.m.	C	28.7	--	D	36.0	--
		p.m.	D	39.3	--	D	54.1	--
6	Sunrise Boulevard / U.S. 50 WB Ramps	a.m.	C	34.3	--	F	>80.0	0.90
		p.m.	D	46.1	--	F	>80.0	1.57
7	Zinfandel Drive/ U.S. 50 WB Off-Ramp	a.m.	B	12.7	--	C	22.0	--
		p.m.	B	12.0	--	D	35.3	--
8	Zinfandel Drive/ U.S. 50 EB Ramps	a.m.	F	>80.0	1.08	F	>80.0	1.46
		p.m.	F	>80.0	1.17	F	>80.0	1.84
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound Bold indicates intersection operates at LOS E or LOS F -- indicates not applicable to scenario <sup>1</sup> Seconds of delay presented for Caltrans intersections and non-Caltrans unsignalized intersections <sup>2</sup> v/c ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS								

*Roadway Segments* Cumulative 2035 Without Project Conditions roadway segment LOS for the study roadway segments is summarized in Table 3.14-28. Growth rates derived from *Rio del Oro Specific Plan Project Draft EIR/EIS* (2006) were applied to existing study ramp intersection traffic volumes to forecast Cumulative 2035 Without Project Conditions study ramp intersection traffic volumes and calculate freeway mainline segment volumes.

Table 3.14-28 Roadway Segment Level of Service—Cumulative 2035 Without Project Conditions						
#	Roadway Segment	Peak Hour	Existing Conditions		Cumulative 2035 Without Project Conditions	
			LOS	v/c Ratio	LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>						
1	Sunrise Boulevard North of White Rock Road	--	D	1.03	E	1.83
Caltrans Roadway Segments <sup>2</sup>						
2	EB U.S. 50 West of Zinfandel Drive Off-Ramp	a.m.	E	0.90	E	0.92
		p.m.	E	0.85	D	0.82
3	EB U.S. 50 East of Sunrise Boulevard On-Ramp	a.m.	C	0.58	C	0.69
		p.m.	D	0.76	D	0.83
4	WB U.S. 50 East of Sunrise Boulevard Off-Ramp	a.m.	D	0.80	E	0.95
		p.m.	D	0.71	D	0.78
5	WB U.S. 50 West of Zinfandel Drive On-Ramp	a.m.	E	0.98	F	1.31
		p.m.	F	1.00	D	0.73
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound Bold indicates that roadway segment is operating at LOS E or LOS F						
<sup>1</sup> Non-Caltrans roadway segments are evaluated using Sacramento County Guidelines (Sacramento County 2004) methodology for average daily traffic						
<sup>2</sup> Caltrans roadway segments are evaluated using 2000 Highway Capacity Manual (TRB 2000) methodology for peak hour						
Source: Freeway Performance Measurement System 2010						

The following study roadway segments would operate at unacceptable LOS (LOS E or LOS F) under Cumulative 2035 Without Project Conditions:

- ▶ Non-Caltrans roadway segment:
  1. Sunrise Boulevard—North of White Rock Road
- ▶ Caltrans roadway segments:
  2. EB U.S. 50—West of Zinfandel Drive Off-Ramp (weekday a.m. peak hour)
  4. WB U.S. 50—East of Sunrise Boulevard Off-Ramp (weekday a.m. peak hour)
  5. WB U.S. 50—West of Zinfandel Drive On-Ramp (weekday a.m. peak hour)

*Ramp Merge/Diverge* Cumulative 2035 Without Project Conditions ramp LOS for the study ramp merge/diverge areas are summarized in Table 3.14-29. At locations where long acceleration and deceleration lanes exist, ramp density calculations can report densities below zero. As a result, for all LOS A locations the density is presented simply as “less than 10.0 passenger cars per mile per lane” (< 10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis. All study ramps operate at acceptable LOS under Existing Conditions and would continue to operate at acceptable LOS under Cumulative 2035 Without Project Conditions.

Table 3.14-29 Ramp Merge/Diverge Level of Service—Cumulative 2035 Without Project Conditions							
#	Ramp	Type	Peak Hour	Existing Conditions		Cumulative 2035 Without Project Conditions	
				LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>
1	WB U.S. 50 Off-Ramp to Sunrise Blvd.	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
2	EB U.S. 50 On-Ramp from Sunrise Blvd.	Merge	a.m.	B	11.3	B	12.8
			p.m.	B	17.6	B	18.2
3	EB U.S. 50 Off-Ramp to Zinfandel Dr.	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
4	WB U.S. 50 On-Ramp from Zinfandel Dr.	Merge	a.m.	A	< 10.0	C	26.2
			p.m.	B	19.0	C	21.7
Notes: LOS = level of service, EB = eastbound, WB = westbound							
<sup>1</sup> Density measured in passenger cars per mile per lane (pc/mi/ln), LOS A is reported as < 10.0 pc/mi/ln							
Bold indicates intersection operates at LOS E or LOS F							

*95<sup>th</sup> Percentile Queues* Cumulative 2035 Without Project Conditions 95th percentile queues for the study intersections are summarized in Table 3.14-30.

Table 3.14-30 95th Percentile Queues—Cumulative 2035 Without Project Conditions						
#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)	
					Existing Conditions	Cumulative 2035 Without Project Conditions
6	Sunrise Boulevard/ U.S. 50 WB Ramps	WBL	1,875	a.m.	650	1,050
				p.m.	250	350
		WBT	1,875	a.m.	325	1,550
				p.m.	400	<b>1,975</b>
58	Zinfandel Drive / U.S. 50 EB Ramps	EBL	1,125	a.m.	350	475
				p.m.	400	350
		EBLTR	1,325	a.m.	1,250	800
				p.m.	350	300
		EBR	425	a.m.	<b>1,175</b>	<b>750</b>
				p.m.	300	300

Notes: Storage capacities and queue lengths rounded to the nearest 25 feet  
EBL = eastbound left; EBLTR = eastbound left/through/right; EBR = eastbound right; WBL = westbound left; WBT = westbound through  
**Bold** indicates that queue length exceeds storage capacity

The 95th Percentile queues would exceed available storage capacity at the following intersections under Cumulative 2035 Without Project Conditions:

- Caltrans intersections:

6. Sunrise Boulevard/U.S. 50 WB Ramps (WBT—weekday p.m. peak hour) and
8. Zinfandel Drive/U.S. 50 EB Ramps (EBR—weekday a.m. peak hour).

### ***Environmental Consequences and Mitigation Measures***

The following section summarizes the proposed project's potential impacts on transportation facilities. Summary impacts are followed by mitigation measures.

Reclamation and DWR shall participate in the necessary improvements identified in all of the following mitigation measures. Reclamation and DWR shall be responsible for the project's fair-share participation and the associated timing of the improvements.

### **Impact 3.14-7: Increases in Peak-Hour and Daily Traffic Volumes, Resulting in Unacceptable Levels of Service under Cumulative 2035 plus Project Conditions**

#### **No-Action**

Under the No-Action Alternative, no project-related development would occur; therefore, there would be no project-generated traffic that would affect the regional transportation system. **No direct** or **indirect** impacts would occur.

#### **Proposed Action**

*Traffic* The Cumulative 2035 plus Project Conditions traffic volumes are shown in Exhibit 3.14-9. The Cumulative 2035 plus Project Conditions intersection LOS is summarized in Table 3.14-314. Detailed LOS calculations are included in Appendix C4a, "Traffic Impact Technical Report," Attachment B.

The following study intersections would operate at unacceptable LOS (LOS F) under Cumulative 2035 plus Project Conditions:

- ▶ Non-Caltrans intersections:
  1. Nimbus Road/Gold Country Boulevard (weekday a.m. and p.m. peak hours)
  2. Hazel Avenue/Gold Country Boulevard (weekday a.m. and p.m. peak hours)
  3. Hazel Avenue/Folsom Boulevard (weekday a.m. and p.m. peak hours)
- ▶ Caltrans intersections:
  4. Hazel Avenue/U.S. 50 EB Ramp (weekday a.m. and p.m. peak hours)
  5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive (weekday a.m. and p.m. peak hours)

These intersections were evaluated to determine if the project would contribute to any intersection impacts. The results of the evaluation are as follows:

1. Nimbus Road/Gold Country Boulevard

Table 3.14-31 Intersection Level of Service—Cumulative 2035 plus Project Conditions								
#	Intersection	Peak Hour	Cumulative 2035 Without Project Conditions			Cumulative 2035 plus Project Conditions		
			LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>	LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>
Non-Caltrans Intersections								
1	Nimbus Road / Gold Country Boulevard	a.m.	A	0.0	-	F	> 50.0	-
		p.m.	A	0.0	-	F	> 50.0	-
2	Hazel Avenue / Gold Country Boulevard	a.m.	F	-	1.56	F	-	1.68
		p.m.	F	-	1.04	F	-	1.06
3	Hazel Avenue / Folsom Boulevard	a.m.	F	-	3.00	F	-	3.01
		p.m.	F	-	2.98	F	-	2.98
Caltrans Intersections								
4	Hazel Avenue / U.S. 50 EB Ramp	a.m.	F	> 80.0	1.36	F	> 80.0	1.38
		p.m.	F	> 80.0	1.19	F	> 80.0	1.19
5	Hazel Avenue / U.S. 50 WB Off-Ramp/ Tributary Point Drive	a.m.	F	> 80.0	1.99	F	> 80.0	1.96
		p.m.	F	> 80.0	1.85	F	> 80.0	1.85
Notes: v/c ratio = volume-to-capacity ratio, EB = eastbound, WB= westbound Bold indicates intersection operates at LOS F '-' indicates not applicable to scenario <sup>1</sup> Seconds of delay are presented for Caltrans intersections and non-Caltrans unsignalized intersections <sup>2</sup> v/c ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS								

This unsignalized intersection would operate at LOS A under Cumulative 2035 Without Project Conditions and degrade to LOS F under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The unsignalized intersection would meet the MUTCD peak-hour traffic signal warrant during the weekday a.m. and p.m. peak hours, and the project would cause the intersection operating at LOS A to degrade to LOS F; therefore, the Proposed Action **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this intersection. (Signal warrants are provided in Appendix C4a, "Traffic Impact Technical Report," Attachment F.)

## 2. Hazel Avenue/Gold Country Boulevard

This signalized intersection would operate at LOS F under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The intersection would operate with a v/c ratio of 1.56 (a.m.) and 1.04 (p.m.) under Cumulative 2035 Without Project Conditions, and 1.68 (a.m.) and 1.06 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The Proposed Action would increase the v/c ratio of the intersection by 0.12 during the weekday a.m. peak hour, which would exceed the 0.05 threshold,

and by 0.02 during the weekday p.m. peak hour, which would not. Therefore, the Proposed Action **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this intersection.

3. Hazel Avenue/Folsom Boulevard

This signalized intersection would operate at LOS F under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The intersection would operate with a v/c ratio of 3.00 (a.m.) and 2.98 (p.m.) under Cumulative 2035 Without Project Conditions, and 3.01 (a.m.) and 2.98 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The Proposed Action would not increase the v/c ratio of the intersection beyond the 0.05 threshold; therefore, the Proposed Action would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection.

4. Hazel Avenue/U.S. 50 EB Ramps

This signalized intersection would operate at LOS F under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The intersection would operate with a v/c ratio of 1.36 (a.m.) and 1.39 (p.m.) under Cumulative 2035 Without Project Conditions, and 1.38 (a.m.) and 1.19 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The Proposed Action would not increase the v/c ratio of the intersection beyond the 0.05 threshold; therefore, the Proposed Action would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection.

5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive

This signalized intersection would operate at LOS F under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The intersection would operate with a v/c ratio of 1.96 (a.m.) and 1.85 (p.m.) under Cumulative 2035 Without Project Conditions, and 1.96 (a.m.) and 1.85 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The Proposed Action would not increase the v/c ratio of the intersection beyond the 0.05 threshold; therefore, the Proposed Action would not make a cumulatively considerable incremental contribution to a significant cumulative impact on this intersection.

The Proposed Action **would make a cumulatively considerable incremental contribution to significant cumulative impacts** at two study intersections under Cumulative 2035 plus Project Conditions:

- Non-Caltrans intersections:

1. Nimbus Road/Gold Country Boulevard (weekday a.m. and p.m. peak hours) and
2. Hazel Avenue/Gold Country Boulevard (weekday a.m. peak hour).

*Roadway Segments* Cumulative 2035 plus Project conditions roadway segment LOS for the study roadway segments are summarized in Table 3.14-32. Detailed LOS calculations are included in Appendix C4a, “Traffic Impact Technical Report,” Attachment C.

Table 3.14-32 Roadway Segment Level of Service—Cumulative 2035 plus Project Conditions						
#	Roadway Segment	Peak Hour	Cumulative 2035 Without Project Conditions		Cumulative 2035 plus Project Conditions	
			LOS	v/c Ratio	LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>						
1	Hazel Avenue South of Gold Country Boulevard	--	F	1.30	F	1.30
Caltrans Roadway Segments <sup>2</sup>						
2	WB U.S. 50 West of Hazel Avenue Off-Ramp	a.m.	C	0.69	D	0.70
		p.m.	D	0.83	D	0.83
3	WB U.S. 50 East of Hazel Avenue On-Ramp	a.m.	C	0.60	C	0.60
		p.m.	C	0.71	C	0.72
4	WB U.S. 50 West of Hazel Avenue On-Ramp	a.m.	E	0.95	E	0.95
		p.m.	D	0.78	D	0.79
5	WB U.S. 50 East of Hazel Avenue Off-Ramp	a.m.	C	0.60	C	0.61
		p.m.	C	0.54	C	0.55
Notes: LOS = level of service, V/C ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound Bold indicates that roadway segment operates at LOS F						
<sup>1</sup> Non-Caltrans roadway segments are evaluated using Sacramento County Guidelines (Sacramento County 2004) methodology for average daily traffic						
<sup>2</sup> Caltrans roadway segments are evaluated using 2000 Highway Capacity Manual (TRB 2000) methodology for peak hour						

The following study roadway segment operating at unacceptable LOS (LOS F) under Cumulative 2035 Without Project Conditions would continue to operate at unacceptable LOS (LOS F) under Cumulative 2035 plus Project Conditions.

- Non-Caltrans roadway segment:
  1. Hazel Avenue—South of Gold Country Boulevard

This roadway segment was evaluated to determine if the project would contribute to any roadway segment impacts. The results of the evaluation are as follows:

1. Hazel Avenue—South of Gold Country Boulevard

This roadway segment would operate at LOS F under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions.

The roadway segment would operate with a v/c ratio of 1.30 under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday p.m. peak hour. The project would not increase the v/c ratio of the roadway segment beyond the 0.05 threshold; therefore, the project would not make a cumulatively considerable incremental contribution to a significant cumulative impact on this roadway segment.

The Proposed Action would not make a cumulatively considerable incremental contribution to a significant cumulative impact at any study roadway segments under Cumulative 2035 plus Project Conditions.

*Ramp Merge/Diverge* LOS for the selected ramps is summarized in Table 3.14-33. Analysis worksheets are provided in Appendix C4a, “Traffic Impact Technical Report,” Attachment D. At locations where long acceleration and deceleration lanes exist, ramp density calculations can report densities below zero. As a result, for all LOS A locations the density is presented simply as “less than 10.0 passenger cars per mile per lane” (<10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis.

Table 3.14-33 Ramp Merge/Diverge Level of Service—Cumulative 2035 plus Project Conditions							
#	Ramp	Type	Peak Hour	Cumulative 2035 Without Project Conditions		Cumulative 2035 plus Project Conditions	
				LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>
1	<b>EB U.S. 50</b> Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
2	<b>EB U.S. 50</b> On-Ramp from Hazel Avenue	Merge	a.m.	B	14.6	B	14.7
			p.m.	B	16.6	B	16.9
3	<b>WB U.S. 50</b> Off-Ramp to Hazel Avenue	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
4	<b>WB U.S. 50</b> On-Ramp from SB Hazel Avenue	Merge	a.m.	B	21.9	B	21.9
			p.m.	B	16.0	B	16.0
Notes: LOS = level of service, EB = eastbound, WB = westbound <sup>1</sup> Density measured in passenger cars per mile per lane (pc/mi/ln), LOS A is reported as < 10.0 pc/mi/ln <b>Bold</b> indicates intersection operates at LOS E or LOS F							

All of the study ramps would operate at acceptable LOS under Cumulative 2035 Without Project Conditions and would continue to operate at acceptable LOS under Cumulative 2035 plus Project Conditions. The Proposed Action would not make a cumulatively considerable incremental contribution to a significant cumulative impact at any study ramps under Cumulative 2035 plus Project Conditions.



**95<sup>th</sup> Percentile Queues** The 95th percentile queue lengths for the selected intersections are summarized in Table 3.14-34. Analysis worksheets are provided in Appendix C4a, “Traffic Impact Technical Report,” Attachment E. The 95th percentile queues would exceed available storage capacity at the following study intersection under Cumulative 2035 Conditions or Cumulative 2035 plus Project Conditions:

- Caltrans intersections
  5. Hazel Avenue/U.S. 50 WB Off-Ramp/Tributary Point Drive (weekday a.m. peak hour)

Table 3.14-34						
95th Percentile Queues—Cumulative 2035 plus Project Conditions						
#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)	
					Cumulative 2035 Without Project Conditions	Cumulative 2035 plus Project Conditions
4	Hazel Avenue/ U.S. 50 EB Ramp	EBLR	1,350	a.m.	575	725
				p.m.	1,200	1,225
		EBR	750	a.m.	450	500
				p.m.	575	575
5	Hazel Avenue/ U.S. 50 WB Off- Ramp/Tributary Point Drive	WBL	325	a.m.	<b>525</b>	<b>525</b>
				p.m.	300	300
		WBTR	2,200	a.m.	675	675
				p.m.	800	800
		WBR	2,200	a.m.	325	350
				p.m.	625	650
Notes: Storage capacities and queue lengths rounded to the nearest 25 feet EBLR = eastbound left/right; EBR = eastbound right; WBL = westbound left; WBR = westbound right; WBTR = westbound through/right <b>Bold</b> indicates that queue length exceeds storage capacity						

The Proposed Action would not cause a substantial increase in the 95th percentile queue length, and sufficient capacity is available in the adjacent westbound through-right lane group; therefore, the Proposed Action would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection under Cumulative 2035 plus Project Conditions.

**Conclusion** Overall, the Proposed Action **would make a cumulatively considerable incremental contribution to a significant cumulative impact** on two intersections (Nimbus Road/Gold Country Boulevard and Hazel Avenue/Gold Country Boulevard). The Proposed Action would not make a cumulatively considerable incremental contribution to a significant cumulative impact at any roadway segments, freeway ramps, or ramp queues.

Impacts 3.14-2 (Increases in Peak-Hour Transit Trips), 3.14-3 (Increases in Peak-Hour Pedestrian Trips), 3.14-4 (Increases in Peak-Hour Bicycle Trips), 3.14-5 (Increases to Peak-Hour and Daily Traffic Volumes, Affecting Site Access and

Circulation), and 3.14-6 (Increases to Construction Traffic Activities) would all be less than significant under the Proposed Action. None of these impacts would make a cumulatively considerable incremental contribution to a significant cumulative impact under the Proposed Action.

### **Alternative 1**

*Traffic* The Cumulative 2035 plus Project Conditions traffic volumes are shown in Exhibit 3.14-10. The Cumulative 2035 plus Project Conditions intersection LOS is summarized in Table 3.14-35. Detailed LOS calculations are included in Appendix C4a, “Traffic Impact Technical Report,” Attachment B.

The following study intersections operate at unacceptable LOS (LOS E or LOS F) under Cumulative 2035 plus Project Conditions:

- ▶ Non-Caltrans intersections:
  1. Kilgore Road/Crawford Drive (weekday a.m. and p.m. peak hours)
  2. Kilgore Road/White Rock Road (weekday a.m. and p.m. peak hours)
  3. Sunrise Boulevard/White Rock Road (weekday a.m. and p.m. peak hours)
  4. Zinfandel Drive/White Rock Road (weekday a.m. and p.m. peak hours)
- ▶ Caltrans intersections:
  6. Sunrise Boulevard/U.S. 50 WB Ramps (weekday a.m. and p.m. peak hours)
  8. Zinfandel Drive/U.S. 50 EB Ramps (weekday a.m. and p.m. peak hours)

These intersections were evaluated to determine if the project contributed to any intersection impacts. The results of the evaluation are as follows:

#### **1. Kilgore Road/Crawford Drive**

This unsignalized intersection would operate at unacceptable LOS during the weekday a.m. and p.m. peak hours under Cumulative 2035 Without Project Conditions and would continue to operate at unacceptable LOS under Cumulative 2035 plus Project Conditions (without consideration of an additional new right-turn-only driveway north of Crawford Avenue at the Kilgore Road/Crawford Drive intersection that is part of the project description to ensure that this intersection operates at an acceptable LOS). The intersection would operate with a delay of 37.2 seconds under Cumulative 2035 Without Project Conditions and greater than 50.0 seconds under Cumulative 2035 plus Project Conditions during the a.m. peak hour (without consideration of an additional new right-turn-only driveway north of Crawford Avenue at the Kilgore Road/Crawford Drive intersection that is part of the project description to ensure that this intersection operates at an acceptable LOS). The unsignalized intersection would meet the MUTCD peak-hour traffic signal warrant during the p.m. peak hour, which indicates that a signal should be installed at the intersection. (Signal warrants are provided in Appendix C4a, “Traffic Impact Technical Report,” Attachment F.) Alternative 1 would increase the delay of the intersection beyond 5

seconds (greater than 0.05) (without consideration of an additional new right-turn-only driveway north of Crawford Avenue at the Kilgore Road/Crawford Drive intersection that is part of the project description to ensure that this intersection operates at an acceptable LOS). The inclusion in the project description of the additional new right-turn-only driveway described above, however, ensures that this intersection operates at an acceptable LOS. Therefore, Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection.

Table 3.14-35								
Intersection Level of Service—Cumulative 2035 plus Project Conditions								
#	Intersection	Peak Hour	Cumulative 2035 Without Project Conditions			Cumulative 2035 plus Project Conditions		
			LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>	LOS	Delay <sup>1</sup>	V/C Ratio <sup>2</sup>
Non-Caltrans Intersections								
1	Kilgore Road / Crawford Drive	a.m.	E	37.2	--	F <sup>3</sup>	>50.0 <sup>3</sup>	--
		p.m.	F	>50.0	--	F <sup>3</sup>	>50.0 <sup>3</sup>	--
2	Kilgore Road / White Rock Road	a.m.	E	--	0.91	E	--	0.98
		p.m.	F	--	1.39	F	--	1.45
3	Sunrise Boulevard / White Rock Road	a.m.	F	--	1.50	F	--	1.55
		p.m.	F	--	1.44	F	--	1.45
4	Zinfandel Drive/ White Rock Road	a.m.	F	--	1.12	F	--	1.18
		p.m.	F	--	1.24	F	--	1.25
Caltrans Intersections								
5	Sunrise Boulevard/ U.S. 50 EB Ramps	a.m.	D	36.0	--	D	35.9	--
		p.m.	D	54.1	--	D	54.5	--
6	Sunrise Boulevard / U.S. 50 WB Ramps	a.m.	F	>80.0	0.90	F	>80.0	0.90
		p.m.	F	>80.0	1.57	F	>80.0	1.58
7	Zinfandel Drive/ U.S. 50 WB Off-Ramp	a.m.	C	22.0	--	C	22.0	--
		p.m.	D	35.3	--	D	35.3	--
8	Zinfandel Drive/ U.S. 50 EB Ramps	a.m.	F	>80.0	1.46	F	>80.0	1.50
		p.m.	F	>80.0	1.84	F	>80.0	1.87
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound								
Bold indicates intersection operates at LOS E or LOS F								
‘-’ indicates not applicable to scenario								
<sup>1</sup> Seconds of delay presented for Caltrans intersections and non-Caltrans unsignalized intersections								
<sup>2</sup> v/c ratio is presented for non-Caltrans signalized intersections, and Caltrans intersections operating at unacceptable LOS								
<sup>3</sup> Inclusion of additional new right-turn-only driveway north of Crawford Avenue at the Kilgore Road/Crawford Drive intersection as part of project description ensures that this intersection operates at an acceptable LOS								

## 2. Kilgore Road/White Rock Road

This signalized intersection would operate at unacceptable LOS under Cumulative 2035 Without Project Conditions and would continue to operate at unacceptable LOS under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The intersection would operate with a v/c ratio of 0.91 (a.m.) and 1.39 (p.m.) under Cumulative 2035 Without Project

Conditions, and 0.98 (a.m.) and 1.45 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. Alternative 1 would increase the v/c ratio of the intersection by 0.07 during the weekday a.m. peak hour and by 0.06 during the p.m. peak hour, both of which exceed the 0.05 threshold. Therefore, Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this intersection.

### 3. Sunrise Boulevard/White Rock Road

This signalized intersection would operate at unacceptable LOS during the weekday a.m. and p.m. peak hours under Cumulative 2035 Without Project Conditions and would continue to operate at unacceptable LOS under Cumulative 2035 plus Project Conditions. The intersection would operate with a v/c ratio of 1.50 (a.m.) and 1.44 (p.m.) under Cumulative 2035 Without Project Conditions, and 1.55 (a.m.) and 1.45 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. Alternative 1 would increase the v/c ratio of the intersection by 0.05 during the weekday a.m. peak hour, which reaches the 0.05 threshold, and by 0.01 during the weekday p.m. peak hour, which does not. Therefore, Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this intersection.

### 4. Zinfandel Drive/White Rock Road

This signalized intersection would operate at unacceptable LOS under Cumulative 2035 Without Project Conditions and would continue to operate at unacceptable LOS under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The intersection would operate with a v/c ratio of 1.12 (a.m.) and 1.24 (p.m.) under Cumulative 2035 Without Project Conditions and 1.18 (a.m.) and 1.25 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. Alternative 1 would increase the v/c ratio of the intersection by 0.06 during the weekday a.m. peak hour, which exceeds the 0.05 threshold, and by 0.01 during the weekday p.m. peak hour, which does not. Therefore, Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this intersection.

### 6. Sunrise Boulevard/U.S. 50 WB Ramps

This signalized intersection would operate at unacceptable LOS during the weekday a.m. and p.m. peak hours under Cumulative 2035 Without Project Conditions and would continue to operate at unacceptable LOS under Cumulative 2035 plus Project Conditions. The intersection would operate with a v/c ratio of 0.90 (a.m.) and 1.57 (p.m.) under Cumulative 2035 Without Project Conditions and 0.90 (a.m.) and 1.58 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours.

Alternative 1 would not increase the v/c ratio of the intersection beyond the 0.05 threshold; therefore, Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection.

#### 8. Zinfandel Drive/U.S. EB Ramps

This signalized intersection would operate at unacceptable LOS during the weekday a.m. and p.m. peak hours under Cumulative 2035 Without Project Conditions and would continue to operate at unacceptable LOS under Cumulative 2035 plus Project Conditions. The intersection would operate with a v/c ratio of 1.46 (a.m.) and 1.84 (p.m.) under Cumulative 2035 Without Project Conditions and 1.50 (a.m.) and 1.87 (p.m.) under Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. Alternative 1 would not increase the v/c ratio of the intersection beyond the 0.05 threshold; therefore, Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection.

Alternative 1 **would make a cumulatively considerable incremental contribution to significant cumulative impacts** at three study intersections:

- ▶ Non-Caltrans intersections:
  2. Kilgore Road/White Rock Road (weekday a.m. and p.m. peak hours)
  3. Sunrise Boulevard/White Rock Road (weekday a.m. peak hours)
  4. Zinfandel Drive/White Rock Road (weekday a.m. peak hours)

*Roadway Segment LOS* Cumulative 2035 plus Project Conditions roadway segment LOS for the study roadway segments is summarized in Table 3.14-36.

Detailed roadway segment LOS calculations are included in Appendix C4a, "Traffic Impact Technical Report," Attachment C.

Project trips would be added to the roadway segments including the highway facilities, U.S. 50. Alternative 1 would add 61 vehicles on U.S. 50 westbound (43 inbound, 18 outbound) during the weekday a.m. peak hour and 123 vehicles (8 inbound, 115 outbound) during the weekday p.m. peak hour. Alternative 1 would add 138 vehicles (132 inbound, 6 outbound) on U.S. 50 eastbound during the weekday a.m. peak hour and 61 vehicles (23 inbound, 38 outbound) during the weekday p.m. peak hour.

The following study roadway segments operating at unacceptable LOS (LOS E or LOS F) under Cumulative 2035 Without Project Conditions would continue to operate at unacceptable LOS (LOS E or LOS F) under Cumulative 2035 plus Project Conditions:

Table 3.14-36						
Roadway Segment Level of Service—Cumulative 2035 plus Project Conditions						
#	Roadway Segment	Peak Hour	Cumulative 2035 Without Project Conditions		Cumulative 2035 plus Project Conditions	
			LOS	v/c Ratio	LOS	v/c Ratio
Non-Caltrans Roadway Segment <sup>1</sup>						
1	Sunrise Boulevard North of White Rock Road	--	E	1.83	E	1.83
Caltrans Roadway Segments <sup>2</sup>						
2	EB U.S. 50 West of Zinfandel Drive Off-Ramp	a.m.	E	0.92	E	0.93
		p.m.	D	0.82	D	0.83
3	EB U.S. 50 East of Sunrise Boulevard On-Ramp	a.m.	C	0.69	C	0.69
		p.m.	D	0.83	D	0.83
4	WB U.S. 50 East of Sunrise Boulevard Off-Ramp	a.m.	E	0.95	E	0.95
		p.m.	D	0.78	D	0.79
5	WB U.S. 50 West of Zinfandel Drive On-Ramp	a.m.	F	1.31	F	1.32
		p.m.	D	0.73	D	0.73
Notes: LOS = level of service, v/c ratio = volume-to-capacity ratio, EB = eastbound, WB = westbound						
Bold indicates that roadway segment operates at LOS E or LOS F						
<sup>1</sup> Non-Caltrans roadway segments are evaluated using Sacramento County Guidelines (Sacramento County 2004) methodology for average daily traffic						
<sup>2</sup> Caltrans roadway segments are evaluated using 2000 Highway Capacity Manual (TRB 2000) methodology for peak hour						

- ▶ Non-Caltrans roadway segments:
  1. Sunrise Boulevard—North of White Rock Road
- ▶ Caltrans roadway segments:
  2. EB U.S. 50—West of Zinfandel Drive Off-Ramp (weekday a.m. peak hours)
  4. WB U.S. 50—East of Sunrise Boulevard Off-Ramp (weekday a.m. peak hours)
  5. WB U.S. 50—West of Zinfandel Drive On-Ramp (weekday a.m. peak hours)

These roadway segments were evaluated to determine if Alternative 1 would make a cumulatively considerable incremental contribution to any significant cumulative roadway segment impacts. The results of the evaluation are as follows:

1. Sunrise Boulevard—North of White Rock Road

This roadway segment would operate at LOS E under Cumulative 2035 Without Project Conditions and Cumulative 2035 Conditions. The roadway segment would operate with a v/c ratio of 1.83 under Cumulative 2035

Without Project Conditions and 1.83 under Cumulative 2035 plus Project Conditions. Alternative 1 would not increase the v/c ratio of the roadway segment beyond the 0.05 threshold; therefore, Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection.

#### 2. EB U.S. 50—West of Zinfandel Drive Off-Ramp

This roadway segment would operate at LOS F under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The roadway segment would operate with a v/c ratio of 0.92 under Cumulative 2035 Without Project Conditions and 0.93 under Cumulative 2035 plus Project Conditions during the weekday a.m. peak hour. Alternative 1 would not increase the v/c ratio of the roadway segment beyond the 0.05 threshold; however, it would add 132 vehicle trips during the weekday a.m. peak hour and 23 trips during the p.m. peak hour, which would exceed the 10-vehicle threshold. Alternative 1 traffic would exacerbate already unacceptable operations; therefore, Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this roadway segment.

#### 4. WB U.S. 50—East of Sunrise Boulevard Off-Ramp

This roadway segment would operate at unacceptable LOS (LOS E or LOS F) under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. and p.m. peak hours. The roadway segment would operate with a v/c ratio of 0.95 under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. peak hour. Alternative 1 would not increase the v/c ratio of the roadway segment by 0.05 or more; however, it would add 18 vehicle trips to this roadway segment during the weekday a.m. peak hour, which would exceed the 10-vehicle threshold. Alternative 1 traffic would exacerbate already unacceptable operations; therefore, Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this roadway segment.

#### 5. WB U.S. 50—West of Zinfandel Drive On-Ramp

This roadway segment would operate at LOS F under Cumulative 2035 Without Project Conditions and Cumulative 2035 plus Project Conditions during the weekday a.m. peak hour. The roadway segment would operate with a v/c ratio of 1.31 under Cumulative 2035 Without Project Conditions and 1.32 under Cumulative 2035 plus Project Conditions during the weekday a.m. peak hour. Alternative 1 would not increase the v/c ratio of the roadway segment beyond the 0.05 threshold; however, it would add 43 vehicle trips to this roadway segment during the weekday a.m. peak hour, which would exceed the 10-vehicle threshold. Alternative 1 traffic would exacerbate

already unacceptable operations; therefore, Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at this roadway segment.

Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at three study roadway segments under Cumulative 2035 plus Project Conditions:

- Caltrans roadway segments:
  2. EB U.S. 50—West of Zinfandel Drive Off-Ramp (weekday a.m. peak hours)
  4. WB U.S. 50—East of Sunrise Boulevard Off-Ramp (weekday a.m. peak hours)
  5. WB U.S. 50—West of Zinfandel Drive On-Ramp (weekday a.m. peak hours)

*Ramp Merge/Diverge* Table 3.14-37 summarizes LOS for the selected ramps. At locations where long acceleration and deceleration lanes exist, ramp density calculations can report densities below zero. As a result, for all LOS A locations the density is presented simply as “less than 10.0 passenger cars per mile per

Table 3.14-37 Ramp Merge/Diverge Level of Service—Cumulative 2035 plus Project Conditions							
#	Ramp	Type	Peak Hour	Cumulative 2035 Without Project Conditions		Cumulative 2035 plus Project Conditions	
				LOS	Density <sup>1</sup>	LOS	Density <sup>1</sup>
1	<b>WB U.S. 50</b> Off-Ramp to Sunrise Blvd.	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
2	<b>EB U.S. 50</b> On-Ramp from Sunrise Blvd.	Merge	a.m.	B	12.8	B	12.9
			p.m.	B	18.2	B	18.4
3	<b>EB U.S. 50</b> Off-Ramp to Zinfandel Dr.	Diverge	a.m.	A	< 10.0	A	< 10.0
			p.m.	A	< 10.0	A	< 10.0
4	<b>WB U.S. 50</b> On-Ramp from Zinfandel Dr.	Merge	a.m.	C	26.2	C	26.3
			p.m.	C	21.7	C	22.8
Notes: LOS = level of service, EB = eastbound, WB = westbound							
<sup>1</sup> Density measured in passenger cars per mile per lane (pc/mi/ln), LOS A is reported as < 10.0 pc/mi/ln.							
<b>Bold</b> indicates intersection operates at LOS E or LOS F							

lane” (< 10.0 pc/mi/ln), as values within this range are below the meaningful range of the analysis. All of the study ramps would operate at acceptable LOS under Cumulative 2035 Without Project Conditions and would continue to operate at acceptable LOS under Cumulative 2035 plus Project Conditions. Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at any study ramps under Cumulative 2035 plus Project Conditions.

*95th Percentile Queues* Table 3.14-38 summarizes 95th percentile queue lengths for the selected intersections. Analysis worksheets are provided in Appendix C4a, “Traffic Impact Technical Report,” Attachment E.



Table 3.14-38 95th Percentile Queues—Cumulative 2035 plus Project Conditions						
#	Intersection	Lane Group	Storage Capacity (ft.)	Peak Hour	Queue Length (ft.)	
					Cumulative 2035 Without Project Conditions	Cumulative 2035 plus Project Conditions
6	Sunrise Boulevard / U.S. 50 WB Ramps	WBL	1,875	a.m.	1,050	1,125
				p.m.	350	350
		WBT	1,875	a.m.	1,550	1,550
				p.m.	<b>1,975</b>	<b>1,975</b>
8	Zinfandel Drive / U.S. 50 EB Ramps	EBL	1,125	a.m.	475	475
				p.m.	350	350
		EBLTR	1,325	a.m.	800	900
				p.m.	300	325
		EBR	425	a.m.	<b>750</b>	<b>850</b>
				p.m.	300	325
Notes: Storage capacities and queue lengths rounded to the nearest 25 feet EBL = eastbound left; EBLTR = eastbound left/through/right; EBR = eastbound right; WBL = westbound left; WBT = westbound through <b>Bold</b> indicates that queue length exceeds storage capacity						

The 95th percentile queues would exceed available storage capacity at the following intersections under Cumulative 2035 Without Project Conditions and would continue to exceed available storage capacity under Cumulative 2035 plus Project Conditions:

- Caltrans intersection:
  6. Sunrise Boulevard/U.S. 50 WB Ramps (WBT—weekday p.m. peak hour)
  8. Zinfandel Drive/U.S. 50 EB Ramps (EBR—weekday a.m. peak hour)

Results of the ramp merge/diverge analysis for these intersections are provided below:

6. Sunrise Boulevard/U.S. 50 WB Ramps (WBT—weekday p.m. peak hour)

Under Cumulative without Project Conditions, queues in the westbound through lane at this intersection would exceed available storage capacity by 100 feet during the weekday p.m. peak hour. No additional exceedance would result from Alternative 1; therefore, Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at this intersection.

8. Zinfandel Drive/U.S. 50 EB Ramps (EBR—weekday a.m. peak hour)

Under Cumulative Without Project Conditions, queues in the eastbound right lane group would exceed available storage capacity by approximately 325 feet during the weekday a.m. peak hour. Under Cumulative 2035 plus Project Conditions, Alternative 1 would increase this exceedance by 100 feet to 425 feet during the weekday a.m. peak hour. However, the Zinfandel Drive off-ramp consists of two lanes that later split into four lanes approaching the

Zinfandel Drive/U.S. 50 EB Ramps intersection. The second (outside) lane on the ramp serves the eastbound left-through-right and eastbound right lane groups, and is part of an auxiliary lane along eastbound U.S. 50 that begins at the upstream interchange at Mather Field Road. Because of the auxiliary lane, any queues stretching past the gore area would be contained within the auxiliary lane and would not disrupt mainline operations in the adjacent travel lanes. Caltrans defines a significant impact for a 95<sup>th</sup> percentile queue as extending beyond the existing storage capacity and disrupting mainline operations. As a result, because the auxiliary lane would contain the additional queue length and prevent it from disrupting the freeway mainline, Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at the Zinfandel Drive/U.S. 50 EB Ramps intersection.

*Conclusion* Overall, Alternative 1 **would make a cumulatively considerable incremental contribution to a significant cumulative impact** at three intersections (Kilgore Road/White Rock Road, Sunrise Boulevard/White Rock Road, and Zinfandel Drive/White Rock Road) and three roadway segments (EB U.S. 50—West of Zinfandel Drive Off-Ramp, WB U.S. 50—West of Sunrise Boulevard Off-Ramp, and WB U.S. 50—West of Zinfandel Drive On-Ramp) under Cumulative 2035 plus Project Conditions. Alternative 1 would not make a cumulatively considerable incremental contribution to a significant cumulative impact at any freeway ramps or ramp queues.

Impacts 3.14-2 (Increases in Peak-Hour Transit Trips), 3.14-3 (Increases in Peak-Hour Pedestrian Trips), 3.14-4 (Increases in Peak-Hour Bicycle Trips), 3.14-5 (Increases to Peak-Hour and Daily Traffic Volumes, Affecting Site Access and Circulation), and 3.14-6 (Increases to Construction Traffic Activities) would all be less than significant under Alternative 1. None of these impacts would make a cumulatively considerable incremental contribution to a significant cumulative impact under Alternative 1.

**Mitigation Measure 3.14-7a: Improve Nimbus Road/Gold Country Boulevard Intersection (Proposed Site—Intersection #1) under Cumulative 2035 Plus Project Conditions**

**Proposed Action**

To ensure that this intersection operates at an acceptable LOS, Reclamation and DWR will contribute a fair share for signaling the Nimbus Road/Gold Country Boulevard intersection (Proposed Action—Intersection #1)

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and Sacramento County contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-7a would substantially lessen the Proposed Action's incremental contribution to the significant cumulative impact on this intersection to a less-than-considerable level, as well as reduce the overall significant cumulative impact to a less-than-significant level, by allowing this intersection to operate

at LOS A, as indicated in Appendix C4a, “Traffic Impact Technical Report,” Attachment B under “Proposed Site—Cumulative 2035 plus Project Conditions Mitigations, Weekday AM Peak Hour.”

Until Sacramento County implements the improvements, the overall cumulative impact would be classified as significant but eventually would be reduced to a less-than-significant cumulative impact level once those improvements are constructed. Implementation of the mitigation measure will result in operations at LOS A.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project’s incremental contribution to the significant cumulative impact on this intersection, but the impact would remain **significant and unavoidable** until the improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the County, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the County, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the County can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-7b: Improve Hazel Avenue/Gold Country Boulevard Intersection (Proposed Site—Intersection #2) under Cumulative 2035 Plus Project Conditions**

**Proposed Action**

To ensure that this intersection operates at an acceptable LOS, Reclamation and DWR will contribute a fair share of funding for the following improvements:

- ▶ addition of one exclusive southbound right-turn lane; and
- ▶ Optimization of signal timing and cycle length —Reoptimization of the signal typically includes development of signal timing plans and reallocation of green time for each intersection approach relative to the traffic volumes on those approaches. Depending on the existing traffic signal infrastructure, this may also require an upgrade to the signal controller, installation of GPS communication, signal interconnect cables, and other equipment to allow the traffic signal to operate in concert with adjacent signals.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and Sacramento County contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-7b would substantially lessen the Proposed Action’s incremental contribution to the significant cumulative impact on this intersection to a less-than-considerable level, as well as reduce the overall significant cumulative impact to a less-than-significant level, by reducing the increase in v/c ratio to

below the 0.05 threshold, as indicated in Appendix C4a, “Traffic Impact Technical Report,” Attachment B under “Proposed Site—Cumulative 2035 Plus Project Conditions Mitigation, Weekday AM Peak Hour.”

Until Sacramento County implements the improvements, the overall cumulative impact would be classified as significant but eventually would be reduced to a less-than-significant cumulative impact once those improvements are constructed. Implementation of the mitigation measure will reduce the increase in v/c ratio to below the 0.05 threshold.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project’s incremental contribution to a significant cumulative impact on this intersection, but the impact would remain **significant and unavoidable** until the improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the County, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the County, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the County can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-7c: Improve the Kilgore Road/White Rock Road Intersection (Alternative 1—Intersection #2) under Cumulative 2035 plus Project Conditions**

**Alternative 1**

To ensure that this intersection operates at acceptable LOS, Reclamation and DWR will contribute a fair share of funding to implement one of the following improvements:

- ▶ Addition of one exclusive northbound right-turn lane or Addition of an eastbound through lane (this would require additional right-of-way to accommodate three receiving lanes on eastbound White Rock Road).

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and the City of Rancho Cordova contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-7c would substantially lessen Alternative 1’s incremental contribution to the significant cumulative impact on this intersection to a less-than-considerable level, as well as reduce the overall significant cumulative impact to a less-than-significant level, by reducing the increase in v/c ratio to below the 0.05 threshold, as indicated in Appendix C4a, “Traffic Impact Technical Report,” Attachment B under “Alternative 1 Site—Cumulative 2035 Plus Project Conditions Mitigation, Weekday AM Peak Hour” And “Weekday PM Peak Hour.”

Until the City of Rancho Cordova implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will reduce the increase in v/c ratio to below the 0.05 threshold.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's incremental contribution to a significant cumulative impact on this intersection, but the impact would remain **significant and unavoidable** until the improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the City, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the City, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the City can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-7d: Improve the Sunrise Boulevard/White Rock Road Intersection (Alternative 1—Intersection #3) under Cumulative 2035 plus Project Conditions**

**Alternative 1**

To ensure that this intersection operates at acceptable LOS, Reclamation and DWR will contribute a fair share of funding to add one exclusive southbound right-turn lane.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and the City of Rancho Cordova contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-7d would substantially lessen Alternative 1's incremental contribution to the significant cumulative impact on this intersection to a less-than-considerable level, as well as reduce the overall significant cumulative impact to a less-than-significant level, by reducing the increase in v/c ratio to below the 0.05 threshold, as indicated in Appendix C4a, "Traffic Impact Technical Report," Attachment B under "Alternative 1 Site—Cumulative 2035 Plus Project Conditions Mitigation, Weekday AM Peak Hour."

Until the City of Rancho Cordova implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will reduce the increase in v/c ratio to below the 0.05 threshold.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's incremental contribution to a significant cumulative impact on this intersection, but the impact would remain **significant and unavoidable** until the improvements are constructed. This

conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the City, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the City, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the City can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-7e: Improve Zinfandel Drive/White Rock Road Intersection (Alternative 1—Intersection #4) under Cumulative 2035 plus Project Conditions**

**Alternative 1**

To ensure that this intersection operates at acceptable LOS, Reclamation and DWR will contribute a fair share of funding to add one exclusive northbound right-turn lane.

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and the City of Rancho Cordova contributes its fair share of funding the improvement

Implementing Mitigation Measure 3.14-7e would substantially lessen Alternative 1's incremental contribution to the significant cumulative impact on this intersection to a less-than-considerable level, as well as reduce the overall significant cumulative impact to a less-than-significant level, by reducing the increase in v/c ratio to below the 0.05 threshold, as indicated in Appendix C4a, "Traffic Impact Technical Report," Attachment B under "Alternative 1 Site—Cumulative 2035 Plus Project Conditions Mitigation, Weekday AM Peak Hour."

Until the City of Rancho Cordova implements the improvements, the overall cumulative impact would be classified as significant but eventually would be reduced to a less-than-significant cumulative impact once those improvements are constructed. Implementation of the mitigation measure will reduce the increase in v/c ratio below the 0.05 threshold.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's incremental contribution to a significant cumulative impact on this intersection, but the impact would remain **significant and unavoidable** until the improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the City, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with the City, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that the City can and should cooperate with them in implementing the mitigation.

**Mitigation Measure 3.14-7f: Improve the U.S. 50 Eastbound—West of Zinfandel Drive Off-Ramp (Alternative 1—Roadway Segment #2); Westbound—East of Sunrise Boulevard Off-Ramp (Alternative 1—Roadway Segment #4); and Westbound—West of Zinfandel Drive On-Ramp (Alternative 1—Roadway Segment #5) under Cumulative 2035 plus Project Conditions**

**Alternative 1**

To ensure that these roadway segments operate at an acceptable LOS, Reclamation and DWR will contribute a fair share of funding for widening the roadway to an 8-lane facility, with 2 HOV lanes and auxiliary lanes, as identified in Caltrans' *Highway 50 Corridor System Management Plan* (Caltrans 2009).

**Responsibility:** Reclamation and DWR

**Timing:** When conditions warrant the improvement and CalTrans contributes its fair share of funding the improvement

Implementation of Mitigation Measure 3.14-8g would substantially lessen Alternative 1's incremental contribution to the significant cumulative impact on these roadway segments to a less-than-considerable level, as well as reduce the overall significant cumulative impact to a less-than-significant level, by reducing the increase in v/c ratio below the 0.05 threshold, as indicated in Appendix C4a, "Traffic Impact Technical Report," Attachment C.

Until Caltrans and the City of Rancho Cordova implements the improvements, the impact would be classified as significant but eventually would be reduced to a less-than-significant level once those improvements are constructed. Implementation of the mitigation measure will improve operations to a LOS B condition.

The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's incremental contribution to a significant cumulative impact on this intersection but the impact would remain **significant and unavoidable** until the improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of Caltrans, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with Caltrans, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that Caltrans can and should cooperate with them in implementing the mitigation.

**Impact 3.14-8: Cumulative Impacts from Other Impact Mechanisms**

**Proposed Action and Alternative 1**

Non-cumulative Impacts 3.14-2 (Increases in Peak-Hour Transit Trips), 3.14-3 (Increases in Peak-Hour Pedestrian Trips), 3.14-4 (Increases in Peak-Hour Bicycle Trips), 3.14-5 (Increases to Peak-Hour and Daily Traffic Volumes,

Affecting Site Access and Circulation), and 3.14-6 (Increases to Construction Traffic Activities) would all be less than significant under the Proposed Action. None of these impacts, when considered in a cumulative context considering past, present, and reasonably foreseeable future projects, would make a cumulatively considerable incremental contribution to a significant cumulative impact.

**Mitigation Measures:** No mitigation is required.

***Residual Significant Impacts***

For the reasons stated above, the following cumulative impacts would be significant and unavoidable after all feasible mitigation measures are implemented:

Impact 3.14-7a (Proposed Action)  
Impact 3.14-7b (Proposed Action)  
Impact 3.14-7c (Alternative 1)  
Impact 3.14-7d (Alternative 1)  
Impact 3.14-7e (Alternative 1)  
Impact 3.14-7f (Alternative 1)

Until Caltrans, Sacramento County, and the City of Rancho Cordova implement the improvements specified in the mitigation measures identified above of which they have responsibilities, the overall cumulative impacts would be classified as significant but eventually would be reduced to less-than-significant cumulative impacts once those necessary improvements are constructed.

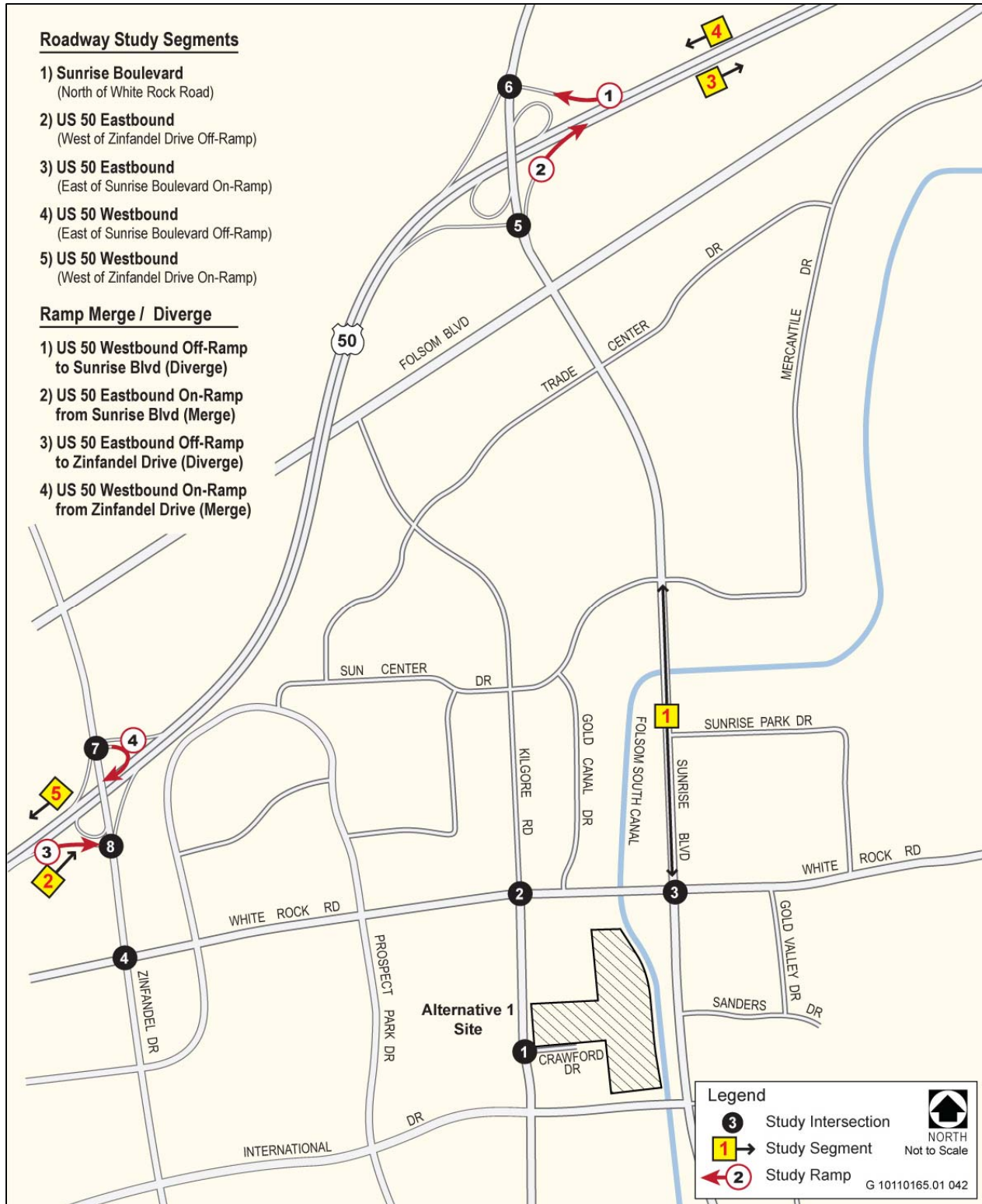
The requirement that Reclamation and DWR participate in funding these transportation improvements would mitigate or substantially lessen the project's incremental contributions to the significant cumulative impacts identified above, but the impacts would remain **significant and unavoidable** until the improvements are constructed. This conclusion reflects the reality that successful implementation of the proposed improvements will require the cooperation of the applicable agencies, over which Reclamation and DWR have no control. For this reason, Reclamation and DWR are conservatively acknowledging the possibility that, despite their own commitment to work with these other agencies, mutually acceptable accommodation may not be reached. Consistent with CEQA Guidelines section 15091, subdivision (a)(2), though, Reclamation and DWR conclude that Caltrans, the County, and the City can and should cooperate with them in implementing the mitigation.



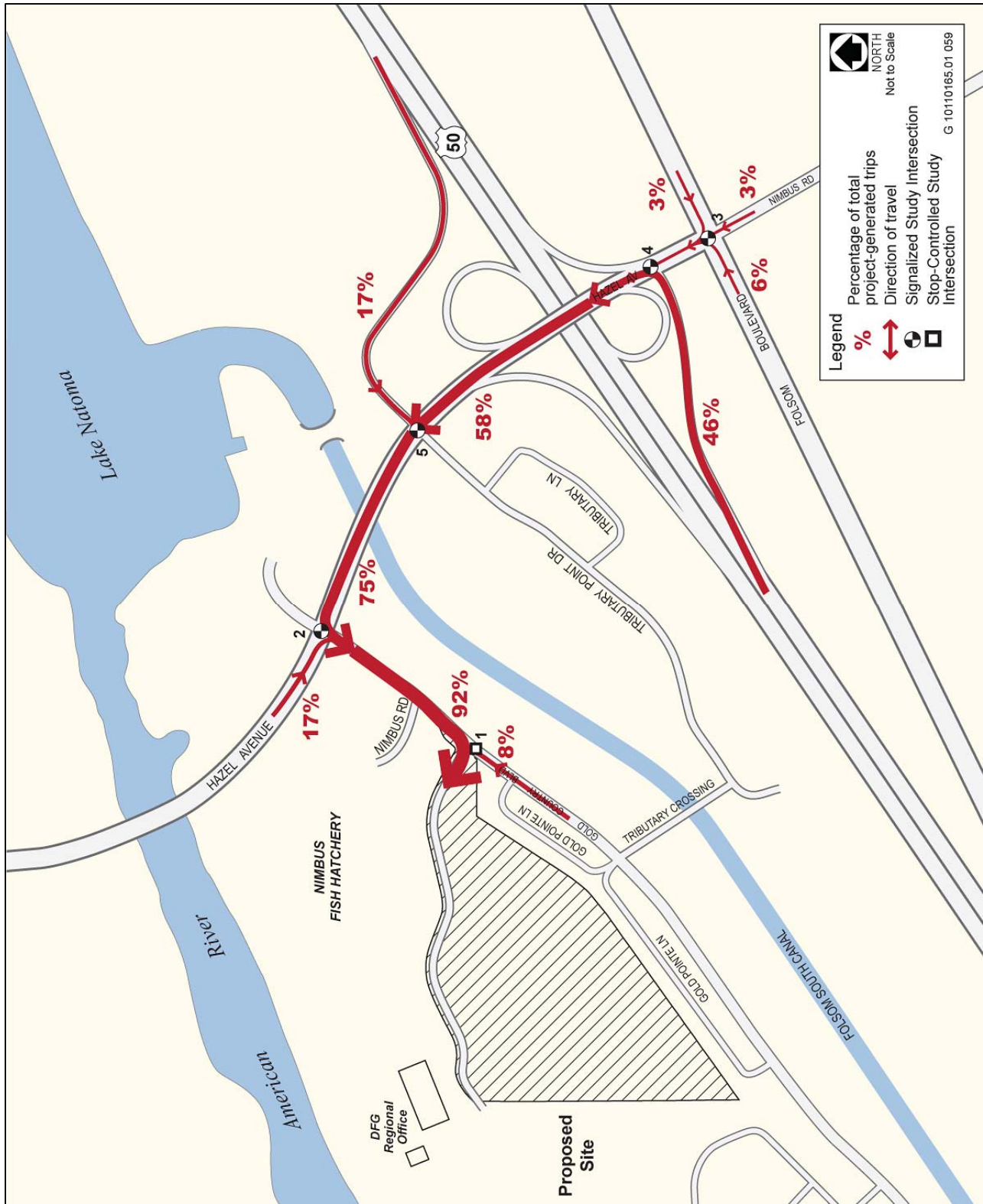


**Exhibit 3.14-1 Study Intersections, Ramps, and Study Roadway Segments—  
Proposed Site**

## Joint Operations Center Relocation Project



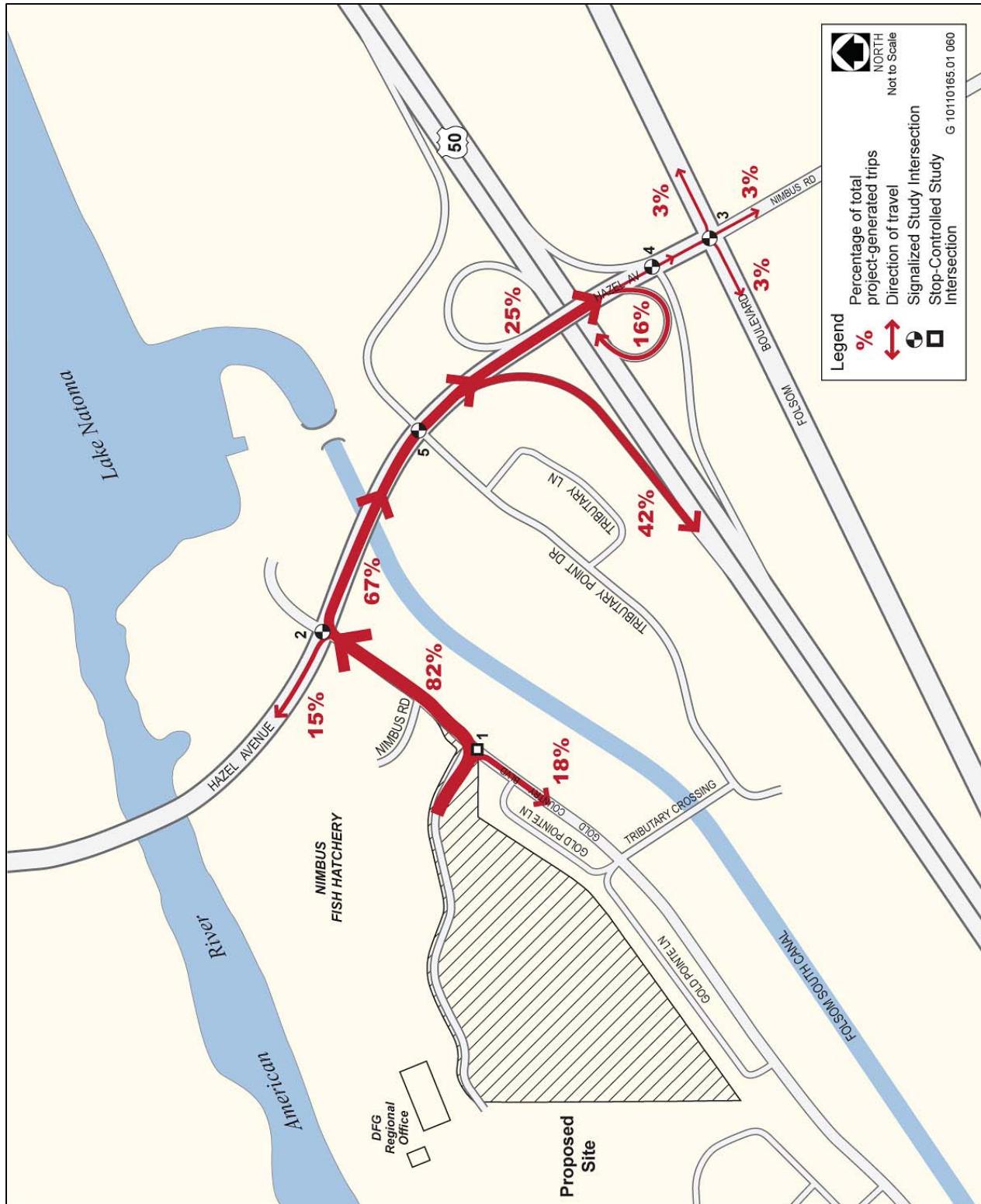
**Exhibit 3.14-2: Study Intersections, Ramps, and Study Roadway Segments—  
Alternative 1 Site**



**Exhibit 3.14-3: Project Trip Distribution (Weekday AM Inbound)—Proposed Site**



# Joint Operations Center Relocation Project



**Exhibit 3.14-4: Project Trip Distribution (Weekday PM Outbound)—Proposed Site**

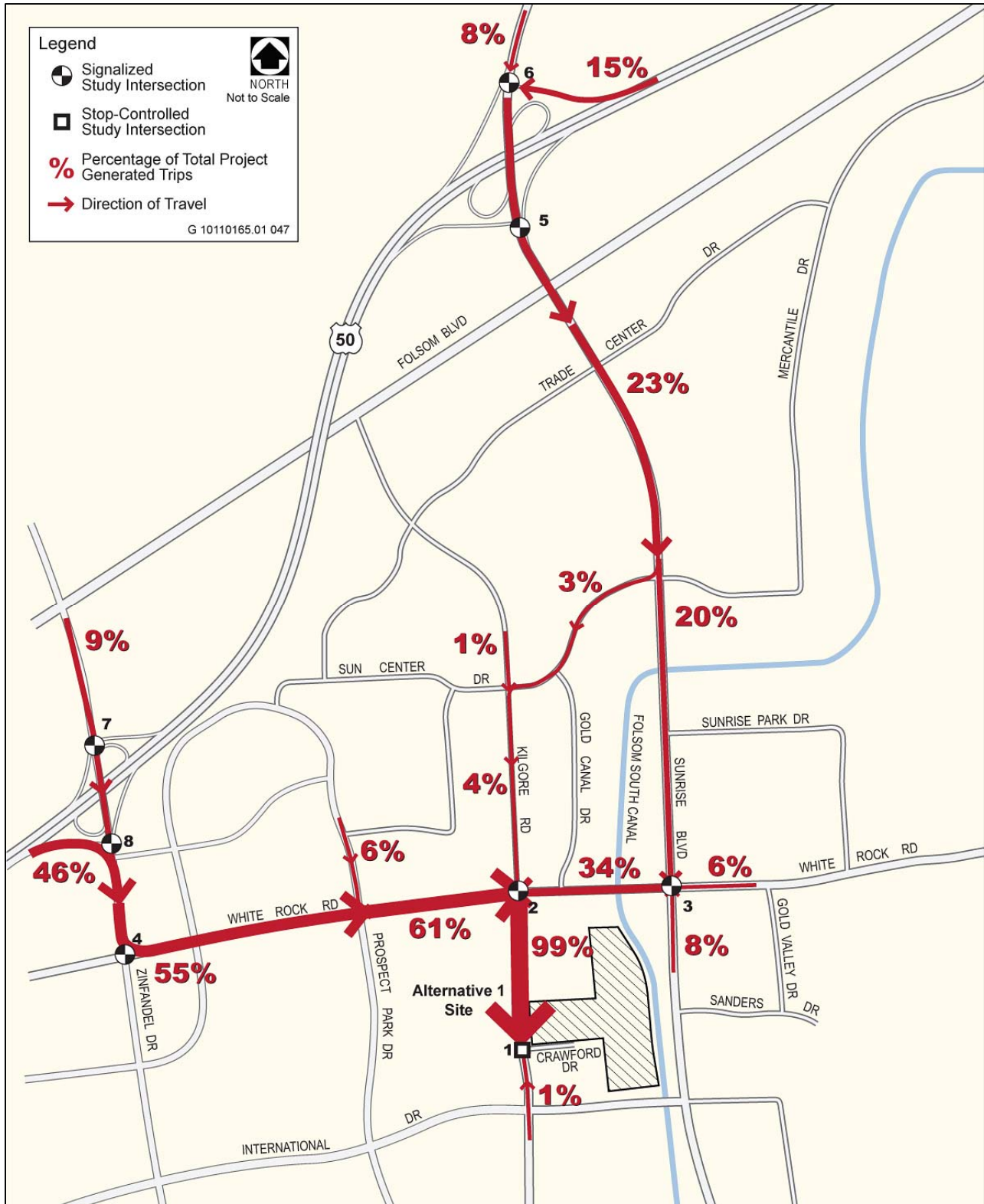
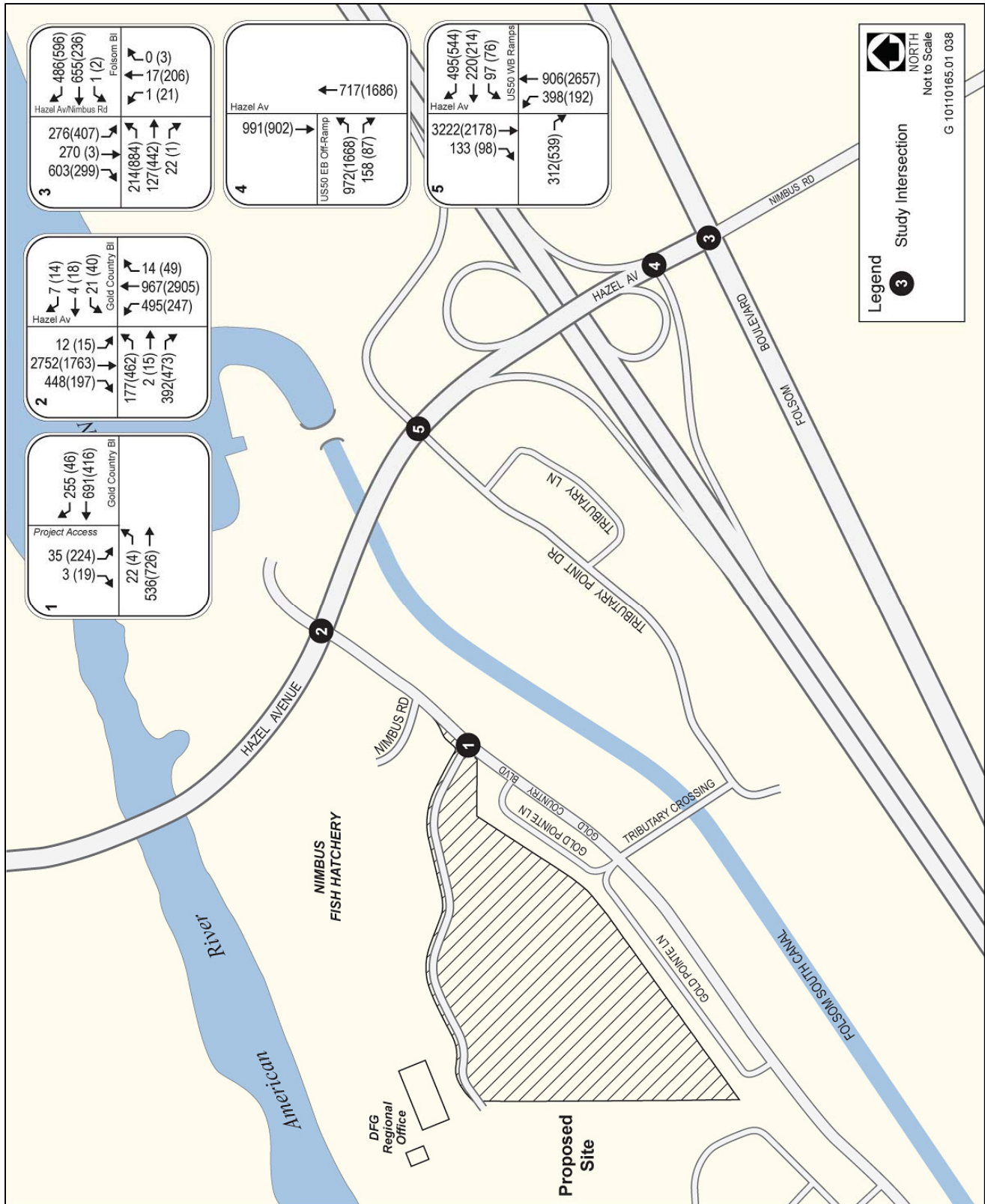


Exhibit 3.14-5: Project Trip Distribution (Weekday AM Inbound)—Alternative 1 Site

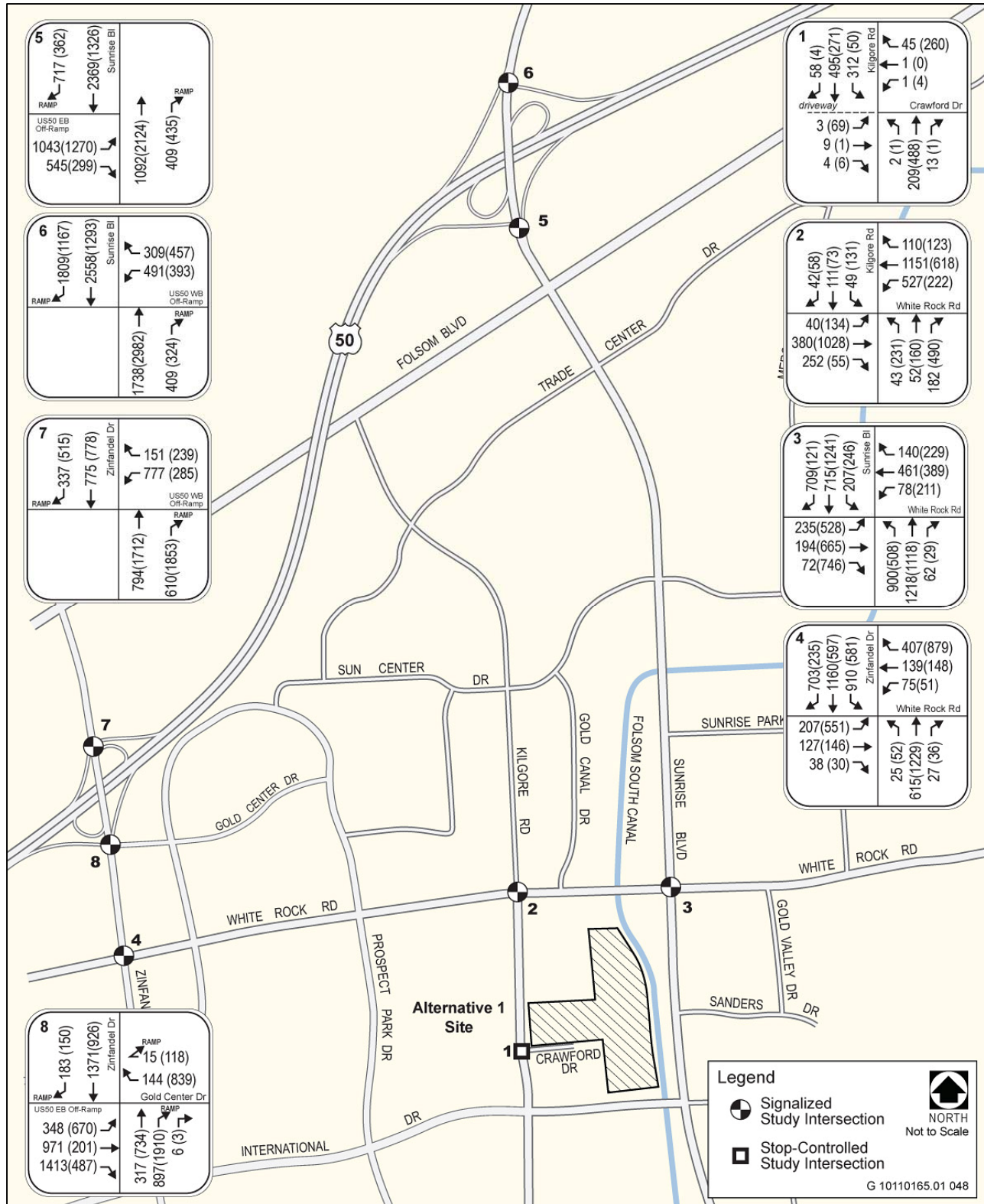






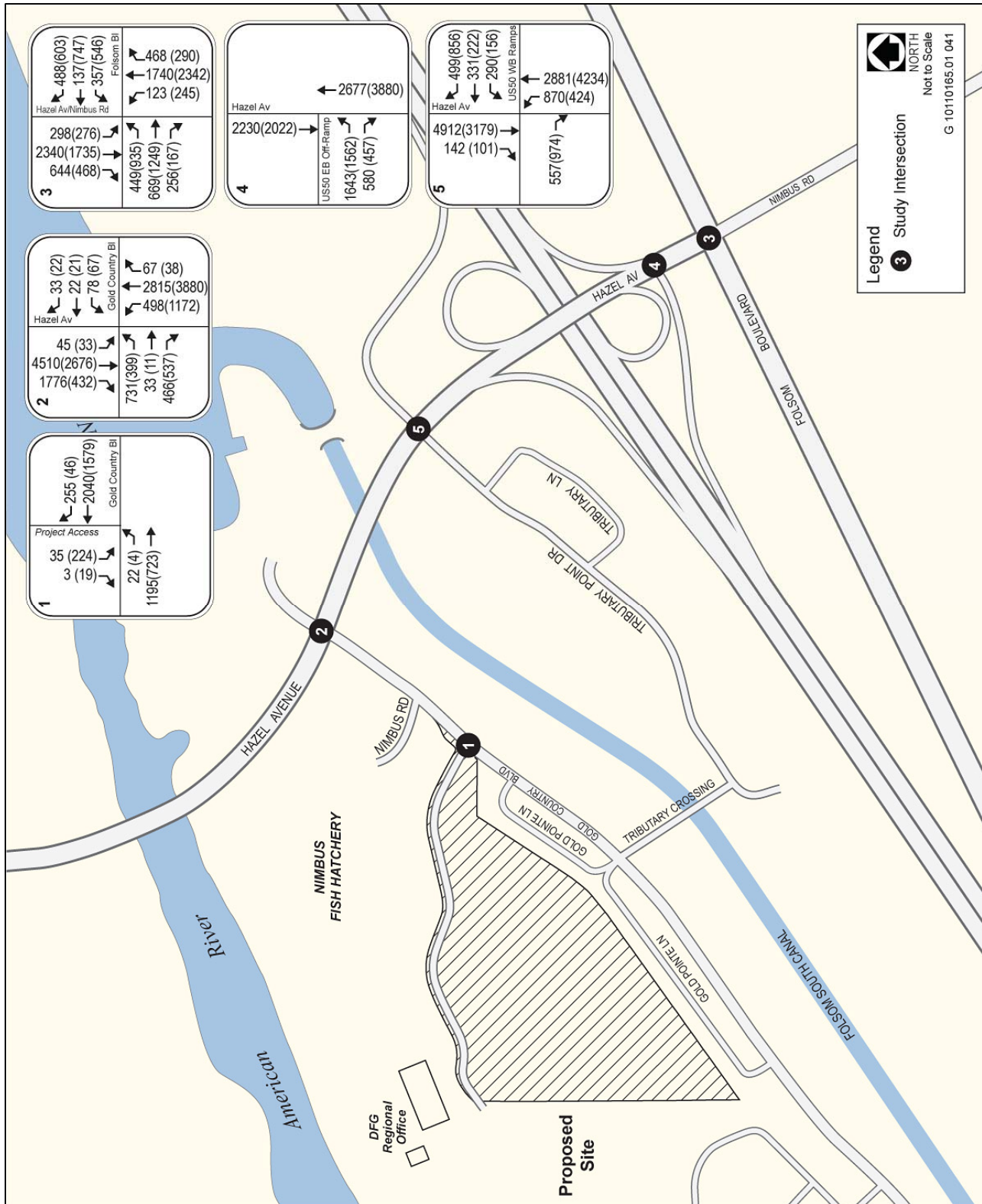
**Exhibit 3.14-7: Existing plus Project Traffic Volumes—Proposed Site**

# Joint Operations Center Relocation Project



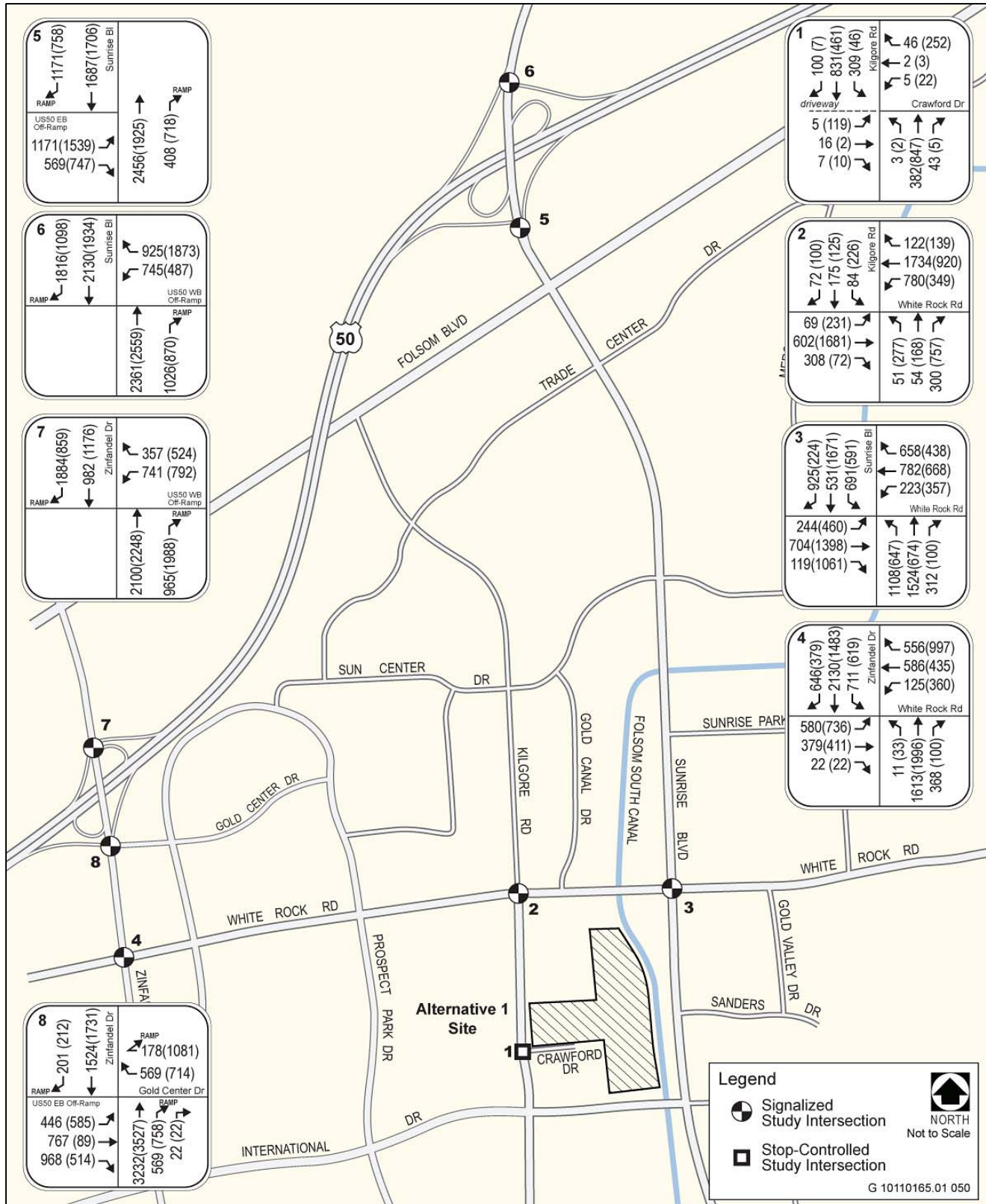
**Exhibit 3.14-8: Existing plus Project Traffic Volumes—Alternative 1 Site**





**Exhibit 3.14-9: Cumulative 2035 plus Project Conditions Traffic Volumes—Proposed Site**

# Joint Operations Center Relocation Project



**Exhibit 3.14-10: Cumulative 2035 plus Project Conditions Traffic Volumes—Alternative 1 Site**

## 4.0 Other NEPA and CEQA Considerations

### 4.1 Growth Inducement

Both NEPA (Title 40 of the Code of Federal Regulations [CFR], Section 1508[a] and [b] [40 CFR 1508(a) and (b)]) and CEQA (State CEQA Guidelines [14 California Code of Regulations (CCR) Section 15126.2(d)]) require consideration of the direct and indirect impacts of the proposed project, including the potential of the project to induce growth leading to construction or other changes in land use with associated environmental consequences. Specifically, CEQA states that the EIR shall:

Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following changes in the baseline conditions:

- ▶ a substantial increase in new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- ▶ a substantial increase in short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- ▶ removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect, but it may foreseeably lead to environmental effects. These environmental effects may include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, or conversion of agricultural and open space land to urban uses. Direct impacts related to the potential that the Proposed Action and Alternative 1 could induce additional long-term population growth are addressed in Chapter 3.14, "Socioeconomics." The discussion and conclusions with respect to the Proposed Action and Alternative 1 in Chapter 3.14, also apply to Alternative 2.

#### **4.1.1 Public Utility Systems**

No public storm drain facilities serve the Proposed or Alternative 1 Sites. Development of the Proposed Action or Alternative 1 would require that a new management system for storm drainage be provided to effectively drain the site, control flooding, and provide water-quality benefits. The on-site storm system would not be sized or intended to serve any new development on lands other than the Proposed or Alternative 1 Sites and therefore would not be growth inducing.

No public water supply facilities exist on the Proposed or Alternative 1 Sites. Water supply for the Proposed Action and Alternative 1 would be provided by Golden State Water Company through connection to existing water transmission facilities. New water supplies would be provided to meet demand of the Proposed Action or Alternative 1 and would not be growth inducing.

Neither the Proposed Site nor the Alternative 1 Site is presently served by municipal wastewater collection and treatment systems, and therefore, both the Proposed Action and Alternative 1 would require construction of on-site wastewater collection and conveyance facilities. Wastewater generated by the Proposed and Alternative 1 Sites would be conveyed by off-site wastewater collection and conveyance facilities of the Sacramento Area Sewer District (SASD) (formerly County Sanitation District 1 [CSD-1]) and treated at the Sacramento Regional Wastewater Treatment Plant (SRWTP). The proposed on-site pump station would be constructed specifically to serve the Proposed Action or Alternative 1 and would be sized to accommodate planned sewer flows from the project. The SASD would have sufficient capacity in its existing sewer system to serve the project and the SRWTP would have available capacity to treat wastewater flows generated by the Proposed Action or Alternative 1. The off-site wastewater collection and conveyance facilities and the on-site pump station would not be sized or intended to serve any new development on lands other than the Proposed or Alternative 1 Site and therefore would not be growth inducing.

#### **4.1.2 Construction-Related Housing Demand**

Implementation of the Proposed Action and Alternative 1 would result in a temporary increase in construction jobs throughout the planning horizon of the project, and the Proposed or Alternative 1 Site would ultimately be built out in approximately 2015. Construction workers serving the project can be expected to come from Rancho Cordova, Sacramento County, and from nearby communities. According to the latest labor data available from the U.S. Census Bureau, 2,278 residents in Rancho Cordova and 50,002

residents in Sacramento County are estimated to be employed in the construction industry. These existing residents in the city and county who are employed in the construction industry would likely be sufficient to meet the demand for construction workers (estimated to be 32 workers) that would be required for the project. Because construction workers serving the project could be expected to come from Rancho Cordova itself and from nearby communities in Sacramento County, neither substantial population growth nor an increase in housing demand in the region is anticipated as a result of these jobs. Furthermore, because construction workers typically do not change residences each time they are assigned to a new construction site, a substantial number of construction workers is not anticipated to be relocated to the immediate project area to work on the project.

#### **4.1.3 Jobs/Housing Balance**

As described in Section 3.14, “Socioeconomics,” the simplest measure of jobs/housing balance is an index based on the ratio of employed residents (which is influenced by the number of homes) to jobs in the area. An index of 1.0 indicates a jobs/housing balance. An index above 1.0 indicates that employment growth is outpacing housing growth and, therefore, more jobs exist than employed residents, and may suggest that many employees are commuting in from outside the community. An index below 1.0 indicates that housing growth is outpacing employment growth and, therefore, more employed residents exist than jobs and may suggest that many residents are commuting to jobs outside the community.

The project would result in relocating approximately 500 Reclamation and DWR employees from the existing Interim JOC on El Camino Avenue to the Proposed, Alternative 1, or Alternative 2 Sites. The new facility would have capacity for an additional 100 workers relative to the current facility. Many of the new employees in the future are anticipated to be hired from the surrounding communities. In this respect, implementing the Proposed Action, Alternative 1, or Alternative 2 would not create a substantial housing demand and would not be growth inducing.

### **4.2 Environmental Justice**

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low Income Populations (1994), requires Federal agencies to consider the impacts of their actions on minority and low income populations. The California Resources Agency (CRA), of which DWR is a part, has adopted an environmental justice policy that requires its agencies to consider environmental justice during the decision-making process (CRA 2010). As exhibited by Tables 4-1, 4-2, and 4-3, neither minority or low income populations are disproportionately represented in the action area; therefore, these populations would not be disproportionately affected by implementing the Proposed Action, Alternative 1, or Alternative 2.

<b>Table 4-1</b> <b>Population Distribution by Race and Ethnicity for the</b> <b>Gold River CDP and City of Rancho Cordova</b>				
Race/Ethnicity <sup>1</sup>	2000		2009 <sup>1</sup>	
	Population	Percent of Total <sup>2</sup>	Population	Percent of Total <sup>2</sup>
<b>Gold River CDP</b>				
White (non-Hispanic)	6,357	79.2	6,333	76.9
Black or African American	103	1.3	121	1.5
American Indian or Alaskan Native	21	0.3	0	0
Asian	1,219	15.2	1,184	14.4
Native Hawaiian or other Pacific Islander	11	0.1	0	0
Other <sup>2</sup>	312	3.9	599	7.3
Hispanic or Latino <sup>3</sup>	327	4.1	606	7.4
<b>City of Rancho Cordova</b>				
White (non-Hispanic)	36,704	66.7	38,019	63.4
Black or African American	6,245	11.3	6,383	10.6
American Indian or Alaskan Native	521	0.9	867	1.4
Asian	4,537	8.2	6,701	11.2
Native Hawaiian or other Pacific Islander	300	0.5	388	0.6
Other <sup>2</sup>	6,753	12.2	7,650	12.7
Hispanic or Latino <sup>3</sup>	7,100	12.9	11,313	18.9
<p>Notes: CDP = census designated place.</p> <p>The percent of total may add to more than 100% because individuals may report more than one race.</p> <p><sup>1</sup> The U.S. Census Bureau's 2009 data are based on data collected over a 5-year period and represents the average characteristics of the Gold River CDP and Rancho Cordova between 2005 and 2009.</p> <p><sup>2</sup> Includes the "other" racial category and "two or more races."</p> <p><sup>3</sup> The U.S. Census Bureau considers Hispanic and Latino as an ethnicity, not a race. Consequently, a person of Hispanic or Latino descent could identify racially as White, Black/African American, Native American, Asian, or other.</p> <p>Sources: U.S. Census Bureau 2000, 2009</p>				

<b>Table 4-2</b> <b>Median Household Income and Per Capita Income for the</b> <b>Gold River CDP, City of Rancho Cordova, and Sacramento County</b>				
Community	Median Household Income		Per Capita Income <sup>1</sup>	
	1999	2009 <sup>2</sup>	1999	2009 <sup>2</sup>
Gold River CDP	\$92,028	\$115,262	\$42,341	\$54,529
Rancho Cordova	\$40,095	\$49,860	\$18,121	\$24,068
Sacramento County	\$43,816	\$56,799	\$21,142	\$27,033
Notes: CDP = census designated place. <sup>1</sup> Per capita income is the mean income computed for every man, woman, and child residing in the Gold River CDP, Rancho Cordova, and Sacramento County, respectively. <sup>2</sup> The U.S. Census Bureau's 2009 data are based on data collected over a 5-year time period and represents the average characteristics of the Gold River CDP, Rancho Cordova, and Sacramento County between 2005 and 2009. Sources: U.S. Census Bureau 2000, 2009; Sacramento County 2008				

<b>Table 4-3</b> <b>Poverty Level for the Gold River CDP, City of Rancho Cordova, and Sacramento County</b>		
Community	Percent of Persons Below Poverty Level	
	1999	2009 <sup>1</sup>
Gold River CDP	0.9	3.6
Rancho Cordova	16.0	17.0
Sacramento County	14.1	13.2
Notes: <sup>1</sup> The U.S. Census Bureau's 2009 data is based on data collected over a 5-year time period and represents the average characteristics of the Gold River CDP, Rancho Cordova, and Sacramento County between 2005 and 2007. Sources: U.S. Census Bureau 2000, 2009; Sacramento County 2008		

### 4.3 Indian Trust Assets

For an alternative under consideration to result in an effect on Indian Trust Assets (ITA), ITAs must be proximate to the areas of impact for the alternatives. Reclamation maintains a geographic information system database of ITAs in California. Reclamation reviewed this database and the project description for the alternatives and determined that the nearest ITA occurs 17 miles from the action alternative. Therefore, there are no impacts to ITAs as a result of implementing the Proposed Action, Alternative 1, or Alternative 2.

There would be no impacts on ITAs as a result of the Proposed Action, Alternative 1, or Alternative 2; therefore, the Proposed Action, Alternative 1, or Alternative 2 would also not contribute to cumulative impacts related to ITAs.



## **4.4 Relationship between Short-Term Uses of the Environment and Long-Term Productivity**

Effects on resources are often characterized as being short-term or long-term in duration. Impacts that occur only during construction are considered temporary. Impacts that occur over a period of 3 years or less result from short-term uses of the resources in an area most often associated with construction and up to 3 years after construction ceases. Long-term effects relate to the maintenance and enhancement of long-term productivity—in particular, the consistency of the project with long-term economic, social, regional, and local planning objectives. These impacts may lead to permanent loss or degradation of resources. As required by Public Resources Code section 21001(g), the short- and long-term effects of the project under consideration are summarized below.

Implementation of the Proposed Action, Alternative 1, or Alternative 2 would result in short-term construction-related impacts on water quality, aquatic and terrestrial biological resources, and air quality. The project would result in impacts related to short-term construction noise, ground disturbance, and construction traffic. The potential exists for accidental spills or seepage of hazardous materials during construction and exposure of the public or the environment to existing hazardous chemicals in the groundwater at the Proposed and Alternative 1 Sites. These impacts would be reduced to a less-than-significant level by implementing the mitigation measures discussed under each resource section in this EIS/EIR. At the same time, however, construction of the project would create economic benefits during construction in the form of jobs and the subsequent direct and indirect demand for goods and services.

Implementation of the Proposed Action or Alternative 1 would result in the direct, long-term loss of biological resources, and, with implementation of the three-story campus option, degradation of the existing visual environment at the Proposed Site and loss of access to mineral resources at the Alternative 1 Site. Land within the Proposed, Alternative 1, or Alternative 2 Sites would be converted and/or expanded into office space, which would eliminate opportunities for alternate uses of this land and reduce the habitat available to plants and wildlife, especially at the Proposed Site. These long-term losses would eliminate some opportunity for future use and productivity.

## **4.5 Significant and Unavoidable Environmental Impacts**

### **4.5.1 Significant and Unavoidable Impacts under Lead Agency Jurisdiction**

CEQA Section 21100(b)(2)(A) provides that an EIR shall include a detailed statement setting forth “any significant effect on the environment that cannot be avoided if the project is implemented.” Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures,” provides a detailed analysis of all potentially significant environmental impacts of the project, including cumulative impacts; lists feasible mitigation measures that could reduce or avoid the project’s significant impacts; and specifies whether these mitigation measures would reduce these impacts to a less-



than-significant level. If a specific impact cannot be reduced to a less-than-significant level, the impact is significant and unavoidable. Table 4-4 lists the project's direct and indirect significant and unavoidable, and cumulatively considerable, environmental impacts.

<b>Table 4-4 Significant and Unavoidable Environmental Impacts</b>		
Resource Area	Alternative	Description
<b>Direct and Indirect Impacts</b>		
Earth and Paleontological Resources	No-Action Alternative	Possible Risks To People And Structures Caused By Strong Semisc Ground Shaking
Hazards and Hazardous Materials	Alternative 2	Potential Risk of Significant Hazard to the Public or the Environment Associated with Project Location within 2 Miles of an Airport
Traffic and Transportation	Alternative 2	Intersection and Roadway Segment Levels of Service
<b>Cumulatively Considerable Impacts</b>		
Air Quality	Alternative 1	Incremental exposures of new sensitive receptors (i.e., JOC staff) to existing and future odors from nearby industrial sources

#### 4.5.2 Significant and Unavoidable Impacts that are Not under Lead Agency Jurisdiction

This EIS/EIR identifies several project-related off-site land improvements associated with development of the JOC that are not under the jurisdiction of either of the co-lead agencies (Reclamation and DWR) but are under the jurisdiction of several "responsible agencies" as defined under PRC Section 21069. Those improvements are presented in Table 4-5, below.

<b>Table 4-5 Mitigation Outside of the Co-Lead Agencies' Jurisdiction</b>	
Mitigation	Jurisdiction
U.S. 50 interchanges	California Department of Transportation
Roadway and intersections in the City of Rancho Cordova	City of Rancho Cordova Planning Department
Roadway and intersections in Sacramento County	Sacramento County Planning and Community Development Department
Source: Data compiled by AECOM in 2011	

The EIS/EIR contains the following mitigation measures that would require implementation by one or more of the responsible agencies listed in Table 4-5 and therefore are outside of the control of the Reclamation and DWR:

***Traffic and Transportation***

- ▶ Alternative 1, Project Level: Improve Kilgore Road/White Rock Road Intersection; Sunrise Boulevard/White Rock Road Intersection; Sunrise Boulevard, North of White Rock Road Zinfandel Drive/U.S. 50 EB Ramps Intersection; U.S. 50 Eastbound—West of Zinfandel Drive Off-Ramp; U.S. 50 Westbound—West of Zinfandel Drive On-Ramp
- ▶ Proposed Action, Cumulative 2035 With Project: Nimbus Road/Gold Country Boulevard Intersection; Hazel Avenue/Gold Country Boulevard Intersection;
- ▶ Alternative 1, Cumulative 2035 With Project: Kilgore Road/Crawford Drive Intersection; Kilgore Road/White Rock Road Intersection; Sunrise Boulevard/White Rock Road Intersection; Zinfandel Drive/White Rock Road Intersection; U.S. 50 Eastbound—West of Zinfandel Drive Off-Ramp; U.S. 50 Westbound—East of Sunrise Boulevard Off-Ramp; Westbound—U.S. 50 West of Zinfandel Drive On-Ramp

Mitigation for these off-site elements are outside of Reclamation's and DWR's jurisdiction and must be coordinated with the affected oversight agency(ies). However, neither Reclamation nor DWR would have control over their timing or implementation; therefore, these impacts for which the co-lead agencies do not have control over mitigation are considered significant and unavoidable. If the responsible agency(ies) implement the required mitigation, then the impact(s) would be reduced to a less-than-significant level.

## **4.6 Irreversible and Irretrievable Commitment of Resources and Energy Conservation**

CEQA requires that irreversible and irretrievable commitment of resources be addressed for certain categories of projects, including the “[t]he adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency” and any project also subject to NEPA. (State CEQA Guidelines CCR Sections 15127[a] and 15127[c].) NEPA requires that an environmental analysis include identification of “any irreversible and irretrievable commitment of resources which would be involved in the proposed action should it be implemented.” (Section 102 [42 USC Section 4332(c)].) Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that this use could have on future generations. Irreversible effects result primarily from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural resource).

Several resources, both natural and built, would be expended in the construction and operation of the project. These resources include the building materials used in construction of the project and energy in the form of natural gas, petroleum products, and electricity consumed during construction and operation of the JOC facility. Loss of these resources is considered irreversible because their reuse for some other purpose than the project would be impossible or highly unlikely. The use of nonrenewable resources is expected to account for a minimal portion of the region's resources and would not affect the availability of these resources for other needs within the region. Construction activities would not result in inefficient use of energy or natural resources. Construction contractors selected would use best available engineering techniques, construction and design practices, and equipment operating procedures.

The project constitutes an irreversible and irretrievable commitment of the site as a land resource, thereby rendering land use for other purposes infeasible. Mitigation would be provided to offset any loss of habitat areas and other land uses within the Proposed Site. In addition, mineral resources (i.e., construction aggregate) could be lost as a result of project construction, since buildout of the Proposed and Alternative 1 Sites would render the aggregate inaccessible.

Long-term project operation would not result in inefficient, wasteful, or unnecessary consumption of energy. The project would incorporate the design measures described above, comply with Building Energy Efficiency Standards (Title 24 of the California Code of Regulations), achieve a Leadership in Energy and Environmental Design (LEED®) Silver Rating, and encourage alternative modes of transportation.

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## **5.0 Compliance, Consultation, and Coordination**

### **5.1 Agency Roles and Responsibilities**

Reclamation is the Federal lead agency for NEPA, and DWR is the State lead agency for CEQA.

#### **5.1.1 Cooperating, Responsible, and Trustee Agencies**

##### **5.1.2 Cooperating Agencies**

Under NEPA, the Federal lead agency may identify other Federal agencies with discretionary authority over the proposed action, jurisdiction by law, or special expertise with respect to the environmental impacts expected to result from an action; these agencies may be invited to become cooperating agencies (40 Code of Federal Regulations [CFR] 1508.5, 1501.6). The U.S. Council on Environmental Quality (CEQ) has broadened this guidance to include State, local, and tribal agencies. A cooperating agency must participate in the NEPA process as early as possible, including the scoping process, and typically use the Federal lead agency's NEPA document for NEPA compliance.

Reclamation has invited the following agencies to participate in the NEPA process as cooperating agencies:

- ▶ National Oceanic and Atmospheric Administration's National Weather Service, as a joint occupant of the existing Interim JOC and a joint participant in the JOC Relocation Project;
- ▶ California Department of Fish and Game; and
- ▶ Sacramento County Department of Parks and Recreation, as an adjacent property owner and for jurisdiction over the American River Parkway.

Letters inviting the participation of these agencies are provided in Appendix A, "Public Outreach Documents."

##### **5.1.3 Responsible Agencies**

Under CEQA, a responsible agency is a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or negative declaration (Public Resources Code [PRC] Section 15381). Essentially, a responsible agency is any public agency other than the lead agency that has discretionary approval power over the project. Agencies that may have discretionary approval power over portions of the JOC Relocation Project are identified in Table 5-1.

#### 5.1.4 Trustee Agencies

Trustee agencies are State agencies with jurisdiction by law over natural resources that could be affected by the project and that are held in trust for the people of the State of California (PRC Section 15386). Trustee agencies for the JOC Relocation Project are the California Department of Fish and Game (DFG), regarding the fish and wildlife of the State, designated rare or endangered native plants, and the California Department of Parks and Recreation regarding units of the State Park System.

#### 5.1.5 Regulatory Requirements, Permits, and Approvals

In addition to NEPA compliance requirements, a number of permits and approvals must also be obtained and/or laws complied with in order to implement the project. Table 5-1 identifies other Federal, State, regional, local, or tribal regulatory agencies that may also have permit or approval authority over portions of the project.

<b>Table 5-1 Agency Roles and Regulatory Responsibilities</b>	
<b>Agency</b>	<b>Permit or Regulatory Action</b>
<b>Federal Agencies</b>	
U.S. Army Corps of Engineers	Clean Water Act Section 404 permit (possible)
U.S. Fish and Wildlife Service	Endangered Species Act biological opinion Endangered Species Act incidental take permit
Federal Communications Commission	Antenna Structure Registration Operator License
Federal Aviation Administration	Hazard determination for radio communications equipment
<b>State Agencies</b>	
California Department of Fish and Game	Section 1600 et seq. agreement California Endangered Species Act Section 2081 permit
State Office of Historic Preservation	National Historic Preservation Act Section 106 review
State Water Resources Control Board	General National Pollutant Discharge Elimination System Construction Stormwater permit General Waste Discharge Requirements for Dredged or Fill Discharges
California Department of Transportation	Transportation permit Encroachment permit (possible)
<b>Local/Regional Agencies</b>	
Sacramento Metropolitan Air Quality Management District	Permit to Construct and Operate an Internal Combustion Engine Stationary-source permit Short-term construction emission threshold offset
Sacramento County Planning Department	Surface Mining and Reclamation Act (SMARA) permit (possible)
Central Valley Regional Water Quality Control Board	Section 401 water quality certification
Sacramento County and City of Rancho Cordova	Encroachment permits

## 5.2 Coordination, Consultation, and Cooperation

Over the course of project planning and environmental review for the JOC Relocation Project, coordination between Reclamation and DWR is required with various Federal, State, regional, and local agencies to obtain permits, authorizations, or other approvals. A summary of the coordination and consultation is described further below.

## 5.3 Native American Consultation

A letter of inquiry was sent to the Native American Heritage Commission (NAHC) asking for a review of the Sacred Lands files and for a list of individuals or groups with knowledge of areas of cultural sensitivity that may be located in the project area. The response from the NAHC indicates that there are no cultural resources or areas of sensitivity on file within or in the vicinity of the project site. A list of Native American individuals or organizations was also provided and subsequent letters were sent to contacts representing the following Native American organizations:

- ▶ Maidu;
- ▶ Washoe;
- ▶ Konkow;
- ▶ Miwok;
- ▶ Maldu;
- ▶ Nisenan, Southern Maidu;
- ▶ Shingle Springs Band of Miwok Indians; and
- ▶ United Auburn Indian Community of the Auburn Rancheria.

Written contact with the Native American groups provided by the NAHC received one response as of March 8, 2011; therefore, follow-up phone calls were conducted to the remaining individuals. Two individuals were reached via phone call and their only concern was if burials were discovered all work would stop immediately.

## 5.4 Consultation and Coordination with Other Federal, State, Regional, and Local Agencies

Reclamation and DWR have also coordinated with other Federal, State, regional, and local agencies; nongovernmental organizations; and the public to keep them updated on project developments. A summary of agency consultation is presented below:

**U.S. Army Corps of Engineers:** Because seasonal wetlands are located on the Proposed Site, U.S. Army Corps of Engineers (USACE) will be consulted during the EIS/EIR process to verify compliance with Sections 404 and 401 of the Clean Water Act.

**U.S. Fish and Wildlife Service:** Because Federally listed wildlife (valley elderberry longhorn beetle [VELB]) may be present on the Proposed Site, consultation with U.S.

Fish and Wildlife Service (USFWS) is required under Section 7 of the Endangered Species Act (ESA) and will be performed during the EIS/EIR process.

**California Department of Fish and Game:** Because State-listed wildlife VELB may be present on the Proposed Site, consultation with DFG is required in accordance with the California Endangered Species Act and will be performed during the EIS/EIR process.

**California Department of Transportation:** The California Department of Transportation will be consulted during the EIS/EIR process for input on appropriate measures to reduce traffic-related effects generated by the JOC Relocation Project on State roadways and to obtain a transportation permit for the movement of vehicles/loads exceeding statutory limitations on the size and weight.

**Sacramento County Transportation:** The County will be consulted during the EIS/EIR process for input on appropriate measures to reduce traffic-related effects generated by the JOC Relocation Project on County roadways.

## **5.5 Coordination with Others**

At the request of the Gold Country and The Bluffs Homeowners Associations during the public scoping process, Reclamation and DWR have further coordinated with the homeowners associations to provide project information and respond to questions. On April 5, April 12, and April 19, 2011, Reclamation and DWR gave presentations regarding the project and described the process for submitting comments on the public draft EIS/EIR.

## **5.6 Compliance with Related Federal Laws, Rules, Regulations, and Executive Orders**

The NEPA process is intended to integrate other laws, rules, regulations, and executive orders that apply to the JOC Relocation Project to the fullest extent possible. Where possible, the analysis of impacts required by these other laws is also included in the EIS/EIR or appended to the document. The following subsections describe the major laws, rules, regulation, and executive orders that apply to the JOC Relocation Project.

### **5.6.1 Aesthetics**

#### ***Wild and Scenic Rivers Act***

The Wild and Scenic Rivers Act (16 U.S. Code [USC] 1271 et seq.) establishes a National Wild and Scenic Rivers System for the protection of rivers with important scenic, recreational, fish and wildlife, and other values. Rivers are classified as wild, scenic, or recreational. The act designates specific rivers for inclusion in the System and prescribes the methods and standards by which additional rivers may be added.



The Proposed Site is near the Lower American River, considered to be the section from Nimbus Dam to the confluence with the Sacramento River, which is classified as a “Recreational” river within both the National Wild and Scenic Rivers System (Public Law 90-542, 16 USC 1271 et seq.) and the similar State Wild and Scenic Rivers system (PRC Section 5093.50 et seq.). The JOC Relocation Project does not adversely affect the values for which the lower American River was included into the National or State Wild and Scenic Rivers systems.

### **5.6.2 Air Quality**

#### ***Federal Clean Air Act***

At the Federal level, the U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the Federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

The CAA required EPA to establish primary and secondary National Ambient Air Quality Standards. The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all state SIPs to determine whether they conform to the mandates of the CAAA and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the nonattainment area. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in applying sanctions to transportation funding and stationary air pollution sources in the air basin.

In addition, general conformity requirements were adopted by Congress as part of the CAAA and were implemented by EPA regulations in 1993. General conformity requires that all Federal actions conform to the SIP as approved or promulgated by EPA. The purpose of the general conformity program is to ensure that actions taken by the Federal government do not undermine State or local efforts to achieve and maintain National Ambient Air Quality Standards. Before a Federal action is taken, it must be evaluated for conformity with the SIP. All reasonably foreseeable emissions, both direct and indirect, predicted to result from the action are considered and their location and quantity must be identified. If the action would create emissions above de minimis threshold levels specified in EPA regulations, or if the activity is considered regionally significant because its emissions exceed 10% of an area’s total emissions, the action cannot proceed unless mitigation measures are specified that would bring the project into conformance.

General conformity applies in both Federal nonattainment and maintenance areas. Within these areas, it applies to any Federal action not specifically exempted by the CAA or EPA regulations. Emissions from construction activities are also included. General conformity

does not apply to projects or actions that are covered by the transportation conformity rule. If a Federal action falls under the general conformity rule, the Federal agency responsible for the action is responsible for making the conformity determination. In some instances, a Federal agency will delegate responsibility for making the conformity determination to the State. Private developers are not responsible for making a conformity determination, but a determination can directly affect them.

General conformity with respect to the JOC Relocation Project will be determined within the record of decision.

### **5.6.3 Biological Resources**

#### ***Endangered Species Act of 1973, as Amended***

Pursuant to the ESA, USFWS and the National Marine Fisheries Service (NMFS) have regulatory authority over Federally listed species. Under ESA, a permit to “take” a listed species is required for any Federal action that may harm an individual of that species. Take is defined under Section 9 of the ESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Under Federal regulation, “take” is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. ESA Section 7 outlines procedures for Federal interagency cooperation to conserve Federally listed species and designated critical habitat. Section 7(a)(2) requires Federal agencies to consult with USFWS and/or NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species.

No fish species are present on either site, and no consultation with NMFS would be required. Because Federally listed wildlife VELB may be present on the Proposed Site, consultation with USFWS under ESA Section 7 would be required for the Proposed Action. Because no Federally listed wildlife or plant species have potential to occur on the Alternative 1 or Alternative 2 Sites, no Section 7 consultation would be required.

#### ***Federal Clean Water Act***

EPA is the lead Federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 is the primary Federal law that governs and authorizes EPA and the individual states to implement activities to control water quality. The various elements of the CWA that address water quality and apply to the project are discussed below.

#### ***Section 404 of the Clean Water Act—Wetlands***

Section 404 of the CWA establishes a requirement for a project proponent to obtain a permit from USACE before engaging in any activity that involves discharge of dredged or fill material into waters of the United States, including wetlands. Fill material means material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land or changing the bottom elevation of any portion of a water of the United States.

Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and wetlands that meet any of these criteria or that are adjacent to any of these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater 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. USACE-jurisdictional wetlands must meet three criteria: hydrophytic vegetation, hydric soil, and wetland hydrology. In addition, under Section 404, jurisdictional wetlands must be adjacent to traditional navigable waters, directly abut relatively permanent waters, or have a significant nexus with a traditional navigable water.

Before USACE can issue a permit under Section 404 of the CWA that affects more than 0.5 acre of wetlands or waters of the United States, USACE must determine that the project complies with the CWA Section 404(b)(1) guidelines. The Section 404(b)(1) guidelines specifically require that “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences” (40 CFR 230.10[a]). To comply with this provision, the project proponent must evaluate opportunities that would result in a less adverse impact on the aquatic ecosystem. A permit cannot be issued for a project, therefore, in circumstances where a practicable alternative exists that is less environmentally damaging and that would fulfill the project purpose. An alternative is practicable if it is available and capable of being done after cost, existing technology, and logistics are considered in light of the overall project purpose as determined by USACE. If the alternative is otherwise practicable, an area not presently owned by the project applicant(s) that could reasonably be obtained, used, expanded, or managed to fulfill the purpose of the proposed activity may be considered.

The existing seasonal wetlands on the Proposed Site are not anticipated to be designated as jurisdictional wetland features by USACE because they do not meet specific jurisdictional wetlands criteria. A wetland delineation report has been prepared and will be submitted to USACE for verification that the wetlands are not waters of the United States. A reconnaissance-level biological survey conducted on the Alternative 1 Site by a qualified biologist on January 10, 2011, confirmed that no waters of the United States or waters of the State exist on-site.

### ***Migratory Bird Treaty Act of 1918***

The Migratory Bird Treaty Act (MBTA) implements a series of international treaties that provide for migratory bird protection. The MBTA authorizes the U.S. Secretary of the Interior to regulate the taking of migratory birds. The act provides that it shall be unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird...” (16 USC 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific

activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Migratory birds potentially occur on both the Proposed, Alternative 1, and Alternative 2 Sites.

This DEIS/DEIR evaluates potential project and program-level impacts to migratory bird species and identifies conservation strategies to avoid direct and indirect take of birds, active nests, or eggs. Reclamation would comply with the MBTA through implementing the conservation strategies described herein before and during implementation of any project and program-level actions.

***Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds***

Executive Order (EO) 13186 directs executive departments and agencies to take certain actions to further implement the MBTA. The order requires that each Federal agency taking actions that have, or are likely to have, a measurable adverse effect on migratory bird populations develop and implement a memorandum of understanding with USFWS that promotes the conservation of migratory bird populations.

Migratory birds potentially occur on both the Proposed, Alternative 1, and Alternative 2 Sites.

This DEIS/DEIR evaluates potential project and program-level impacts to migratory bird species and identifies conservation strategies to avoid direct and indirect take of birds, active nests, or eggs. Reclamation would comply with the MBTA through implementing the conservation strategies described herein before and during implementation of any project and program-level actions.

***Executive Order 11990: Protection of Wetlands***

EO 11990 established the protection of wetlands and riparian systems as the official policy of the Federal government. It requires all Federal agencies to consider wetland protection as an important part of their policies; to take action to minimize the destruction, loss, or degradation of wetlands; and to preserve and enhance the natural and beneficial values of wetlands.

A wetland delineation of both the Proposed and Alternative 1 Sites was performed to assess the presence of wetlands. Section 3.4, "Biological Resources," contains further discussion on wetland issues within the project sites.

Mitigation Measure 3.3-9 addresses the prevention and control of invasive weeds.

## **5.6.4 Climate Change and Greenhouse Gas Emissions**

***Supreme Court Ruling on California Clean Air Act Waiver***

EPA is the Federal agency responsible for implementing the CAA. The U.S. Supreme Court ruled on April 2, 2007, that carbon dioxide (CO<sub>2</sub>) is an air pollutant as defined under the CAA and that EPA has the authority to regulate emissions of greenhouse gases

(GHGs). See the discussion of Assembly Bill 1493 under “State Plans, Policies, Regulations, and Laws” below for more information on California’s CAA waiver.

This EIS/EIR includes an analysis of GHG emissions associated with the project and the net change in GHG emissions from existing conditions.

### ***EPA Rules and Regulations***

In response to the mounting issue of climate change, EPA has taken the following actions to regulate, monitor, and potentially reduce GHG emissions.

**Mandatory Greenhouse Gas Reporting Rule** On September 22, 2009, EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule) for mandatory reporting of GHGs from large GHG emissions sources in the United States (Volume 74 *Federal Register* [FR], pages 56259–56308 [74 FR 56259–56308]). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161) that required EPA to develop “mandatory reporting of greenhouse gases above appropriate thresholds in all sectors of the economy....” The Reporting Rule applies to most entities that emit 25,000 metric tons (MT) of CO<sub>2</sub>e or more per year. Starting in 2010, facility owners are required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for EPA to verify annual GHG emissions reports. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

Implementation of the Proposed Action or Alternative 1 is expected to result in a net change in CO<sub>2</sub> equivalent (CO<sub>2</sub>e) emissions of -206 MT. The Proposed Action, Alternative 1, or Alternative 2 would result in less than 25,000 MT of CO<sub>2</sub>e per year and therefore is not subject to the Mandatory GHG Reporting Rule.

**Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act** On December 7, 2009, EPA signed two distinct findings under the CAA. These findings (74 FR 66945–66546, December 15, 2009) are based on Section 202(a) of the CAA, which states that the EPA Administrator should regulate and develop standards for “emission[s] of air pollution from any class or classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.”

The first finding (Endangerment Finding) addresses whether the concentrations of the six key GHGs (i.e., CO<sub>2</sub>, methane [CH<sub>4</sub>], nitrous oxide [N<sub>2</sub>O], hydrofluorocarbons [HFC], perfluorocarbons [PFC], and sulfur hexafluoride [SF<sub>6</sub>]) in the atmosphere threaten the health and welfare of current and future generations. In the Endangerment Finding, the EPA Administrator found that atmospheric concentrations of GHGs endanger public health and welfare within the meaning of Section 202(a) of the CAA.

The second finding (Cause or Contribute Finding) addresses whether the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs, and thus to the threat of climate change. In the

Cause or Contribute Finding, the EPA Administrator found that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare.

This EIS/EIR acknowledges the Endangerment Finding and Cause or Contribute Finding, and includes an analysis of GHG emissions associated with the proposed project and the net change in GHG emissions from existing conditions.

### **National Program to Cut Greenhouse Gas Emissions and Improve Fuel Economy**

On September 15, 2009, EPA and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) proposed a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States. EPA proposed the first-ever national GHG emissions standards under the CAA, and NHTSA proposed revising the Corporate Average Fuel Economy program standards implemented under the Energy Policy and Conservation Act of 1975. On April 1, 2010, EPA and NHTSA announced a final joint rule to establish a national program consisting of new standards for model year 2012–2016 light-duty vehicles. The program intends to reduce GHG emissions and improve fuel economy. The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO<sub>2</sub> per mile in model year 2016, equivalent to 35.5 miles per gallon.

Analysis of GHG emissions assumed consistency with EPA and NHTSA standards as appropriate. Applicable EPA and NHTSA standards would be followed during project construction and implementation.

### ***Council on Environmental Quality Draft NEPA Guidelines***

CEQ issued new draft guidance on when and how to include GHG emissions and climate change impacts in environmental review documents under NEPA. The draft guidance, issued February 18, 2010, suggests that Federal agencies consider opportunities to reduce GHG emissions caused by proposed Federal actions and adapt their actions throughout the NEPA process to reduce climate change impacts and to address these issues in their agency-specific NEPA procedures. In the context of addressing climate change in environmental documentation, the two main considerations are the effects of a proposed action and alternative actions on GHG emissions and the impacts of climate change on a proposed action or alternative actions.

CEQ notes that “significant” national policy decisions with “substantial” GHG impacts require analysis of their GHG effects. Decisions are considered significant if the proposed action would cause “substantial” annual direct emissions.

In these circumstances, information on GHG emissions (qualitative or quantitative) that is useful and relevant to the decision should be considered when deciding among alternatives. CEQ suggests that if a proposed action would cause direct annual emissions of greater than or equal to 25,000 MT CO<sub>2</sub>e, a quantitative and qualitative assessment may be meaningful to decision makers and the public. CEQ encourages Federal agencies to consider whether the action's long-term emissions should receive similar analyses if annual direct emissions would be less than 25,000 MT CO<sub>2</sub>e.

Analysis of the proposed project includes consideration of GHG emissions and climate change impacts.

***Executive Order 13423: Strengthening Federal Environmental, Energy, and Transportation Management and Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance***

EO 13423, signed on January 24, 2007, requires Federal agencies to design, construct, and operate Federal buildings in a more sustainable manner to reduce environmental and economic impacts. The EO also calls for a reduction of total consumption of petroleum products through vehicle fleet management. The *Bureau of Reclamation Sustainable Buildings Implementation Plan* establishes Guiding Principles to ensure the protection and conservation of water. The Guiding Principles are as follows:

- ▶ employment of integrated design principles,
- ▶ optimization of energy efficiency and use of renewable energy,
- ▶ protection and conservation of water,
- ▶ enhancement of indoor environmental quality, and
- ▶ reduction of environmental impacts of materials.

The following “focus areas” (i.e., sustainable building design features that may relate to an agency’s mission) relate to water quality and quantity (Reclamation 2010:30–31):

- ▶ Efficient use of water resources—Design buildings and building landscapes to minimize water use (e.g., use of low-flow water fixtures).
- ▶ Preservation of water quality—Design stormwater quantity and quality control to limit impact of run-off on nearby waterways (e.g., bioswales, silt fences, earth dikes, sediment traps, mulching).
- ▶ Preservation of ecosystems—Design and construct buildings with limited impacts to species and habitat through such strategies as maximizing open space, clearly marking construction boundaries to limit disturbance of the existing site, restoring previously degraded areas to their natural state, using noninvasive plant species in landscaping, reducing the heat island effect, and reducing light pollution.

On October 5, 2009, the President signed EO 13514, which expanded the provisions of EO 13423 by adding the following requirements:

- ▶ All existing buildings larger than 5,000 gross square feet must comply with the Guiding Principles.
- ▶ Agencies must pursue cost-effective innovative strategies to minimize consumption of energy, water, and materials.

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- ▶ Rehabilitation of Federally owned historical buildings must utilize best practices and technologies to promote long-term viability while maintaining historical integrity.
- ▶ The *Bureau of Reclamation Sustainable Buildings Implementation Plan* states that Reclamation will include a preference to meet the Guiding Principles in all new leases where available and the cost per square foot of leasing such a building is not more than 10% higher (Reclamation 2010:21). Because Reclamation would not be constructing the new JOC facility but would be leasing a portion of the building from DWR, Reclamation would be required to ensure that the Guiding Principles are complied with where feasible.

One of the project's primary objectives includes sustainable design and energy conservation through a Leadership in Energy and Environmental Design (LEED®) Silver Rating that complies with the California Green Building Code and meets State Essential Services Act criteria.

### 5.6.5 Cultural Resources

#### ***Executive Order 13175: Consultation and Coordination with Indian Tribal Governments***

EO 13175 requires Federal agencies to implement an accountable process to ensure meaningful and timely input by tribal officials as policies are developed that have tribal implications. As described in Section 5.3, "Native American Consultation," consultation with Native American tribes was initiated on December 20, 2010.

#### ***Executive Order 13007: Indian Sacred Sites***

EO 13007 requires that agencies try not to damage "Indian sacred sites" on Federal land and avoid blocking access to such sites by traditional religious practitioners. Federally recognized tribes and other tribal organizations were contacted to solicit comments and initiate consultation regarding the JOC Relocation Project. As of March 8, 2011, no sacred sites near the project area have been identified.

#### ***Section 106 of the National Historic Preservation Act of 1966***

The NHPA, as amended (16 United States Code (USC) 470 et seq.), is the primary Federal legislation that outlines the Federal government's responsibility to consider the effects of its actions on historic properties and affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. Section 106 of the NHPA and its implementing regulations at 36 CFR Part 800 describe the process that the Federal agency shall take to identify cultural resources and assess the level of effect that the proposed undertaking will have on historic properties. An undertaking is defined as a "project, activity or program funded in whole or in part, under the direct or indirect jurisdiction of a Federal agency." This includes projects that are carried out by, or on behalf of, the agency; those carried out with Federal assistance; those requiring a Federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation, or approval by, a Federal agency [Section 301(7) 16 USC 470w(7)].



A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. Those cultural resources that are listed on, or are eligible for inclusion in, the NRHP are referred to as historic properties. The criteria for NRHP eligibility are outlined at 36 CFR Part 60. Other applicable Federal cultural resources laws and regulations that could apply include, but are not limited to, the Native American Graves Protection and Repatriation Act (NAGPA) and the Archaeological Resources Protection Act (ARPA).

Compliance with Section 106 (CFR Part 800) follows a series of steps designed to identify and consult with interested parties, determine the APE, determine if historic properties are present within the APE, and assess the effects the undertaking will have on historic properties. Section 106 requires consultation with Indian tribes concerning the identification of sites of religious or cultural significance and with individuals or groups who are entitled, or requested, to be consulting parties. The regulations at 36 CFR Part 800.5 require Federal agencies to apply the criteria of adverse effect to the historic properties identified within the APE. The criteria of adverse effect, defined at 36 CFR Part 800.5(a)(1), states that:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

The 36 CFR Part 800 regulations include consultation with the State Historic Preservation Officer (SHPO) to provide an opportunity to comment on, and concur with, Reclamations' determinations. If the undertaking would result in adverse effects on historic properties, these adverse effects must be resolved in consultation with the SHPO and other parties identified during the Section 106 process before the undertaking can proceed to implementation.

### ***National Register of Historic Places***

The 36 CFR Part 60.4 regulations describe the criteria for evaluation of cultural *resources* for inclusion on the NRHP. Cultural resources can be significant on the national, state, or local level. Such resources are required to retain integrity and must exhibit an association with broad patterns of our history, be associated with an important person, embody a distinctive characteristic, or yield information important to prehistory or history.

The NRHP, which is maintained by the Secretary of the Interior, is a register of districts, sites, buildings, structures and objects of significance in American history, architecture, archaeology, engineering, and culture. A property may be listed in the NRHP if it meets criteria for evaluation defined in 36 CFR 60.4.

A district, site, building, structure, or object must be at least 50 years old to be eligible for consideration as a historic property. That district, site, building, structure, or object must retain integrity of location, design, setting, materials, workmanship, feelings, and association, as well as meet one of the following criteria to demonstrate its significance in

American history, architecture, archeology, engineering, or culture. A district, site, building, structure, or object must:

- ▶ be associated with events that have made a significant contribution to the broad patterns of history; or
- ▶ be associated with the lives of people significant in our past; or
- ▶ embody the distinct characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- ▶ have yielded, or may be likely to yield, information important in prehistory or history.

A site must have integrity and meet one of the four criteria of eligibility to demonstrate its historic associations in order to convey its significance. A property must be associated with one or more events important in the history or prehistory to be considered for listing under Criterion A. Additionally, the specific association of the property, itself, must also be considered significant. Criterion B applies to properties associated with individuals whose specific contributions to the history can be identified and documented. Properties significant for their physical design or construction under Criterion C must have features with characteristics that exemplify such elements as architecture, landscape architecture, engineering, or artwork. Criterion D most commonly applies to properties that have the potential to answer, in whole or in part, important research questions about human history that can only be answered by the actual physical materials of cultural resources. A property eligible under Criterion D must demonstrate the potential to contain information relevant to the prehistory and history on the local, state, or national level (National Register Bulletin 15).

## **5.6.6 Earth and Paleontological Resources**

### ***Earthquake Hazards Reduction Act***

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States by establishing and maintaining an effective earthquake hazards reduction program. To accomplish this goal, the National Earthquake Hazards Reduction Program (NEHRP) was established. This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

The mission of NEHRP includes improving understanding, characterization, and prediction of hazards and vulnerabilities; improving building codes and land use practices; reducing risk through post-earthquake investigations and education; developing and improving design and construction techniques; improving mitigation capacity; and accelerating application of research results. The NEHRPA designates the Federal Emergency Management Agency as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include

the National Institute of Standards and Technology, National Science Foundation, and the U.S. Geological Society.

The Dunnigan Hills Fault, located approximately 40 miles from the project site, is the nearest active fault in the Project Region. The nearest fault zoned under the Alquist-Priolo Act is the northern segment of the Cleveland Hills Fault, located near Lake Oroville, approximately 50 miles north of the project sites.

### **5.6.7 Hazards and Hazardous Materials**

#### ***Federal Resource Conservation and Recovery Act***

The Resource Conservation and Recovery Act (RCRA) is a Federal statute designed to provide “cradle to grave” control of hazardous waste by imposing management requirements on generators and transporters of hazardous wastes and on owners and operators of treatment, storage, and disposal facilities. EPA is responsible for administering the RCRA.

Best management practices for transportation, use, and disposal of hazardous substances and storage and use of hazardous substances, as well as safety codes and procedures related to hazardous material transport, handling, and disposal, would be required as part of the project.

#### ***Federal Comprehensive Environmental Response, Compensation, and Liability Act***

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund act, provides for the liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites. CERCLA authorized the National Priorities List, which identifies contaminated sites that are eligible for remedial action. The scope of CERCLA is broad; it holds current and prior owners and operators of contaminated sites responsible; and its definition of a hazardous substance incorporates definitions from the CAA, the CWA, the Toxic Substances Control Act, and RCRA (CERCLA Section 101[14]). EPA is the agency responsible for administering CERCLA.

The Proposed Site, located approximately 0.5 mile north of the main Aerojet facility, is within the boundary of Zone 1 of the perimeter groundwater operable unit of the Aerojet superfund site. The Alternative 1 Site located approximately 3 miles southwest of the main Aerojet facility, approximately 0.75 mile west of the boundary of the Inactive Rancho Cordova Test Site, and is within the boundary Area 1 of the Western Groundwater Operable Unit of the Aerojet superfund site. Impacts related to hazards and hazardous materials are described in Section 3.7, “Hazards and Hazardous Materials.”

#### ***Occupational Safety and Health Act***

The Occupational Safety and Health Act (OSHA) defines occupational health and safety standards with the goal of providing employees with a safe working environment. The California Occupational Safety and Health Administration is the agency responsible for

administering this Federal act. OSHA regulations apply to the work place and cover activities ranging from confined space entry to toxic chemical exposure. Employers are required to provide a workplace free of recognized hazards that could cause serious physical harm. OSHA regulates workplace exposure to hazardous chemicals and activities through workplace procedures and equipment requirements (29 USC 651-678).

Implementation of the proposed project would include compliance with OSHA regulations.

#### ***Hazardous Materials Transportation Act***

The Hazardous Materials Transportation Act (HMTA) regulates interstate transport of hazardous materials and wastes. This act specifies driver-training requirements, load labeling procedures, and container design and safety requirements. Transporters of hazardous wastes must also meet the requirements of other statutes, such as the RCRA. HMTA requires that carriers report accidental releases of hazardous materials to the U.S. Department of Transportation at the earliest practical moment (49 CFR, Subchapter C). Incidents that must be reported include deaths, injuries requiring hospitalization, and property damage exceeding \$50,000. The U.S. Department of Transportation, the Federal Highway Administration, and the Federal Railroad Administration are the agencies responsible for administering the HMTA.

Project implementation would comply with HMTA, as required.

### **5.6.8 Hydrology and Water Quality**

#### ***Federal Clean Water Act***

The CWA was discussed previously under Section 5.6.3, “Biological Resources.”

#### ***Section 303(d) of the Clean Water Act—Impaired Waters List***

Under Section 303(d) of the CWA, states must develop lists of water bodies that would not attain water quality objectives after implementing required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the State develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still comply with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the State must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives. EPA must either approve a TMDL prepared by the State or, if it disapproves the State’s TMDL, issue its own. National Pollutant Discharge Elimination System (NPDES) permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After the TMDL is implemented, the problems that led to placement of a given pollutant on the Section 303(d) list are anticipated to be remediated.

The American River, from Nimbus Dam to the Sacramento River confluence, was on the 2008–2010 Section 303(d) list of impaired waters for mercury, PCBs, and unknown toxicity. Stormwater runoff from both the Proposed and Alternative 1 Sites would discharge into the municipal storm water system and managed under the Sacramento County or City of Rancho Cordova Phase I NPDES MS4 Permit.

***Section 401 of the Clean Water Act—Water Quality Certification or Waiver***

Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate State agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board to the nine regional water quality control boards.

To date, a preliminary wetland delineation reports for the site has not been submitted to USACE, but existing seasonal wetlands on the Proposed Site are not anticipated to be claimed as jurisdictional features by USACE because they lack adjacency, do not directly abut a USACE-jurisdictional wetland or traditional navigable water, and do not have a significant nexus with a traditional navigable water. A reconnaissance-level biological survey conducted on the Alternative 1 Site by a qualified biologist on January 10, 2011, confirmed that no waters of the United States or waters of the State exist on-site.

***Section 402 of the Clean Water Act: National Pollutant Discharge Elimination System Permit Program***

The NPDES permit program was established in Section 402 of the CWA to regulate municipal and industrial discharges to surface waters of the United States. A discharge from any point source is unlawful unless the discharge complies with an NPDES permit. Federal regulations under the NPDES permit have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge, prohibitions on discharges not specifically allowed under the permit, and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Control measures identified in NPDES permits would be implemented, as required.

***Executive Order 11988: Floodplain Management***

Under EO 11988, Federal agencies are prohibited from contributing to adverse impacts associated with the occupancy and modification of floodplains. Each agency must also determine whether planned activities would affect the floodplain and evaluate the potential effects of the intended actions on its functions.

Federal Emergency Management Agency (FEMA) issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRMs is established by FEMA, with the minimum level

of flood protection for new development determined to be 1-in-100 (0.01 annual exceedance probability) (i.e., the 100-year flood event). The Proposed and Alternative 1 Sites are located outside of the 100- and 200-year flood zones.

### **5.6.9 Land Use Planning**

#### ***Applicability of Local Zoning to Federal Lands***

Article 6 of the U.S. Constitution entitles the Federal government preemptive power over State and local control of Federal lands (i.e., the Supremacy Clause and the Property Clause). However, NEPA, the Intergovernmental Coordination Act, and the Intergovernmental Coordination Executive Order require that the Federal government solicit and consider local views of a proposed project, and encourage cooperation with local zoning and land use practices.

The Proposed Site is located on land owned by the Federal government. Federal land use regulations would not apply to the Alternative 1 or Alternative 2 Sites.

### **5.6.10 Noise**

#### ***Federal Noise Control Act of 1972***

EPA's Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, thereby allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

Issues related to noise are addressed in Section 3.10, "Noise."

### **5.6.11 Public Services and Utilities**

No Federal plans, policies, regulations, or laws are related to public services that are relevant to the Proposed Action or alternatives under consideration. EO 13423 and EO 13514 described previously under Section 3.6.4, "Climate Change and Greenhouse Gas Emissions," is also relevant to the utilities and energy analysis.

### **5.6.12 Recreation**

#### ***National Wild and Scenic Rivers Act***

The National Wild and Scenic Rivers Act was discussed previously under Section 5.6.1, "Aesthetics."

The Proposed Site is near the Lower American River, considered to be the section from Nimbus Dam to the confluence with the Sacramento River, which is classified as a

“Recreation” river within the National and State Wild and Scenic Rivers Systems (Public Law 90-542, 16 USC 1271 et seq.; PRC Section 5093.50 et seq.).

### **5.6.13 Socioeconomics**

#### ***Council on Environmental Quality Regulations***

CEQ’s Regulations for Implementing the Procedural Provisions of NEPA state that when economic or social effects and natural or physical environmental effects are interrelated, the EIS must discuss these effects on the human environment (40 CFR 1508.14). The CEQ regulations also state that the “human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.” To the extent that the development of the new JOC facility could affect the natural or physical environment, the socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected.

### **5.6.14 Transportation and Circulation**

#### ***Executive Order 13150: Federal Workforce Transportation***

Under EO 1315, Federal agencies shall implement a transportation fringe benefit program that offers qualified Federal employees the option to exclude employee commuting costs incurred through the use of mass transportation and vanpools from taxable wages and compensation to reduce Federal employees’ contribution to traffic congestion and air pollution and to expand their commuting alternatives.

### **5.6.15 Environmental Justice**

#### ***Executive Order 12898: Environmental Justice***

EO 12898 requires Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. Two documents provide some measure of guidance to agencies required to implement this EO: *Environmental Justice: Guidance under the National Environmental Policy Act* (CEQ 1997) and *Final Guidance for Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analysis* (EPA 1998). Both serve as guides for incorporating environmental justice goals into preparation of environmental impact statements under NEPA. These documents provide specific guidelines for determining whether any environmental justice issues are associated with a proposed Federal action.

EO 12898 identifies and addresses the disproportionate placement of adverse environmental, economic, social, or health impacts from Federal actions and policies on minority and/or low-income communities. This EO requires that impacts on minority or low-income populations be considered during preparation of environmental and socioeconomic analyses of projects or programs that are proposed, funded, or licensed by Federal agencies.

In addition to the direction referenced above, EO 12898 requires the following:

- ▶ Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin [Section 2-2].
- ▶ Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public [Section 5-5(c)].

In addition, the presidential memorandum accompanying the EO states that “(e)ach Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the NEPA of 1969.”

## **5.7 Public Involvement under NEPA and CEQA**

### **5.7.1 Notice of Intent, Notice of Preparation, and Scoping Meetings**

Reclamation published the notice of intent (NOI) to prepare the JOC Relocation Project in the *Federal Register* on January 19, 2011. DWR filed the notice of preparation (NOP) of the JOC Relocation Project with the State Clearinghouse and released it publicly on January 18, 2011. In addition to the State Clearinghouse’s distribution of the NOP to potentially interested State agencies, copies of the NOP were mailed to a distribution list of approximately 500 recipients, including Federal, State, regional, and local agencies; non-profit and private organizations; homeowners associations; partnerships; businesses; and individual residents in the project area to solicit input as to the scope and content of this EIS/EIR (see Section 5.6, “List of Recipients”). The NOI and NOP are included in Appendix A, “Public Outreach Documents.”

Two joint NEPA/CEQA public scoping meetings were held on February 3, 2009 from 2:30 to 4:00 p.m. and another from 7:00 p.m. to 8:30 p.m. at the Sacramento Aquatics Center in Sacramento, California, to brief interested parties on the JOC Relocation Project, and obtain the views of agency representatives and the public on the scope and content of this EIS/EIR. Appendix A, “Public Outreach Documents,” contains the public outreach materials for the February 3, 2011 scoping meetings. In addition, at the request of the Gold Country and The Bluffs Homeowners Associations during the public scoping process, Reclamation and DWR have further coordinated with the homeowners associations to provide project information and respond to questions. On April 5, April 12, and April 19, 2011, Reclamation and DWR gave presentations regarding the project and described the process for submitting comments on the public draft EIS/EIR.

Verbal and written comments were received during the scoping meeting, and additional written comments from agencies and individuals were received throughout the CEQA scoping period, which ended on March 3, 2011. There is no mandated time limit for the



NEPA scoping period. All comment letters received during the scoping period are summarized in the Scoping Report and included in Appendix A, “Public Outreach Documents.”

### **5.7.2 Next Steps in the Environmental Review Process**

In accordance with NEPA and CEQA review requirements, this EIS/EIR is being distributed for public and agency review and comment for a 60-day period. This distribution ensures that interested parties have an opportunity to express their views regarding the significant environmental effects and other aspects of the project, and to ensure that information pertinent to permits and approvals is provided to the decision makers of Reclamation, DWR, NEPA cooperating agencies, and CEQA responsible and trustee agencies.

A public meeting will be held on September 22, 2011 at 2:30 to 4:00 p.m. and 7:00 p.m. to 8:30 p.m., at the Sacramento Aquatics Center in Sacramento, California, at which Reclamation and DWR will receive input from agencies and the public on the draft EIS/EIR. In addition, written comments from the public, reviewing agencies, and stakeholders will be accepted throughout the public comment period.

Following consideration of these comments, a final EIS/EIR will be prepared, in which Reclamation and DWR, respectively, will provide responses to comments on the draft EIS/EIR. The final EIS/EIR will constitute a reprint of the entire draft EIS/EIR, and will include comment letters, responses to comments, any minor modifications to the JOC Relocation Project as a result of engineering and design refinements, and any text changes/clarifications.

Reclamation will circulate the final EIS/EIR for 30 days prior to taking action on the project and issuing its record of decision. The record of decision will identify Reclamation’s decision regarding the alternatives considered and address substantive comments received on the final EIS/EIR.

DWR will then consider certifying the EIR if it is determined to be in compliance with CEQA, and will rely on the certified EIR when considering project approval. To support a decision on the project, DWR must prepare and adopt written findings of fact for each significant environmental impact identified in the EIS/EIR; a Statement of Overriding Considerations, if needed; and a mitigation monitoring and reporting program to ensure implementation of the mitigation measures and project revisions, if any, identified in the EIS/EIR. Following EIR certification and project approval, a notice of determination documenting the decision will be issued.

### **5.7.3 Major Areas of Controversy**

Areas relevant to alternatives are considered in this EIS/EIR, where viewpoints may differ among members of the public, technical experts, Reclamation, or DWR. The major controversial issues identified during this process include flooding, inundation of the project sites in the event of dam failure, visual and noise disturbances, effects on the American River Parkway, and traffic. These issues and other questions raised during scoping are summarized in the scoping report and then addressed in the impact analysis

in Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures.” Some of these controversies were not resolved in the course of preparing this EIS/EIR and may not be resolved before issuing a record of decision.

## **5.8 List of Recipients**

The following agencies, stakeholders, and public members will receive an electronic copy of the public draft EIS/EIR or notification that the public draft EIS/EIR is publically available for review.

### **5.8.1 Federal Agencies**

- ▶ National Oceanic and Atmospheric Administration (NOAA) – National Weather Service (NWS)
- ▶ National Hydrologic Warning Council
- ▶ National Marine Fisheries Service
- ▶ Native American Heritage Commission
- ▶ Northern California Power Agency
- ▶ U.S. Fish and Wildlife Service
- ▶ U.S. House of Representatives
- ▶ U.S. Army Corps of Engineers, Sacramento District, Regulatory Division, California Delta Branch
- ▶ U.S. Army Corps of Engineers, Sacramento District, Water Management
- ▶ U.S. Geological Survey

### **5.8.2 State Agencies**

- ▶ California Air Resources Board
- ▶ California Department of Fish and Game
- ▶ California Department of General Services
- ▶ California Department of Parks and Recreation
- ▶ California Department of Toxic Substances Control
- ▶ California Department of Transportation
- ▶ California Department of Water Resources
- ▶ California Emergency Management Agency
- ▶ California Farm Water Coalition
- ▶ California Highway Patrol
- ▶ California Native Plant Society
- ▶ California Office of Historic Preservation
- ▶ California Office of Planning and Research, State Clearinghouse
- ▶ California State Assembly

- ▶ California State Lands Commission
- ▶ California State Senate
- ▶ California State University, Sacramento

### **5.8.3 Regional, County, City, and Other Local Agencies**

- ▶ American River Flood Control District
- ▶ Arden Cordova Customer Service Area
- ▶ Bella Vista High School
- ▶ C. K. McClatchy High School
- ▶ Casa Roble High School
- ▶ Center High School
- ▶ Central Valley Flood Protection Board
- ▶ Central Valley Regional Water Quality Control Board
- ▶ City of Citrus Heights
- ▶ City of Elk Grove
- ▶ City of Folsom
- ▶ City of Rancho Cordova
- ▶ City of Sacramento
- ▶ City of Sacramento, Office of Emergency Management
- ▶ Cordova High School
- ▶ Del Campo High School
- ▶ El Camino High School
- ▶ El Dorado County, Office of Emergency Services
- ▶ Encina High School
- ▶ Environmental Council of Sacramento
- ▶ Fair Oaks Chamber of Commerce
- ▶ Fair Oaks Community Planning Advisory Council
- ▶ Folsom Chamber of Commerce
- ▶ Foothill High School
- ▶ Freedom Christian High School
- ▶ Granite Bay High School
- ▶ John F. Kennedy High School
- ▶ Luther Burbank High School
- ▶ Mesa Verde High School
- ▶ Mira Loma High School
- ▶ Orangevale Chamber of Commerce
- ▶ Placer County, Office of Emergency Services
- ▶ Rancho Cordova Chamber of Commerce

## Joint Operations Center Relocation Project

- ▶ Rancho Cordova Recreation and Park District
- ▶ Rio Americano High School
- ▶ Rosemont High School
- ▶ Roseville High School
- ▶ Sacramento Area Council of Governments
- ▶ Sacramento Area Flood Control Agency
- ▶ Sacramento Area Sewer District
- ▶ Sacramento County
- ▶ Sacramento County Emergency Management
- ▶ Sacramento County, Department of Regional Parks
- ▶ Sacramento County, Department of Regional Parks, Recreation and Open Space
- ▶ Sacramento County, Municipal Services Agency, Department of Environmental Review and Assessment
- ▶ Sacramento County, Municipal Services Agency, Department of Environmental Review and Assessment
- ▶ Sacramento Metropolitan Air Quality Management District
- ▶ Sacramento Metropolitan Fire Department
- ▶ Sacramento Municipal Utilities District
- ▶ San Luis & Delta Mendota Water Authority
- ▶ Shingle Springs Band of Miwok Indians
- ▶ United Auburn Indian Community of the Auburn Rancheria
- ▶ Victory Christian High School
- ▶ Vista Del Lago High School
- ▶ Water Forum
- ▶ West Campus High School
- ▶ Western Area Power Administration

### **5.8.4 Nonprofit Organizations, Partnerships, Private Organizations, and Businesses**

- ▶ Altshuler Berzon LLP
- ▶ American Red Cross
- ▶ American River Historical Society
- ▶ American River Parkway Preservation Society
- ▶ American Whitewater
- ▶ Cornish & Carey Commercial Newmark Knight Frank
- ▶ Curragh Downs Homeowners Association
- ▶ Dreyfuss & Blackford Architects
- ▶ East Sacramento Improvement Association
- ▶ Folsom Area Bicycle Advocates

- ▶ Friends of the River
- ▶ Gold River Community Association
- ▶ Heart of Central California Girl Scouts of America
- ▶ Kocal Management Group
- ▶ Lake Natoma Heights Homeowners Association
- ▶ Lincoln Crow Strategic Communications
- ▶ National Federation Employees Organization
- ▶ Pacific Gas & Electric
- ▶ Parus Consulting, Inc.
- ▶ Protect American River Canyons
- ▶ Sacramento Area Bicycle Advocates
- ▶ Sacramento Waldorf School
- ▶ Sacramento Wheelmen
- ▶ Save the American River Association
- ▶ Sierra Club
- ▶ Sierra Oaks Neighborhood
- ▶ The Classics at Gold Country Homeowners Associations
- ▶ The Bluffs Homeowners Association

#### **5.8.5 Media**

- ▶ Community Calendar—Rancho Cordova
- ▶ KFBK 1530 Radio
- ▶ Mountain Democrat

#### **5.8.6 Individuals**

- ▶ For the Proposed Site, residents located on Bluff Lane, Gold Pointe Lane, Gold Bluff Lane, Gold County Boulevard, Silver Point Lane, Gold Arbor Lane, Old Eureka Way, Rough Gold Court, Nimbus Road, and Tributary Crossing.
- ▶ Individuals that attended the scoping meetings.

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## 6.0 References

### Executive Summary

No references are cited.

### Chapter 1, “Introduction”

No references are cited.

### Chapter 2, “Alternatives”

Sacramento County Assessor’s Office. 2010. Assessor Parcel Viewer for Nimbus Site and Kilgore Site. Available: <http://assessorparcelviewer.saccounty.net/GISViewer/PrintMap.aspx>. Accessed December 28, 2010.

### Section 3.0, “Approach to the Environmental Analysis”

No references are cited.

#### Section 3.1, “Aesthetics”

Bacon, W. R. 1979. The Visual Management System of the Forest Service, USDA. *Proceedings of Our National Landscape: A Conference on Applied Techniques for Analysis of Management of the Visual Resource*, technical coordinators Elsner, G. H., and R. C. Smardon, Incline Village, NV, April 23–25, 1979. Gen. tech. Rep. PSW-GRT-35, pp. 660–665. Published by Pacific Southwest Forest and Range Exp. Stn., U.S. Department of Agriculture, Forest Service, Berkeley, CA.

Caltrans (California Department of Transportation). 2007. State Scenic Highway Index. Available: [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/index.htm](http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm). Last updated 2007. Accessed March 28, 2011.

FHWA (Federal Highway Administration). 1988. *Visual Impact Assessment for Highway Projects*. Office of Environmental Policy Publication No. FHWA-HI-88-054. Washington, DC.

Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Planning and Community Development Department. Sacramento, CA.

- . 2008. *Sacramento County American River Parkway Plan 2008*. County of Sacramento Municipal Services Agency and Planning and Community Development Department. Sacramento, CA.
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- USFS (U.S. Department of Agriculture, Forest Service). 1995. Chapter 4: Landscape Visibility and Scenic Classes. In *Landscape Aesthetics: A Handbook for Scenery Management*. Agricultural Handbook Number 701. Washington, DC.

### **Section 3.2, “Air Quality”**

- ARB (California Air Resources Board). 2000. Risk Reduction Plan to Reduce Diesel Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. Available: <http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf>. Accessed September 2009.
- ARB (California Air Resources Board). 2005 (March). *Air Quality and Land Use Handbook: A Community Health Perspective*. Sacramento, CA. Available: <http://www.arb.ca.gov/ch/landuse.htm>. Accessed February 2010.
- . 2009a. Ambient Air Quality Standards. Available: <http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>. Last reviewed November 24, 2009. Accessed August 6, 2010.
- . 2009b. *The California Almanac of Emissions and Air Quality*. Sacramento, CA. Available: <http://www.arb.ca.gov/aqd/almanac/almanac09/almanac09.htm>. Accessed August 6, 2010.
- . 2009c. Almanac Emission Projection Data for Sacramento County. Available: [http://www.arb.ca.gov/app/emsmv/emssumcat\\_query.php?F\\_DIV=-4&F\\_DD=Y&F\\_YR=2008&F\\_SEASON=A&SP=2009&F\\_AREA=CO&F\\_CO=34](http://www.arb.ca.gov/app/emsmv/emssumcat_query.php?F_DIV=-4&F_DD=Y&F_YR=2008&F_SEASON=A&SP=2009&F_AREA=CO&F_CO=34). Accessed February 3, 2011.
- . 2010a. Air Quality and Meteorological Information System. Available: <http://www.arb.ca.gov/aqmis2/aqmis2.php>. Last reviewed March 29, 2010. Accessed February 3, 2011.
- . 2010b. State Implementation Plan. Available: <http://www.arb.ca.gov/planning/sip/sip.htm>. Last reviewed December 13, 2010. Accessed January 31, 2011.
- . 2010c. Air Quality Data Statistics. Available: [www.arb.ca.gov/adam/welcome.html](http://www.arb.ca.gov/adam/welcome.html). Accessed August 6, 2010.
- . 2010d. Air Quality and Meteorological Information System. Available: <http://www.arb.ca.gov/aqmis2/aqmis2.php>. Accessed August 6, 2010.



- . 2010e. CHAPIS. Available: [http://www.arb.ca.gov/gismo2/chapis\\_v01\\_6\\_1\\_04/default.htm](http://www.arb.ca.gov/gismo2/chapis_v01_6_1_04/default.htm). Accessed August 18, 2010.
- . 2010f. Facility Search Engine. Sacramento, CA. Available: <http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php?dd=>. Accessed August 18, 2010.
- . 2010g. State Implementation Plan. Available: <http://www.arb.ca.gov/planning/sip/sip.htm>. Accessed February 2010.
- City of Rancho Cordova. 2006. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.
- Godish, T. 2004. *Air Quality*. Boca Raton, FL: Lewis Publishers.
- NCDC (National Climatic Data Center). 2008. Average Wind Speed for Sacramento, CA. Available: <http://lwf.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.html>. Last updated August 20, 2008. Accessed February 3, 2011.
- NHDES (New Hampshire Department of Environmental Services). 2007. *CO Health Information Summary*. Available: <http://des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-ehp-20.pdf>. Accessed March 2010.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- SJVAPCD (San Joaquin Valley Air Pollution Control District). 2008. Development Timeline Calculator. Available: <http://www.valleyair.org/ISR/ISRResources.htm>. Accessed January 2011.
- SMAQMD (Sacramento Metropolitan Air Quality Management District). 2007 (August). *Guidance for Land Use Emission Reductions, Version 2.4*. Sacramento, CA.
- . 2009 (December). *Guide to Air Quality Assessment in Sacramento County*. Available: <http://www.airquality.org/ceqa/ceqaguideupdate.shtml>. Accessed August 6, 2010.
- . 2010 (December). State PM Planning. Available: <http://www.airquality.org/plans/state/pm/index.shtml>. Last modified November 30, 2010. Accessed February 3, 2011.

- EPA (U.S. Environmental Protection Agency). 2010a. *National Ambient Air Quality Standards (NAAQS)*. Available: <http://www.epa.gov/air/criteria.html>. Accessed August 6, 2010.
- . 2010b. *Criteria Air Pollutant Information*. Available: <http://www.epa.gov/air/urbanair/>. Accessed December 2010.
- . 2010c (February). EPA-452/P-10-004, *Risk and Exposure Assessment to Support the Review of the Carbon Monoxide Primary National Ambient Air Quality Standards: Second External Review Draft*. Available: <http://www.epa.gov/ttn/naaqs/standards/co/data/COREA2ndDraftFeb2010.pdf>. Accessed February 3, 2011.
- USOTA (U.S. Office of Technology Assessment). 1989. *Catching Our Breath: Next Steps for Reducing Urban Ozone*. Available: [http://govinfo.library.unt.edu/ota/Ota\\_2/DATA/1989/8906.PDF](http://govinfo.library.unt.edu/ota/Ota_2/DATA/1989/8906.PDF). Accessed June 2010.
- WRCC (Western Regional Climate Center). 2010a. *Monthly Climate Summary (7/11/1877 to 9/30/2010) for Sacramento 5 ESE (047633)*. Available: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7633>. Accessed February 3, 2011.
- . 2010b. *Prevailing Wind Direction for Mather AP Station (1992–2002)*. Available: <http://www.wrcc.dri.edu/htmlfiles/westwinddir.html>. Accessed April 13, 2011.

### **Section 3.3, “Biological Resources”**

- AECOM. 2011a. *Wetland Delineation Report*. Sacramento, CA.
- Cal-IPC (California Invasive Plant Council). 2006. *California Invasive Plant Inventory*. Cal-IPC Publication 2006-02. Berkeley, CA: California Invasive Plant Council.
- CDFA (California Department of Food and Agriculture). 2010. *Pest Ratings of Noxious Weed Species and Noxious Weed Seed*. California Department of Food and Agriculture, Division of Plant and Health & Pest Prevention Services. Available: [http://www.cdfa.ca.gov/phpps/ipc/weedinfo/wininfo\\_list-pest-rating.htm](http://www.cdfa.ca.gov/phpps/ipc/weedinfo/wininfo_list-pest-rating.htm). Accessed February 24, 2011.
- City of Rancho Cordova. 2006. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.
- CNDDDB (California Natural Diversity Database). 2010 (February 28). *Results of electronic database search*. Sacramento: California Department of Fish and Game, Biogeographic Data Branch. Commercial Version—Dated October 31, 2010. Accessed January 2, 2011.
- CNPS (California Native Plant Society). 2010. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. Available:

- <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>. Last updated December 30, 2010. Accessed January 2, 2011.
- DFG (California Department of Fish and Game). 2009 (November). *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Biogeographic Data Branch. Sacramento, CA.
- DWR (California Department of Water Resources). 2011. California Data Exchange Center. Daily Rainfall Totals for Automated Rain Gauges: Previous, Folsom Dam Station. Available: [http://cdec.water.ca.gov/snow\\_rain.html](http://cdec.water.ca.gov/snow_rain.html). Accessed March, 3, 2011.
- Environmental Laboratory. 1987. *U.S. Army Corps of Engineers Wetlands Delineation Manual*. (Technical Report Y-87-1.) U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.
- . 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. (Technical Report ERDC/EL TR-08-28.) U.S. Army Corps of Engineers, Engineer Research and Development Center. Vicksburg, MS.
- Hickman, J. C. (ed). 1993. *The Jepson Manual: Higher Plants of California*. Berkeley and Los Angeles: University of California Press.
- Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program. California Department of Fish and Game. Sacramento, CA.
- Mayer, K. E., and W. F. Laudenslayer, Jr. 1988. *A Guide to Wildlife Habitats of California*. California Department of Fish and Game. Sacramento, CA.
- NRCS (Natural Resources Conservation Service). 2009. (September). Web Soil Survey (Version 2.2). Available: <http://websoilsurvey.nrcs.usda.gov/>. Accessed December 30, 2010.
- Reclamation (Bureau of Reclamation). 2005. (March). *Administrative Draft Environmental Assessment for the Nimbus Fish Hatchery Weir Replacement Project*. Prepared by U.S. Department of the Interior, Bureau of Reclamation, Mid-Pacific Region with assistance from EDAW. Sacramento, CA.
- . 2010. (October). *Draft Environmental Impact Statement/Environmental Impact Report for the Nimbus Hatchery Fish Passage Project, Rancho Cordova, California*. State Clearinghouse No. 2009042050. Sacramento, CA.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.

- . 2008. *Sacramento County American River Parkway Plan 2008*. Sacramento, CA.
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- SSHCP (South Sacramento Habitat Conservation Plan). 2011. <http://www.southsachcp.com/> Accessed on January 27, 2010.
- USFWS (U.S. Fish and Wildlife Service). 1996. (September). *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. California: Sacramento Fish and Wildlife Office.
- . 1999 (July). *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*. Sacramento, CA.
- . 2000 (September). *Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers*. Migratory Bird Program. Washington, DC. Available: <http://www.fws.gov/migratorybirds/>.
- . 2010. Results of electronic search of endangered species lists. Sacramento Fish and Wildlife Office. Available: [http://www.fws.gov/sacramento/es/spp\\_list.htm](http://www.fws.gov/sacramento/es/spp_list.htm). Last updated April 29, 2010. Accessed January 2, 2011.

### **Section 3.4, “Climate Change”**

- ARB (California Air Resources Board). 2008a (October). *Preliminary Draft Staff Proposal. Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*. Available: <http://www.arb.ca.gov/cc/localgov/ceqa/ceqa.htm>. Accessed December 2010.
- . 2008b (December). *Climate Change Proposed Scoping Plan*. Sacramento, CA. Available: <http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>. Accessed August 25, 2010.
- . 2010a. *Greenhouse Gas Emissions Inventory Summary for Years 2000–2006*. Available: [http://www.arb.ca.gov/cc/inventory/data/tables/ghg\\_inventory\\_ipcc\\_00-06\\_sum\\_2009-03-13.pdf](http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_00-06_sum_2009-03-13.pdf). Last updated May 12, 2010. Accessed February 2, 2011.
- . 2010b. Pavley I + LCFS Postprocessor Version 1.0. Available: <http://www.arb.ca.gov/cc/sb375/tools/postprocessor.htm>. Last reviewed April 29, 2010. Accessed August February 2, 2011.

CAL FIRE 2011. Estimates of Carbon Sequestered by Common California Trees. Prepared by Tim Robards, Division Chief, State Forests Research.

- Cal/EPA(California Environmental Protection Agency). 2011. Visualizing California Climate Change Impacts—Sea Level. Available: <http://www.climatechange.ca.gov/visualization/sealevel.html>. Last modified December 3, 2009. Accessed April 2011.
- California Natural Resources Agency. 2009. CEQA Guidelines: 2009 SB 97 Rulemaking. Sacramento, CA. Available: <http://ceres.ca.gov/ceqa/guidelines/>. Accessed January 4, 2010.
- CEC (California Energy Commission). 2006a. Inventory of California Greenhouse Gas Emissions and Sinks:1990 to 2004. (Staff Final Report). Publication CEC-600-2006-013-SF. Available: <http://www.climatechange.ca.gov/inventory/index.html>. Accessed May 2010.
- . 2006b. Our Changing Climate: Assessing the Risks to California. Publication CEC-500-2006-077. July. Available: <http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF>. Accessed May 2010.
- City of Rancho Cordova. 2006. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.
- DWR (California Department of Water Resources). 2006. *Progress on Incorporating Climate Change into Planning and Management of California's Water Resources, Technical Memorandum Report*. Sacramento, CA.
- . 2008. Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water. Available: <http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf>. Accessed December 2010.
- IPCC (Intergovernmental Panel on Climate Change). 2007 (February). *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the IPCC. Geneva, Switzerland.
- Kapnick and Hall. 2009. *Observed Changes in the Sierra Nevada Snowpack: Potential Causes and Concerns*. (Draft Paper) CEC-500-2009-016-D. Sacramento, CA: California Climate Change Center.
- Kim, J., T. K. Kim, R. W. Arritt, and N. L. Miller. 2002. Impacts of Increased Atmospheric CO<sub>2</sub> on the Hydroclimate of the Western United States. *Journal of Climate* 15:1926–1943.
- Knowles, N., M. D. Dettinger, and D. R. Cayan. 2006 (September 15). Trends in Snowfall Versus Rainfall in the Western United States. *Journal of Climate* 19(18): 4545-4559.

- Knowles, N., and D. R. Cayan. 2002. Potential Effects of Global Warming on the Sacramento/San Joaquin Watershed and the San Francisco Estuary. *Geophysical Research Letters* 29(18):1891.
- Moser, S., G. Franco, S. Pittiglio, W. Chou, and D. Cayan. 2009 (May). *The Future is Now: An Update on Climate Change Science Impacts and Response Option for California*. CEC-500-2008-071. Sacramento, CA: California Energy Commission Public Interest Energy Research Program, California Climate Change Center.
- Mote, P. W., A. F. Hamlet, M. Clark, and D. P. Lettenmaier. 2005. Declining Mountain Snowpack in Western North America. *Bulletin of the American Meteorological Society* 86(1):39–49.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- . 2009a (June). Greenhouse Gas Emissions Inventory. Available: [http://www.sustainability.saccounty.net/coswcm/groups/public/@wcm/@pub/@sccc/@inter/documents/webcontent/sac\\_024271.pdf](http://www.sustainability.saccounty.net/coswcm/groups/public/@wcm/@pub/@sccc/@inter/documents/webcontent/sac_024271.pdf). Accessed December 10, 2010.
- . 2009b (May). Sacramento County Draft Climate Action Plan, Phase 1. Available: [http://www.dera.saccounty.net/Portals/0/docs/Final\\_SACCTY\\_GHG\\_June09\\_stacked\\_small.pdf](http://www.dera.saccounty.net/Portals/0/docs/Final_SACCTY_GHG_June09_stacked_small.pdf). Accessed December 10, 2010.
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- SMAQMD (Sacramento Metropolitan Air Quality Management District). 2009 (December). *Guide to Air Quality Assessment in Sacramento County*. Available: <http://www.airquality.org/ceqa/ceqaguideupdate.shtml>. Accessed August 6, 2010.
- Snyder, M. A., J. L. Bell, L. C. Sloan, P. B. Duffy, and B. Govindasamy. 2002. Climate Responses to a Doubling of Atmospheric Carbon Dioxide for a Climatically Vulnerable Region. *Geophysical Research Letters* 29(11):1514, doi:10.1029/2001GL014431.

### **Section 3.5, “Cultural Resources”**

- AECOM. 2009. *Historic Context for Mining along the Lower American River—Mississippi and Sailor Bars*. Report prepared for Department of the Interior Bureau of Reclamation and City-County Office of Metropolitan Water Planning, Sacramento, CA.
- AECOM. 2011. Cultural Resources Inventory and Evaluation Report (Confidential). Sacramento, CA.

- Aubury, L. E. 1910. *Gold Dredging in California*. California State Mining Bureau Bulletin No. 57. Sacramento, CA: State Printing Office.
- Beals, R. L. 1933. Ethnology of the Nisenan. *University of California Publications in American Archaeology and Ethnology*. Vol 31, No. 6, pp 335–414. Berkeley, CA: University of California Press.
- California Office of Historic Preservation. 1995. *Instructions for Recording Historical Resources*. Sacramento, CA.
- Castañeda, A., R. Docken, E. Pitti, and C. Ide. 1984. Natomas Company 1851–1984. Draft report prepared for the Natomas Company. On file at the Center for Sacramento History, Document 837.
- City of Rancho Cordova. 2006. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.
- Crawford, J. J. 1894. *Twelfth Annual Report of the State Mineralogist*. San Francisco, CA: California State Mining Bureau.
- Davis, W. J. 1890. *An Illustrated History of Sacramento County, California*. Chicago, IL: The Lewis Publishing Company.
- EDAW. 2003. *Lake Natoma State Recreation Area, Sacramento County, California*. Sacramento, CA. Prepared for the California Department of Parks and Recreation, Folsom, CA. On file at the North Central Information Center, California State University, Sacramento, CA.
- Fredrickson, D. A. 1974. Cultural Diversity in Early Central California: A view from the North Coast Ranges. *Journal of California Anthropology* 1 (1):41-54, Berkeley, CA.
- Kroeber, A. L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, DC: Smithsonian Institution, Government Printing Office.
- Kyle, Douglas E. 1990. *Historic spots in California*. Stanford: Stanford University Press.
- Lindström, S. G. 1988. *A Comparative Evaluation of the Natoma Ground Sluice Diggings Folsom, California*. Report on file, North-Central Information Center, California State University Sacramento, CA.
- Maniery, M. L. 1992. *Historic Study Report and Historic Resource Evaluation Report for 16 Sites, Highway 50 Interchange Project, Sacramento County, California*. Report submitted to Beak Consultants, Inc., Sacramento, CA.

- Maniery, M. L., L. R. Fryman, and G. H. Ziesing. 1994. *Historical Overview of Negro Bar, an Early Mining Community on the American River*. Report submitted to the City of Folsom, CA.
- Miller, M. 1990. What's In A Name? The *Sacramento Bee* Archives. Available: <<http://www.sacbee.com/static/archive/ourtown/history/placenames.html>>. Last updated April 5, 1990. Accessed May 3, 2005. Natomas Consolidated of California. n.d. Natomas Consolidated of California Natoma Dredge No. 1. 1:100 and 1:200 Scale. 81/37/1253a-h, MC1:6. Viewed at the Center for Sacramento History, Sacramento, CA.
- PAR Environmental Services, Inc. 1995. *Historic Properties Survey Report for the Proposed United States Route 50/Folsom Boulevard Interchange Improvements, City of Folsom, Sacramento, California*. Prepared for California Department of Transportation, District 3, Sacramento, CA.
- Peak & Associates. 1999. *Cultural Resource Assessment of the Proposed Rio del Oro Project Area, Sacramento County, California*. Manuscript on file, North Central Information Center.
- . 2005. *Determination of Eligibility and Effect for the Proposed Rio del Oro Project Area, City of Rancho Cordova, Sacramento County, California*. Report prepared for Elliott Homes, Inc., Folsom, CA.
- Rosenthal, J. S, G. White, and M. Q. Sutton. 2007. The Central Valley: A View from the Catbird's Seat. *California Prehistory: Colonization, Culture, and Complexity*. Edited by Terry L. Jones and Kathryn A. Klar. Lanham, MD: AltaMira Press.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- Sacramento County. 2010. *Sacramento County General Plan Update*. Available: <http://www.dera.saccounty.net/SearchforDocuments/GeneralPlanUpdateEIR/tabid/117/Default.aspx>.
- Tordoff. 2004. The Evolution of California's Placer Mining Landscape – A View from Prairie City. Report submitted to the California Department of Transportation, District 3, Marysville, CA.
- Wells, J. H. 2004. *Bucket-Line Dredging for Gold—An Annotated Photo Collection*. Manuscript in the possession of Judy D. Tordoff, Sacramento, CA.
- Wilson, N. and A. H. Towne. 1978. Nisenan: in R.F. Heizer, Vol. Ed., *Handbook of North American Indians*, Vol. 8: California: 387-397. Washington, DC: Smithsonian Institution.



### Section 3.6, “Earth and Paleontological Resources”

- Cao, T., W. A. Bryant, B. Rowshandel, D. Branum, and C. J. Wills. 2003. The Revised 2002 California Probabilistic Seismic Hazard Maps. Available: [http://www.consrv.ca.gov/cgs/rghm/psha/fault\\_parameters/pdf/Documents/2002\\_CA\\_Hazard\\_Maps.pdf](http://www.consrv.ca.gov/cgs/rghm/psha/fault_parameters/pdf/Documents/2002_CA_Hazard_Maps.pdf). Accessed February 3, 2011.
- CGS (California Geological Survey). 2011. Seismic Shaking Hazards in California. Available: <http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamain.html>. Last updated March 8, 2011. Accessed April 5, 2011.
- City of Rancho Cordova. 2006a (March 13). *Draft Environmental Impact Report for the Rancho Cordova General Plan*, Volume 1. Rancho Cordova, CA.
- . 2006b. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.
- Davis, S. N. and F. R. Hall. 1959. Water Quality of Eastern Stanislaus and Northern Merced Counties, California. *Geological Sciences*, Vol. 6, No. 1. Stanford, CA: Stanford University, School of Mineral Sciences.
- Dupras, D. 1999. Mineral Land Classification: Portland Cement Concrete-Grade Aggregate and Kaolin Clay Resources in Sacramento County, California. California Division of Mines and Geology, Open-File Report 99-09.
- Hart, E. W., and W. A. Bryant. 2007. *Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps*. Special Publication 42. California Geological Survey, Sacramento, CA.
- Ichinose, G. A., Kenji, S., Anderson, J. G., Schweickert, R. A., and Lahren, M. M. 1999. The Potential Hazard from Tsunami and Seiche Waves Generated by Future Large Earthquakes within the Lake Tahoe Basin, California-Nevada. *Geophysical Research Letters* 27: 1203–1206. April 15, 2000. Available: <http://crack.seismo.unr.edu/htdocs/WGB/LakeTahoeTsunami/>.
- Jennings, C. W. 1994. *Fault Activity Map of California and Adjacent Areas*. California Division of Mines and Geology, Geologic Data Map No. 6. Sacramento, CA.
- Marchand, D. E. and A. Allwardt. 1981. Late Cenozoic Stratigraphic Units, Northeastern San Joaquin Valley, CA. U.S. Geological Survey Bulletin 1470. Washington, DC.
- Mualchin, L. 1996 (July). A Technical Report to Accompany the Caltrans California Seismic Hazard Map. Prepared by California Department of Transportation, Office of Earthquake Engineering. Available: [http://geotechref.coppernorthern.com/w/files/2/2e/Caltrans\\_1996-SeismicHazardMapReport.pdf](http://geotechref.coppernorthern.com/w/files/2/2e/Caltrans_1996-SeismicHazardMapReport.pdf).
- NRCS (U.S. Natural Resources Conservation Service). 2010a (December). Nimbus Site, Custom Soil Resource Report for Sacramento County, California, Natural

- Resources Conservation Service. Available:  
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- . 2010b (December). Kilgore Site, Custom Soil Resource Report for Sacramento County, California, Natural Resources Conservation Service. Available:  
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- Petersen, M. D., W. A. Bryant, C. H. Cramer, T. Cao, M. S. Reichle, A. D. Frankel, J. J. Lienkaemper, P. A. McCrory, and D. P. Schwartz. 1996. Probabilistic Seismic Hazard Assessment for the State of California. California Division of Mines and Geology Open-File Report 96-08. U.S. Geological Survey Open-File Report 96-706. Available: <http://www.consrv.ca.gov/cgs/rghm/psha/ofr9608/Pages/Index.aspx>.
- Piper, A. M., H. S. Gale, H. E. Thomas, and T. W. Robinson. 1939. *Geology and Ground-Water Hydrology of the Mokelumne Area, California*. USGS Water-Supply Paper 780. Washington, DC: U.S. Government Printing Office.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- . 2010. *General Plan Update, Draft Environmental Impact Report, Geology and Soils*. Planning and Community Development Department. Available:  
<http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed August 24, 2011.
- Sierra College. 2011. Sierra Nevada Virtual Museum. Available:  
<http://www.sierranevadavirtualmuseum.com/docs/galleries/nathist/paleontology/fossils.htm>. Accessed February 2011.
- Society of Vertebrate Paleontology. 1995. Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources-standard guidelines. *Society of Vertebrate Paleontology News Bulletin* 163:22–27.
- . 1996. Conditions of receivership for paleontologic salvage collections (final draft). *Society of Vertebrate Paleontology News Bulletin* 166:31–32.
- State Mining and Geology Board/California Division of Mines and Geology (SMGB/CDMG). 2000. *California Surface Mining and Reclamation Policies and Procedures*. Guidelines for Classification and Designation of Mineral Lands. Special Publication 51, Third Revision. Available:  
<http://www.consrv.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>. Accessed August 24, 2011.
- UCMP (University of California Museum of Paleontology). 2011 (February 2). Museum of Paleontology Database. Berkeley, CA.

USGS. 2000. Database of Potential Sources for Earthquakes Larger than Magnitude 6 in Northern California. Prepared by The Working Group on Northern California Earthquake Potential. USGS Open-File Report 96-705. Available: [http://quake.usgs.gov/prepare/ncep/a\\_northeastern.html](http://quake.usgs.gov/prepare/ncep/a_northeastern.html).

### **Section 3.7, “Hazards and Hazardous Materials”**

AECOM Environment. 2011b. Phase I Environmental Site Assessment. Sacramento, CA.

Aerojet. 2005 (August 1). *Appendix A—Zone 1 Remedial Investigation Report Perimeter Groundwater Operable Unit (OU-5), Aerojet-General Superfund Site Sacramento, California*. Sacramento, CA. Prepared by Central Valley Environmental, Inc., Fair Oaks, CA.

———. 2009 (June). *Part I – Appendix E Perimeter Groundwater Operable Unit (OU-5) Remedial Investigation/Feasibility Study, Baseline Risk Assessment for Groundwater, Aerojet Superfund Site Sacramento, CA*. Sacramento, CA. Prepared by ERM-West, Inc., Sacramento, CA.

Ameristar. 2011a. Chain of Ownership Report for the Nimbus Site. Southlake, TX.

———. 2011b. Chain of Ownership Report for the Kilgore Site. Southlake, TX.

Bureau Veritas (Bureau Veritas North America, Inc.) 2007a (November 7). *Final Draft Supplemental Remedial Investigation Report*. Pleasanton, CA. Prepared for the Brighton Oil Potential Responsible Party Committee. Sacramento, CA.

———. 2007b (March 13). *Draft Health Risk Assessment Report, Former Brighton Oil Site*. Pleasanton, CA. Prepared by RATECH Resources, Irvine, CA.

———. 2009 (April). *FINAL DRAFT Feasibility Study and Remedial Action Plan, Brighton Oil Site, Rancho Cordova, California*. Pleasanton, CA.

CAL FIRE (California Department of Forestry and Fire Protection). 2007 (November 7). Fire Hazard Severity Zones in SRA, for Sacramento County. Available: [http://www.fire.ca.gov/fire\\_prevention/fhsz\\_maps/fhsz\\_maps\\_sacramento.php](http://www.fire.ca.gov/fire_prevention/fhsz_maps/fhsz_maps_sacramento.php). Accessed March 23, 2011.

Central Valley Environmental, Inc. 2005. Appendix A - Zone 1 Remedial Investigation Report Perimeter Groundwater Operable Unit (OU-5) Aerojet-General Superfund Site Sacramento, California. Central Valley Environmental, Inc, Sacramento, California. August 1, 2005.

City of Rancho Cordova. 2006a. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.

———. 2006b (March 13). *Rancho Cordova General Plan Draft Environmental Impact Report, Volume 1*. Rancho Cordova, CA.

Joint Operations Center Relocation Project

- Clayton (Clayton Group Services). 2006 (April 21). *Remedial Investigation Report*. Pleasanton, CA. Prepared for the Brighton Oil Potential Responsible Party Committee, Sacramento, CA.
- DTSC (California Department of Toxic Substances Control). 1989 (January 6). Remedial Action Certification, Hazel Avenue Ponds. Sacramento, CA.
- . 2000 (February). Environmental Lien. Sacramento County Assessor's Parcel Number (APN): 072-0260-031 (Parcel B of the Former Brighton Oil Facility). Sacramento, CA.
- . 2010 (March). Covenant to Restrict Use of Property Environmental Restriction. Sacramento County Assessor's Parcel Number (APN): 072-0260-006 (Parcel A of the Former Brighton Oil Facility). Sacramento, CA.
- Earth Technology Corporation. 1987 (March 20). *Report of Review of Site History and Previous Investigations*. Prepared for Diepenbrock, Wulff, Plant, & Hannegan.
- Ecology and Environment, Inc. 1984 (November). *Soil Contamination Investigation of Purity Oil Sales—Sacramento and the Davies Property in Rancho Cordova, California*. Prepared for the California Regional Water Quality Control Board, Central Valley Region, Sacramento, CA.
- EDR (Environmental Data Resources, Inc.). 2010a (December 13). Radius Map with GeoCheck®, prepared for the Nimbus Site, Rancho Cordova, CA. Inquiry number 2944638.2s.
- . 2010b (December 16). Aerial Photos Decade Package, prepared for the Kilgore Site, Rancho Cordova, CA. Inquiry number 2944638.8. Aerial photographs dated 1937, 1947, 1952, 1961, 1971, 1981, 1993, 1998, 2005.
- . 2010c (December 13). Radius Map with GeoCheck®, prepared for the Kilgore Site, Rancho Cordova, CA. Inquiry number 2944638.6s.
- . 2010d (December 17). Certified Sanborn Map Report—the Nimbus Site, Rancho Cordova, CA. Inquiry number 2944638.3.
- . 2010e (December 16). Aerial Photos Decade Package, prepared for the Nimbus Site, Rancho Cordova, CA. Inquiry number 2944638.4. Aerial photographs dated 1937, 1952, 1961, 1971, 1981, 1993, 1998, 2005.
- . 2010f (December 17). Certified Sanborn Map Report—the Kilgore Site, Rancho Cordova, CA. Inquiry number 2944638.7.
- . 2010g (December 30). EDR Environmental LienSearch Report—the Nimbus Site, Rancho Cordova, CA. Inquiry number 2960617.2.

- . 2011 (January 27). EDR Environmental LienSearch Report—the Kilgore Site, Rancho Cordova, CA. Inquiry number 2960617.4.
- EMD (Sacramento County Environmental Management Department). 2009 (March 9). No Further Action Request Package. Diesel Fuel UST Case. 2101 Nimbus Road.
- EPA (U.S. Environmental Protection Agency). 2001 (July 20). Record of Decision for the Western Groundwater Operable Unit OU-3. Aerojet Sacramento Site, Rancho Cordova, California. U.S. Environmental Protection Agency Region 9, San Francisco, California. Washington, DC.
- . 2010. EPA Map of Radon Zones. Available: <http://www.epa.gov/radon/zonemap.html>. Accessed December 16, 2010.
- Fears, Rick. Project Manager. California Department of Toxic Substances Control, Sacramento, CA. December 12, 2011—telephone conversation with Mark Capps of AECOM regarding various issues and disposal practices related to the Purity Oil/Delta Gunite/Brighton Oil Site.
- Gundlach, Trey. Property Owner Contact Person. The Evergreen Company, Sacramento, CA. January 24, 2011—telephone conversation with Mark Capps of AECOM regarding referral of hazardous material questionnaire to Mr. Dan Cole and The Evergreen Company's history related to the Alternative 1 Site parcels.
- Harding Lawson Associates. 1988 (August 9). *Site Characterization, Former Purity Oil Sales Site, Rancho Cordova, California*. Prepared for Kilgore South Business Park.
- Hicks, John P. E., R.E.A. 2001 (August). Soil Remediation Report, Former Lonestar Property, 3209 Kilgore Road, Rancho Cordova, CA.
- Keeler, Jackie. Land Resources Contact for the Nimbus Site. Bureau of Reclamation, Mid-Pacific Region, Sacramento, CA. January 19, 2011—telephone conversation with Mark Capps of AECOM regarding the relaying of the ASTM Questionnaire to a hazardous materials specialist and the paving of the access road at the Kilgore Site.
- Mayer, Kevin. Project Manager for Aerojet Superfund Remediation. Environmental Protection Agency, Region 9, San Francisco, CA. January 10, 2011—telephone conversation with Mark Capps of AECOM regarding Aerojet groundwater impacts and issues related to the Nimbus and Kilgore Sites.
- MWH (Montgomery Watson Harza). 2007 (February 13). *Arsenic in Soil at the Rio Del Oro Site Memorandum*. Sacramento, CA.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.

———. 2009 (April 13). Safety Element (Draft) in the *Sacramento County General Plan Update*. Sacramento, CA: Planning and Community Development Department.

———. 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.

Sacramento County Assessor's Office. 2010. Assessor Parcel Viewer for Nimbus Site and Kilgore Site. Available: <http://assessorparcelviewer.saccounty.net/GISViewer/PrintMap.aspx>. Accessed December 28, 2010.

SWRCB (California State Water Resources Control Board). 2009 (September). National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order No. 2009-0009-DWQ NPDES No. CAS000002 (General Permit). Sacramento, California.

URS Corporation. 2010. *Workplan for Soil and Groundwater Assessment for Nimbus Flat State Park*. Sacramento, CA.

USGS (U.S. Geological Survey). 2000. *Mercury Contamination from Historic Gold Mining in California*. Fact Sheet FS-061-00.

Versar Inc. 2000a. Report of Phase 2 Environmental Assessment, Former Lonestar Site at 3209 Kilgore Road, Rancho Cordova, CA.

———. 2000b. Phase I Environmental Assessment, Former Lonestar Site at 3209 Kilgore Road, Rancho Cordova, CA.

Vonich, Pete. Hazardous Materials Specialist. Bureau of Reclamation, Central California Area Office, Folsom, CA. January 25, 2011—telephone conversation with Mark Capps of AECOM regarding hazardous materials issues related to the Joint Operations Center project sites.

### **Section 3.8, "Hydrology and Water Quality"**

Aerojet General Corporation. 2009. Perimeter Groundwater Operable Unit Remedial Investigation/Feasibility Study Report. June 25, 2009. Available: <http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dec8ba3252368428825742600743733/60508b9cae7346f088257007005e9436!OpenDocument>. Accessed December 20, 2010.

Booth, George. 2011. Senior civil engineer, Sacramento County Department of Water Resources, Sacramento, CA. February 14, 2011—telephone conversation with Kara Baker of AECOM regarding existing flooding along Sunrise Boulevard in the City of Rancho Cordova, CA.

CASQA (California Stormwater Quality Association). 2003 (January). *Stormwater Best Management Practice Handbook: New Development and Redevelopment*.

- Available: <http://www.cabmphandbooks.com/Development.asp>. Accessed December 20, 2010.
- Central Valley RWQCB (Central Valley Regional Water Quality Control Board). 2009 (September). *Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region, Fourth Edition, the Sacramento River Basin and the San Joaquin River Basin*.
- City of Rancho Cordova. 2006a (March). *Rancho Cordova General Plan Draft Environmental Impact Report (DEIR)*. Rancho Cordova, CA.
- . 2006b. Rancho Cordova General Plan. Adopted June 26, 2006. Rancho Cordova, CA.
- DWR (California Department of Water Resources). 2004. California's Groundwater Bulletin 118, South American Subbasin. Last updated February 27, 2004. Available: [http://www.water.ca.gov/pubs/groundwater/bulletin\\_118/basindescriptions/5-21.65.pdf](http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/5-21.65.pdf). Accessed December 20, 2010.
- . 2008. Preliminary 100- and 200-Year Floodplains Based Upon Best Available Data Map, Page B4. Prepared by PBS&J. October 15, 2008. Available: [http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best\\_available\\_maps/sacramento/sac\\_b4.pdf](http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/sacramento/sac_b4.pdf). Accessed December 28, 2010.
- EPA (U.S. Environmental Protection Agency). 1999 (August). *Preliminary Data Summary of Urban Storm Water Best Management Practices*. Available: [http://www.epa.gov/waterscience/guide/stormwater/files/usw\\_c.pdf](http://www.epa.gov/waterscience/guide/stormwater/files/usw_c.pdf). Accessed December 20, 2010.
- FEMA (Federal Emergency Management Agency). 2010 (August 31). Flood Insurance Rate Map, Sacramento County, California and Incorporated Areas, 1" = 500'. Panel 113 of 705, Map No. 06067C0113H. Hyattsville, MD.
- Larry Walker Associates. 2010 (September). *Sacramento Regional County Sanitation District Coordinated Monitoring Program: 2009–2010 Annual Report*. Available: <http://www.srcsd.com/pdf/cmp/rpt-cmp-10.pdf>. Accessed December 21, 2010.
- Sacramento County. 1996 (December). *Sacramento City/County Drainage Manual Volume 2: Hydrology Standards*. Department of Water Resources Available: <http://www.msa2.saccounty.net/dwr/Pages/DrainageManualVolume2.aspx>. Accessed December 20, 2010.
- . 2001. *Local Floodplain Management Plan for the County of Sacramento*. Sacramento, CA: Public Works Agency, Department of Water Resources.
- . 2007. Background to the 1993 General Plan as Amended. Planning and Community Development Department Available:

- [http://www.msa2.saccounty.net/planning/Documents/General-Plan-Update/EntireBackgroundSection\\_04.09.pdf](http://www.msa2.saccounty.net/planning/Documents/General-Plan-Update/EntireBackgroundSection_04.09.pdf). Accessed December 20, 2010.
- . 2008a. *County of Sacramento Emergency Operations Plan*. December 2008. Available: [http://www.sacramentoready.org/coswcms/groups/public/@wcm/@pub/@sacready/documents/webcontent/sac\\_018609.pdf](http://www.sacramentoready.org/coswcms/groups/public/@wcm/@pub/@sacready/documents/webcontent/sac_018609.pdf). Accessed December 22, 2010.
- . 2008b. *Geographical Information System Shape Files for Folsom Dam Inundation Area*. Prepared by Sacramento County GIS Department. Sacramento, CA.
- . 2009 (April 13). *County of Sacramento Draft General Plan*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Documents/General-Plan-Update/EntirePolic0Section04.09.pdf>. Accessed December 20, 2010.
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- SCWA (Sacramento County Water Agency). 2005 (December). *Sacramento County Water Agency 2005 Zone 41 Urban Water Management Plan*. Prepared with MWH. Sacramento, CA.
- SCWA et al. (Sacramento County Water Agency, the Central Sacramento County Groundwater Basin Stakeholders, and the Water Forum Successor Effort). 2006 (February). *Central Sacramento County Groundwater Management Plan*. Prepared with MWH. Sacramento, CA.
- SSQP (Sacramento Stormwater Quality Partnership). 2007 (May). *Stormwater Quality Design Manual for the Sacramento and South Placer Regions*. Available: [http://www.msa.saccounty.net/sactostormwater/SSQP/documents/DesignManual/SWQ\\_DesignManual\\_May07\\_073107.pdf](http://www.msa.saccounty.net/sactostormwater/SSQP/documents/DesignManual/SWQ_DesignManual_May07_073107.pdf). Accessed December 20, 2010.
- . 2009 (November). *Stormwater Quality Improvement Plan*. Available: [http://www.sacramentostormwater.org/documents/reports/2009-SQIP/SQIP-\(Nov09\)-MainDocument.pdf](http://www.sacramentostormwater.org/documents/reports/2009-SQIP/SQIP-(Nov09)-MainDocument.pdf). Accessed December 20, 2010.
- Section 3.9, “Land Use Planning, Agriculture, and Forestland Resources”**
- Caltrans (California Department of Transportation). 2002 (January). *California Airport Land Use Planning Handbook*. Division of Aeronautics. Available: <http://www.dot.ca.gov/hq/planning/aeronaut/documents/ALUPHComplete-7-02rev.pdf>. Accessed March 17, 2011.
- City of Rancho Cordova. 2006. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.



- DOC (California Department of Conservation). 2008. Farmland Mapping and Monitoring Program. Sacramento, CA. Available: <http://www.consrv.ca.gov/dlrp/FMMP/Pages/Index.aspx>. Accessed September 2010.
- McCormick, Michele. Executive Vice President, Sacramento Region. Circlepoint, Sacramento, CA. September 8, 2010—e-mail message to Tammie Beyerl of AECOM regarding the anticipated schedule of completion for the *South Sacramento County Habitat Conservation Plan*.
- SACOG (Sacramento Area Council of Governments). 1997 (May). *Mather Airport Comprehensive Land Use Plan*. Sacramento, CA.
- SACOG and Valley Vision (Sacramento Area Council of Governments and Valley Vision). 2004. Preferred Blueprint Scenario for 2050. Sacramento, CA. Available: [http://www.sacregionblueprint.org/sacregionblueprint/the\\_project/principles.pdf](http://www.sacregionblueprint.org/sacregionblueprint/the_project/principles.pdf). Accessed January 2011.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- . 2008a. *Sacramento County American River Parkway Plan 2008*. Sacramento, CA.
- . 2008b. Mining-Related Zoning Code Amendments. Available: <http://www.msa2.saccounty.net/planning/Pages/SurfaceMining-RelatedZoningandCountyCodeAmendments.aspx>
- . 2010. Memorandum to Sacramento County from Design, Community & Environment regarding the status of the Sacramento County General Plan Update. Available: <http://www.msa2.saccounty.net/planning/Documents/Cover%20Letter%20for%20DCE%20Memo.pdf>. Accessed January 2011.

### **Section 3.10, “Noise”**

- BBN (Bolt Beranek and Newman Inc.). 1981. *Noise Control for Buildings and Manufacturing Plants*. Cambridge, MA.
- Caltrans (California Department of Transportation). 2009 (November). *Technical Noise Supplement*. Sacramento, CA.
- City of Rancho Cordova. 2006. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.
- EPA (U.S. Environmental Protection Agency). 1971 (December 31). Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. NTID300.1. Washington, DC.

FHWA (Federal Highway Administration). 1978 (December). *Federal Highway Traffic Noise Prediction Model FHWA RD 77-108*. Washington DC.

———. 2006 (January). *Roadway Construction Noise Model User's Guide*. Washington DC.

FTA (Federal Transit Administration). 2006 (May). *Transit Noise and Vibration Impact Assessment*. Washington, DC. Prepared by: Harris Miller Miller & Hanson Inc., Burlington, MA.

SACOG (Sacramento Area Council of Governments). 1997 (May). *Mather Airport Comprehensive Land Use Plan*. Sacramento, CA.

Sacramento County. 1993. *1993 County of Sacramento General Plan*. Sacramento, CA.

———. 2009 (April 13). Draft Noise Element of the *Sacramento County General Plan Update*. Sacramento, CA: Planning and Community Development Department.

———. 2010. *Sacramento County General Plan Update*. Planning and Community Development Department. Available:  
<http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>.  
Accessed January 3, 2011.

### **Section 3.11, "Public Services and Utilities"**

California Highway Patrol. 2011. Valley Division Quick Facts. Available:  
[http://www.chp.ca.gov/depts\\_divs\\_offs/valley.html](http://www.chp.ca.gov/depts_divs_offs/valley.html). Accessed January 4, 2011.

CEC (California Energy Commission). 2007 (November). Impact Analysis. 2008 Update to the California Building Energy Standards for Residential and Nonresidential Buildings. Available:  
[http://www.energy.ca.gov/title24/2008standards/rulemaking/documents/2007-11-07\\_IMPACT\\_ANALYSIS.PDF](http://www.energy.ca.gov/title24/2008standards/rulemaking/documents/2007-11-07_IMPACT_ANALYSIS.PDF). Accessed January 17, 2011.

———. 2009a. California Energy Demand 2010–2020, Staff Revised Forecast. November 2009. Available: <http://www.energy.ca.gov/2009publications/CEC-200-2009-012/index.html>. Accessed January 12, 2011.

———. 2009b. 2008 California Green Building Standards Code. Available:  
[http://www.documents.dgs.ca.gov/bsc/2009/part11\\_2008\\_calgreen\\_code.pdf](http://www.documents.dgs.ca.gov/bsc/2009/part11_2008_calgreen_code.pdf).  
Accessed January 17, 2011.

———. 2010 (January). California Building Energy Standards for Residential and Nonresidential Buildings. Available  
<http://www.energy.ca.gov/2008publications/CEC-400-2008-001/CEC-400-2008-001-CMF.PDF>. Accessed January 17, 2011.

———. 2011a. 2009 Electricity Consumption by Planning Area. SMUD. Available:  
<http://ecdms.energy.ca.gov/elecbyutil.aspx>. Accessed January 12, 2011.

- . 2011b. 2009 Natural Gas Consumption by Planning Area. PG&E. Available: <http://ecdms.energy.ca.gov/gasbyutil.aspx>. Accessed January 12, 2011.
- . 2011c. 2009 Natural Gas Consumption by County. Sacramento. Available: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>. Accessed January 12, 2011.
- City of Rancho Cordova. 2006a (March 13). *Draft Environmental Impact Report for the Rancho Cordova General Plan*, Volume 1. Rancho Cordova, CA.
- . 2006b. *Rancho Cordova General Plan*. Adopted June 26, 2006. Rancho Cordova, CA.
- . 2010. Business and Multi-Family Recycling Program. Available: <http://www.cityofranhocordova.org/Index.aspx?page=439>. Accessed January 4, 2011.
- CIWMB (California Integrated Waste Management Board). 2009 (December). Solid Waste Characterization Database. Waste Disposal Rates for Business Types. Available: <http://www.ciwmb.ca.gov/WasteChar/DispRate.htm>. Accessed January 10, 2011.
- . 2011a. Diversion/Disposal Rate Report. Unincorporated Sacramento. Available: <http://www.calrecycle.ca.gov/LGCentral/Tools/MARS/JurDrDtl.asp?Flag=1&Yr=2008&Ju=420>. Accessed January 12, 2011.
- . 2011b. Diversion/Disposal Rate Report. Rancho Cordova. Available: <http://www.calrecycle.ca.gov/LGCentral/Tools/MARS/JurDrDtl.asp?Flag=1&Yr=2008&Ju=618>. Accessed January 12, 2011.
- . 2011c. Solid Waste Information System. Facility/Site Summary Details: Sacramento County Landfill (Kiefer) (34-AA-0001). Available: <http://www.ciwmb.ca.gov/SWIS/34-AA-0001/Detail/>. Accessed January 11, 2011.
- DWR (California Department of Water Resources). 2011. California Water Conservation Act of 2009. Available: <http://www.water.ca.gov/wateruseefficiency/sb7/>. Accessed January 17, 2011.
- Gisler, Ernest, P.E. Golden State Water Company. February 3, 2011—e-mail to Jenifer King of AECOM regarding existing water supply infrastructure and water demands for the project.
- GSCW (Golden State Water Company). 2006 (December). 2005 Urban Water Management Plan—Cordova. Final Report. Rancho Cordova, CA.
- Khan, Salam. Professional Engineer. Sacramento Area Sewer District, Development Services. January 31, 2011—letter to John Engstrom of the California Department

## Joint Operations Center Relocation Project

- of Water Resources regarding existing sewer infrastructure and capacity; letter provided to Jenifer King of AECOM by Mr. Engstrom.
- Perkins, Tom. Battalion Chief. Sacramento Metropolitan Fire Department. November 17, 2010—e-mail correspondence with Corinne Resha of AECOM regarding fire protection services.
- Rancho Cordova Police Department. 2010. Rancho Cordova Police Department History and Background. Available:  
[http://www.ranhocordovapd.com/about\\_rcpd/rcpd\\_history\\_background.cfm](http://www.ranhocordovapd.com/about_rcpd/rcpd_history_background.cfm). Accessed January 4, 2011.
- Sacramento Area Sewer District (formerly CSD-1). 2006. Sacramento Area Sewer District Sewerage Facilities Master Plan 2006 Update. Available:  
<http://sacsewer.com/pdf/mp/2010-MainReport.pdf>. Accessed January 26, 2011.
- . 2009. Sacramento Area Sewer District 2009 State of the District Report. Available: <http://sacsewer.com/pdf/rpt-sod-2009.pdf>. Accessed January 26, 2011.
- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- . 2007 (May). *Sacramento County General Plan Background to the 1993 General Plan and 2007 General Plan Update*. Sacramento, CA: Planning and Community Development Department.
- . 2009a (May). Sacramento County General Plan Update Draft Environmental Impact Report. Available:  
<http://www.dera.saccounty.net/PublicNotices/SQLView/ProjectDetails/tabid/71/Default.aspx?ProjectID=31418>. Accessed January 10, 2011.
- . 2009b (June). Waste Management/Recycling. Sacramento County Construction and Demolition (C&D) Ordinance. Available:  
<http://www.msa2.saccounty.net/wmr/Pages/ConstructionAndDemolitionDebris.aspx>. Accessed January 11, 2011.
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- Sacramento County Sheriff's Department. 2011a. North Division, Garfield Station. Available: [http://www.sacsheriff.com/organization/field\\_&\\_investigative\\_services/north\\_division/index.cfm](http://www.sacsheriff.com/organization/field_&_investigative_services/north_division/index.cfm). Accessed January 4, 2011.
- . 2011b. North Division, Marconi Service Center. Available:  
<http://www.sacsheriff.com/>

- organization/field\_&\_investigative\_services/north\_central\_division/index.cfm. Accessed April 13, 2011.
- Sacramento Metropolitan Fire District. 2003 (September). Fire Prevention Standards. Fire Apparatus Access Roads. Available: [http://www.sacmetrofire.ca.gov/index.php?option=com\\_content&view=article&id=267&Itemid=41](http://www.sacmetrofire.ca.gov/index.php?option=com_content&view=article&id=267&Itemid=41). Accessed January 17, 2011.
- . 2009. Fire and Rescue Operations. Available: [http://www.smfd.ca.gov/fire\\_%26\\_rescue.htm](http://www.smfd.ca.gov/fire_%26_rescue.htm). Accessed January 4, 2011.
- . 2010a. Fire Station 32. Available: [http://www.sacmetrofire.ca.gov/index.php?option=com\\_content&view=article&id=231&Itemid=81](http://www.sacmetrofire.ca.gov/index.php?option=com_content&view=article&id=231&Itemid=81). Accessed January 4, 2011.
- . 2010b. Fire Station 66. Available: [http://www.sacmetrofire.ca.gov/index.php?option=com\\_content&view=article&id=248&Itemid=81](http://www.sacmetrofire.ca.gov/index.php?option=com_content&view=article&id=248&Itemid=81). Accessed January 4, 2011.
- SRCSD (Sacramento Regional County Sanitation District). 2001 (November). *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan*. Available: <http://www.srcsd.com/ssmp.php>. Accessed January 28, 2011.
- . 2010 (June). SRCSD Withdraws Treatment Plant Capacity Increase. Sacramento, CA.
- SMUD (Sacramento Municipal Utility District). 2006. SMUD's Dedicates Cosumnes Power Plant. Available: [http://www.smud.org/news/releases/06archive/06\\_06\\_cpp.pdf](http://www.smud.org/news/releases/06archive/06_06_cpp.pdf). Accessed January 12, 2011.
- . 2007 (May). 2007 Status Report on Renewable Energy at SMUD. Available: <http://www.smud.org/about/reports-pdfs/2007StatusRenewableEnergy.pdf>. Accessed January 12, 2011.
- . 2009a. Facts and Figures. Available: <http://www.smud.org/en/about/Pages/facts-and-figures.aspx>. Accessed January 12, 2011.
- . 2009b. 2009 Annual Report. Available: <http://www.smud.org/en/about/Documents/2009-annual-report.pdf>. Accessed January 12, 2011.
- . 2009c. Recycling Hydro UARP. Available: <http://hydrorelicensing.smud.org/project.htm>. Accessed January 12, 2011.
- . 2011a. Greenergy Residential Sign-Up. Available: <http://www.smud.org/en/community-environment/greenergy/Pages/index.aspx>. Accessed January 12, 2011.

———. 2011b. Greenergy Commercial Sign-Up. Available:  
<http://www.smud.org/en/community-environment/greenergy/Pages/index.aspx>.  
Accessed January 12, 2011.

### **Section 3.12, “Recreation”**

Baker, Janet. 2009 (August 20). Message from Janet Baker, Director. Sacramento County Department of Regional Parks. Available:  
<http://www.msa2.saccounty.net/parks/Documents/Janet%20Baker%20-%20budget%20message%208.20.09.pdf>. Accessed January 2011.

California State Parks and Reclamation (California State Parks and Bureau of Reclamation). 2003. *Draft Resource Inventory: Folsom Lake State Recreation Area*. Prepared by Wallace, Roberts, and Todd, LLC; LSA Associates; Geotechnical Consultants, Inc.; Psomas; and Concept Marine Associates, Inc. Available: [http://www.parks.ca.gov/?page\\_id=22741](http://www.parks.ca.gov/?page_id=22741). Accessed January 2011.

California State University, Sacramento. 2011. Sacramento State Aquatic Center, About Us. Available:  
[http://130.86.248.167/index.php?option=com\\_content&view=article&id=325&Itemid=254](http://130.86.248.167/index.php?option=com_content&view=article&id=325&Itemid=254). Accessed March 24 2011.

City of Rancho Cordova. 2010. *Draft Bicycle Master Plan and Draft Pedestrian Master Plan*. Available: [http://www.google.com/url?sa=t&source=web&cd=6&ved=0CDQQFjAF&url=http%3A%2F%2Fwww.cityofranhocordova.org%2FModules%2FShowDocument.aspx%3Fdocumentid%3D5804&rct=j&q=Draft%20Bicycle%20Master%20Plan%20and%20Draft%20Pedestrian%20Master%20Plan%20rancho%20cordova&ei=WRC-Td\\_THoO2sAON0PQf&usq=AFQjCNFgo6zkaDU1ZQrtI3f7x67tAYhGlQ&sig2=qD3ej1BUoUpS7f8MhN33Ug&cad=rja](http://www.google.com/url?sa=t&source=web&cd=6&ved=0CDQQFjAF&url=http%3A%2F%2Fwww.cityofranhocordova.org%2FModules%2FShowDocument.aspx%3Fdocumentid%3D5804&rct=j&q=Draft%20Bicycle%20Master%20Plan%20and%20Draft%20Pedestrian%20Master%20Plan%20rancho%20cordova&ei=WRC-Td_THoO2sAON0PQf&usq=AFQjCNFgo6zkaDU1ZQrtI3f7x67tAYhGlQ&sig2=qD3ej1BUoUpS7f8MhN33Ug&cad=rja). Accessed January 2011.

———. 2011 (March). *Bicycle Master Plan*. Rancho Cordova, CA.

National Recreation Trails. 2011. NRT Program News, What is the National Recreation Trails Program? Available:  
<http://www.americantrails.org/nationalrecreationtrails/about.htm>. Accessed March 18, 2011.

National Wild & Scenic Rivers. 2010. American River. Available:  
<http://www.rivers.gov/wsr-american-lower.html>. Last updated October 8, 2010.  
Accessed January 2011.

Reclamation and DFG (Bureau of Reclamation and Department of Fish and Game). 2010 (October). Draft Environmental Impact Statement/Environmental Impact Report for the Nimbus Hatchery Fish Passage Project. Available:  
[http://www.usbr.gov/mp/nepa/nepa\\_projdetails.cfm?Project\\_ID=5216](http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=5216). Accessed January 2011.

- Sacramento County. 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- . 2008. American River Parkway Plan. Available: [http://www.msa2.saccounty.net/parks/Documents/ARPP06-021909\\_sm.pdf](http://www.msa2.saccounty.net/parks/Documents/ARPP06-021909_sm.pdf). Accessed January 2011.
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- Sacramento County Department of Regional Parks. 2006. *American River Parkway 2006 Financial Needs Study Update*. Prepared by The Dangermond Group. Sacramento, CA.
- Section 3.13, “Socioeconomics”**
- Atlanta Regional Commission. 2002 (October). Community Choices Quality Growth Tool Kit. Jobs-Housing Balance. Available: [http://www.atlantaregional.com/File%20Library/Local%20Gov%20Services/gscct\\_jobshousingtool\\_1109.pdf](http://www.atlantaregional.com/File%20Library/Local%20Gov%20Services/gscct_jobshousingtool_1109.pdf). Accessed February 7, 2011.
- California Department of Finance. 2011 (January). E-5 Population and Housing Estimates for Cities, Counties and the State, 2001–2010, with 2000 Benchmark. Available: <http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2001-10/view.php>. Accessed February 8, 2011.
- City of Rancho Cordova. 2006a (March). *Rancho Cordova General Plan Draft Environmental Impact Report*. Available: <http://www.cityofranhocordova.org/index.aspx?page=298#a3>. Accessed February 6, 2011.
- City of Rancho Cordova. 2006b (June). *Rancho Cordova General Plan*. Available: <http://www.cityofranhocordova.org/index.aspx?page=298#a3>. Accessed February 6, 2011.
- City of Rancho Cordova. 2009 (December). Housing Element, Rancho Cordova General Plan 2008–2013. Available: <http://www.cityofranhocordova.org/Index.aspx?page=104>. Accessed June 28, 2010.
- HCD (California Department of Housing and Community Development). 2000 (May 22). Raising the Roof—California Housing Development Projections and Constraints 1997–2020. Sacramento, CA.

Sacramento Area Council of Governments. 2007 (October). *Draft Environmental Impact Report for the Metropolitan Transportation Plan for 2035*. Available <http://sacog.org/mtp/2035/eir/index.cfm>. Accessed July 22, 2010.

Sacramento County. 2008. Sacramento County Housing Element 2008–2013. Sacramento, California. Available: <http://www.msa2.saccounty.net/planning/Documents/General-Plan/Chapter4Evaluation.pdf>. Accessed February 9, 2011.

———. 2010. General Plan Update. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.

U.S. Census Bureau. 2000. American FactFinder. City of Rancho Cordova and Sacramento County, California. American Community Survey. Census Bureau 2000 Demographic Profile Highlights. Available: [http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en). Accessed: February 8, 2011.

———. 2009. American FactFinder. City of Rancho Cordova and Sacramento County, California. 2005–2009 American Community Survey 5-Year Estimated Data Profile Highlights Available: [http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en). Accessed: February 8, 2011.

Weitz, Jerry. 2003 (November). *Job-Housing Balance*. American Planning Association. Planning Advisory Service. Report Number 516. Available: <http://www.planning.org/pas/reports/subscribers/pdf/PAS516.pdf>. Accessed June 24, 2010.

### **Section 3.14, “Transportation and Circulation”**

Caltrans (California Department of Transportation). 1994. *Traffic Manual*. Sacramento, CA.

———. 2002 (December). *Guide for the Preparation of Traffic Impact Studies*. Sacramento, CA.

———. 2009 (May). *Highway 50 Corridor System Management Plan*. Sacramento, CA.

———. 2010. Transportation Corridor Concept Reports. Various State Highways. Sacramento.

City of Rancho Cordova. 2003. Five Year *Capital Improvement Plan 2005–2010*. Rancho Cordova, CA.

———. 2006. Circulation Element, *Rancho Cordova General Plan*. Adopted June 26, 2006. Available: <http://www.cityofranhocordova.org/Index.aspx?page=104#a1>. Accessed December 20, 2010.



- City of Rancho Cordova and USACE (City of Rancho Cordova and U.S. Army Corps of Engineers). 2006 (December 8). *Rio del Oro Specific Plan Project Draft Environmental Impact Report/Draft Environmental Impact Statement*. Sacramento, CA. State Clearinghouse No. 2003122057. Prepared by EDAW (now AECOM), Sacramento, CA.
- DKS Associates. 2002 (March 8). *Sacramento Regional Travel Demand Model*, Version 2001 (SACMET 01). Sacramento, CA.
- FHWA (Federal Highway Administration). 2009. *Manual on Uniform Traffic Control Devices*. Washington, DC.
- ITE (Institute of Transportation Engineers). 2008 (December). *Trip Generation*, 8th Edition. Washington, DC.
- SACOG (Sacramento Area Council of Governments). 2008. *Metropolitan Transportation Plan 2035*. Sacramento, CA.
- . 2009. *Sacramento Regional Bicycle, Pedestrian, and Trails Master Plan*. Sacramento, CA.
- Sacramento County. 1992. *2010 Sacramento City/County Bikeway Master Plan*. Adopted by Sacramento County in November 1993 and by the City of Sacramento in April 1995. Sacramento, CA.
- . 1993. *1993 County of Sacramento General Plan*. Adopted December 15, 1993. Revised May 2, 1997. Sacramento, CA: Planning and Community Development Department.
- . 2004. *County of Sacramento Traffic Impact Analysis Guidelines*. Sacramento, CA.
- . 2007. *County of Sacramento General Plan, Circulation Element*. Updated May 2007. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Documents/Reports-Notes-Presentations/BoardWorkshop-26-Attachment-I-RevisedCirculationElement.pdf>. Accessed
- . 2010. *General Plan Update*. Planning and Community Development Department. Available: <http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx>. Accessed January 3, 2011.
- Sacramento County and Fehr & Peers. 2004. *Mobility Strategies for County Corridors*
- TRB (Transportation Research Board). 2000. *2000 Highway Capacity Manual*. Washington, DC.

## Chapter 4, “Other NEPA and CEQA Considerations”

CRA (California Resources Agency.) 2010. Environmental Justice Policy, California Resources Agency. Available:  
[http://www.resources.ca.gov/environmental\\_justice\\_policy\\_20031030.pdf](http://www.resources.ca.gov/environmental_justice_policy_20031030.pdf).  
Accessed August 23, 2010.

Sacramento County. 2008. Sacramento County Housing Element 2008–2013. Sacramento, CA. Available: <http://www.msa2.saccounty.net/planning/Pages/SacramentoCountyHousingElement.aspx>. Accessed February 9, 2011.

U.S. Census Bureau. 2000. American FactFinder. The Gold River Census Designated Plan, the City of Rancho Cordova and Sacramento County, California. American Community Survey. Census Bureau 2000 Demographic Profile Highlights. Available: [http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en). Accessed February 8, 2011.

———. 2009. American FactFinder. Gold River Census Designated Plan, the City of Rancho Cordova and Sacramento County, California. 2005–2009 American Community Survey 5-Year Estimated Data Profile Highlights. Available: [http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en). Accessed February 8, 2011.

## Chapter 5, “Compliance, Consultation, and Coordination”

CEQ (Council on Environmental Quality). 1997. *Environmental Justice Guidance Under the National Environmental Policy Act*. Available:  
<http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf> Accessed December 14, 2010.

EPA (U.S. Environmental Protection Agency). 1998. *Final Guidance for Incorporating Environmental Justice Concerns*. Available: [http://www.epa.gov/compliance/ej/resources/policy/ej\\_guidance\\_nepa\\_epa0498.pdf](http://www.epa.gov/compliance/ej/resources/policy/ej_guidance_nepa_epa0498.pdf). Accessed December 14, 2010.

Reclamation (Bureau of Reclamation). 2010 (January). *Bureau of Reclamation Sustainable Buildings Implementation Plan*. Policy and Administration. Denver, CO.

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Following is a list of persons who contributed to preparation of this EIS/EIR. This list is consistent with the requirements set forth in NEPA and CEQA (40 Code of Federal Regulations 1502.17, and Section 15129 of the State CEQA Guidelines).

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Joint Operations Center Relocation Project

Name	Experience	Project Role
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Tammie Beyerl	B.S., Plant Biology; M.S., Plant Biology (Ecology); 8 years of experience	Botanist/Wetland Ecologist
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## 8.0 Glossary

**100-year floodplain:** The area within a floodplain that statistically has a 1% chance of flooding in any given year (i.e., an average of once every 100 years).

**200-year floodplain:** The area within a floodplain that statistically has a .5% chance of flooding in any given year (i.e., an average of once every 200 years).

**A-weighted decibel (dBA):** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

**acre-foot:** The volume of water that would cover 1 acre to a depth of 1 foot, or 325,851 gallons of water. A flow of 1 cubic foot per second for 1 day is approximately 2 acre-feet.

**active recreation:** Use of resources such as multiuse trails, paseos, greenbelts, and parkways. See *passive recreation*.

**air quality:** Measure of the health-related and visual characteristics of the air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

**anadromous fish:** Fish that spend a part of their life in the sea but return to freshwater streams to spawn.

**aquifer:** A water-bearing (water saturated) geological formation capable of yielding water in sufficient quantity to constitute a usable supply.

**attainment area:** An area that the U.S. Environmental Protection Agency has designated as complying with one or more of the National Ambient Air Quality Standards for sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter. An area may be in attainment for some pollutants but not for others.

**background view:** A view that extends from the middleground to the limit of human sight.

**best available control technology (BACT):** Available devices, systems, or techniques for achieving the maximum reduction of air-pollutant emissions while considering energy, environmental, and economic impacts. BACT is determined on a case-by-case basis for new sources or major modifications to existing sources in areas that are in attainment of the National Ambient Air Quality Standards.

**best management practices (BMPs):** Methods or measures designed and selected to reduce or eliminate the discharge of pollutants from nonpoint source discharges. BMPs include treatment requirements and operating procedure and practices to control site runoff, spills or leaks, sludge or waste disposal, or drainage from raw material storage.

**biological opinion:** A written statement setting forth the opinion of the U.S. Fish and Wildlife Service or the National Oceanic and Atmospheric Association as to whether or not a Federal action is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of critical habitat.

**California Environmental Quality Act (CEQA):** California legislation that requires State, regional, and local agencies to prepare environmental impact assessments for proposed projects that will have potentially significant environmental effects and to circulate these documents to other agencies and the public for comment before making decisions.

**Circular 212 methodology:** A method for calculating the capacity of an intersection that uses the average saturation flow rate and percent lost time. The saturation flow rate is the maximum number of vehicles per lane that can pass a fixed point in one hour with 100% green time.

**community noise equivalent level (CNEL):** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

**concept LOS:** The minimum acceptable level of service established by the California Department of Transportation.

**criteria pollutant:** An air pollutant that is regulated by the National Ambient Air Quality Standards. The U.S. Environmental Protection Agency must describe the characteristics and potential health and welfare effects that form the basis for setting or revising the standard for each regulated pollutant. Criteria pollutants include sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and two size classes of particulate matter, less than 10 micrometers (0.0004 inch) in diameter and less than 2.5 micrometers (0.0001 inch) in diameter.

**cultural resources:** Any buildings, sites, districts, structures, or objects significant in history, architecture, archaeology, culture, or science.

**Indian tribe:** An Indian tribe, band, nation, or other organized group or community, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

**day-night noise level ( $L_{dn}$ ):** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

**decibel (dB):** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.

**dike:** A low embankment, usually constructed to close up low areas of the reservoir rim and thus limit the extent of the reservoir.

**dredge tailings:** The refuse left behind after dredging, related to mining, along the American River.

**Energy Star label:** Products with the Energy Star label meet energy-efficiency requirements established by the U.S. Environmental Protection Agency.

**environmental justice population:** Minority and low-income populations.

**erosion:** A gradual wearing away of soil or rock by running water, waves, or wind; surface disturbance caused by abrasion from moving particles in water or pedestrian or vehicular traffic.

**essential services:** Critical agency service functions or operations that the State of California has determined must continue during disaster or emergency situations.

**expansive soil:** A clay soil that expands when water is added and contracts when it dries out. This volume change when in contact with buildings, roadways, or underground utilities can cause severe damage.

**foreground view:** A view characterized by clear details (within 0.25 or 0.5 mile of the viewer).

**groundwater:** Water stored underground in rock crevices and in the pores of geologic materials that make up the earth's crust.

**Greenenergy:** A SMUD program that allows customers to choose the source of their renewable energy supply for 100% or 50% of their electricity based on a monthly fee of \$6.00 or \$3.00, respectively.

**hazardous waste:** A category of waste regulated under the Resource Conservation and Recovery Act (RCRA). To be considered hazardous, a waste must be a solid waste under RCRA and must exhibit at least one of four characteristics (i.e., ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the U.S. Environmental Protection Agency (40 CFR 261.31 through 40 CFR 261.33).

**headway:** The time interval between transit vehicles.

**heavy metals:** Metallic and semimetallic elements that are generally highly toxic to plants and animals and that tend to accumulate in food chains (e.g., lead, mercury, cadmium, chromium, arsenic).

**high-occupancy vehicle lane:** A lane reserved for vehicles with a driver and one or more passengers (also called an HOV lane or carpool lane).

**incidental take:** “Take” that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

**intactness:** The visual integrity of the natural and human-built landscape and its freedom from encroaching elements.

**Interim Joint Operations Center (JOC):** The current location of the Federal and State Water Operations Centers and Flood Operations Center, which are jointly located with Reclamation’s Central Valley Operations Office in a leased building on El Camino Avenue near Watt Avenue in Sacramento, California.

**kilowatt-hour (kWh):** The basic unit of electric energy equal to an average of one kilowatt of power applied over one hour; a unit of energy equivalent to 1,000 watt-hours.

**land uses:** Any uses for land ranging from housing and retail buildings to parks and open spaces.

**lateral spreading:** Lateral movements in a fractured mass of rock or soil.

**liquefaction:** Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand.

**Leadership in Energy and Environmental Design (LEED):** An internationally recognized green building certification system that provides third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

**levee:** A natural or human-made barrier that helps keep rivers from overflowing their banks.

**level of service (LOS):** A standard measurement used by transportation officials that reflects the relative ease of traffic flow on a scale of A to F, with free flow being rated LOS A and congested conditions rated as LOS F.

**listed species (California Endangered Species Act):** Species or subspecies declared as threatened or endangered by the California Department of Fish and Game in Title 14 of the California Code of Regulations, Section 670.5.

**listed species (Federal Endangered Species Act):** Species, including subspecies, of fish, wildlife, or plants Federally listed at Title 50 of the Code of Federal Regulations, Section 17.11, and 50 of the Code of Federal Regulations, Section 17.12, as either endangered or threatened, or listed at Title 14 California Code of Regulations Section 670.2 and 14 California Code of Regulations, Section 670.5, as threatened or endangered.



**maximum sound level ( $L_{\max}$ ):** The maximum sound level measured during the measurement period.

**middleground view:** A view characterized by the loss of clear detail in a landscape, creating a uniform appearance (from the foreground to 3–5 miles in the distance).

**minimum sound level ( $L_{\min}$ ):** The minimum sound level measured during the measurement period.

**minority:** Individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

**minority population:** Minority populations exist where either the minority population of the affected area exceeds 50% or the percentage of the minority population of the affected area is meaningfully greater than in the general population or other appropriate unit of geographic analysis (such as a governing body's jurisdiction, a neighborhood, census tract, or other similar unit). Minority populations include either a single minority group or the total of all minority persons in the affected area.

**National Environmental Policy Act:** Federal legislation establishing the national policy that environmental impacts will be evaluated as an integral part of any major Federal action. This act requires an environmental impact statement to be prepared for all major Federal actions significantly affecting the quality of the human environment.

**nonnative species:** Also called introduced species or exotic species; refers to plants and animals that originate elsewhere and are brought into a new area, where they may dominate the local species or in some way negatively impact the native species environment.

**passive recreation:** Activities such as wildlife viewing, picnicking, and bird-watching. See *active recreation*.

**peak hours:** The time of day with the highest volume of traffic on a roadway.

**permeability:** The capacity of soil, sediment, or porous rock to transmit water; the property of soil or rock that allows passage of water through it.

**public/quasi-public uses:** A zoning classification applied to those areas in public ownership and whose improvements are used by the public, and also those areas in private ownership but planned for public use.

**reactive organic gases (ROG):** Volatile organic compounds that are emitted from natural sources (such as plants), incomplete fossil fuel combustion, and the evaporation of chemical solvents and fuels.

**Renewable Portfolio Standard:** A SMUD program designed to increase SMUD's supply of renewable electricity (energy generated from natural resources, such as wind, sunlight, and water).

**riparian habitat:** Areas adjacent to rivers and streams with a differing density, diversity, and productivity of plant and animal species relative to nearby uplands.

**scenic quality:** The overall impression that the viewer retains after experiencing the views.

**seismicity:** The frequency, intensity, and distribution of earthquake activity in a given area.

**sensitive receptors:** Members of the population who are especially sensitive to air pollutant emissions (e.g., children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise). Structures that house these persons or places where they gather are defined as sensitive receptors.

**setback:** A minimum horizontal distance maintained between a structure and a potential point of impact or other physical point of reference.

**slope:** The rate of fall or drop measured as percent of grade.

**soil vapor:** Vapors in the soil that include gasses present in the atmosphere, such as oxygen and carbon dioxide, and that may include contaminants in a gas form if contaminated soil and/or groundwater are present.

**solid waste:** Any garbage; refuse; sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility; or other discarded material, including solid, liquid, semisolid, or contained gaseous materials resulting from industrial, municipal, commercial, mining, or agricultural operations or from community and institutional activities.

**special-status species:** Any species that is listed, or proposed for listing, as threatened or endangered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the Endangered Species Act; any species covered by the Migratory Bird Treaty; any species designated by the U.S. Fish and Wildlife Service as a "candidate" or "listing" species or "sensitive" species; and any species that is listed and protected by State statute in a category implying potential endangerment of extinction.

**stormwater:** Untreated surface runoff into a body of water during periods of precipitation.

**subsidence:** The gradual settling or sinking of surface soil deposits with little or no horizontal motion.

**surface water:** All waters whose surface is naturally exposed to the atmosphere, such as rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, and all springs, wells, or other collectors directly influenced by surface water.

**take:** Defined in the Federal Endangered Species Act as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct” on special-status species covered under the act.

**threatened species:** Legal status afforded to plant or animal species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range, as determined by the U.S. Fish and Wildlife Service or National Marine Fisheries Service for Federal species and by the California Department of Fish and Game for State species.

**total maximum daily load (TMDL):** The quantity of a pollutant (the “loading”) that the water body can receive and still be in compliance with water quality standards. The TMDL must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings, and must include an implementation plan to reduce the loading of a specific pollutant from various sources to achieve compliance with water quality objectives.

**toxic air contaminants (TACs):** Air pollutants that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health.

**transmissivity:** The rate at which water passes through soil.

**unity:** The visual coherence and compositional harmony of the landscape considered as a whole.

**unstable soils:** Soils with the potential to result in a landslide, lateral spreading, subsidence, liquefaction, or collapse.

**urban features:** The built environment, including landscaped areas, structures, and infrastructure such as roads, utilities, levees, and impoundments.

**viewer sensitivity:** The extent of the public’s concern for a particular viewshed.

**viewshed:** An area of land, water, and other environmental elements that is visible from a fixed vantage point. A viewshed is typically evaluated both from a roadway and conversely of a roadway as viewed from the adjacent area.

**vividness:** The visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.

**volatile organic compound:** VOCs are emitted as gases from certain solids or liquids (e.g., paints and lacquers, cleaning supplies, pesticides, building materials, copiers and printers). VOCs may have short- and long-term adverse health effects.

**volume-to-capacity ratio:** The ratio of flow rates (traffic demand) to capacity for a traffic facility.

**wastewater:** The combination of liquid and other water-carried pollutants discharged from homes, businesses, industries, or farms.

**water demand:** Water needed for a particular purpose (e.g., for irrigation, power, municipal supply, plant transpiration, storage).

**waters of the U.S.:** As defined in the Clean Water Act Section 404, waters of the U.S. applies only to surface waters, rivers, lakes, estuaries, coastal waters, and wetlands. Not all surface waters are legally waters of the U.S. Generally, those waters include interstate waters and tributaries, intrastate waters and tributaries used in interstate and/or foreign commerce, territorial seas at the cyclical high-tide mark, and wetlands adjacent to the above.

**watershed:** A region or area that ultimately drains to a particular watercourse or body of water.

**wetlands:** Lands including swamps, marshes, bogs, and similar areas such as wet meadows, river overflows, mudflats, and natural ponds; an area characterized by periodic inundation or saturation, hydric soils, and vegetation adapted for life in saturated soil conditions; any number of tidal and nontidal areas characterized by saturated or nearly saturated soils most of the year that form an interface between terrestrial and aquatic environments, including freshwater marshes around ponds and channels and brackish and salt marshes.

**Xerorthents:** Xerorthents are primarily composed of mine spoils or earthy fill and are well drained.

**zoning:** Areas identified for specified uses or restrictions.

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