

5.12 Traffic and Transportation

5.12.1 Introduction

This section assesses the traffic and transportation system impacts associated with the construction and operation of the Carlsbad Energy Center Project (CECP). This section is organized as follows. Section 5.12.2 describes applicable laws, ordinances, regulations, and standards (LORS). Section 5.12.3 describes the local and regional traffic and transportation routes surrounding the CECP site. Section 5.12.4 evaluates the project's impact on local traffic volumes and patterns. Section 5.12.5 evaluates potential cumulative effects to traffic and transportation due to other simultaneous projects. Section 5.12.6 describes mitigation measures for the project and Section 5.12.7 identifies proposed conditions of certification. Section 5.12.8 lists the agency contacts used to address traffic and transportation issues. Section 5.12.9 discusses traffic and transportation permits required. Section 5.12.10 lists the references used to prepare this section.

5.12.2 Laws, Ordinances, Regulations, and Standards

Table 5.12-1 lists the federal, state, and local LORS that apply to traffic and transportation. Additional information concerning these LORS is presented below.

TABLE 5.12-1
Laws, Ordinances, Regulations, and Standards Applicable to Traffic and Transportation

LORS	Requirements/ Applicability	Administering Agency	AFC Section Explaining Conformance
Federal			
49 CFR 171-177	Govern the transportation of hazardous materials, including the marking of the transportation vehicles.	U.S. Department of Transportation and Caltrans	5.12.2.1
49 CFR 350-399 and Appendices A-G	Address safety considerations for the transport of goods, materials, and substances over public highways.	U.S. Department of Transportation and Caltrans	5.12.2.1 and 5.12.4.3.2
49 CFR 397.9	Establishes criteria and regulations for the safe transportation of hazardous materials.	U.S. Department of Transportation	5.12.2.1
14 CFR 77.13(2)(i)	Requires applicants to notify Federal Aviation Administration (FAA) of construction, within 20,000 feet of an airport, of greater height than an imaginary surface as defined by the FAA.	U.S. Department of Transportation and FAA	5.12.2.1
14 CFR 77.17	Requires applicant for construction within 20,000 feet of an airport to submit Form 7460-1 to the FAA.	U.S. Department of Transportation and FAA	5.12.2.1

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Laws, Ordinances, Regulations, and Standards Applicable to Traffic and Transportation

LORS	Requirements/ Applicability	Administering Agency	AFC Section Explaining Conformance
14 CFR 77.21, 77.23, and 77.25	Outline the obstruction standards that the FAA uses to determine whether an air navigation conflict exists for structures within 3 nautical miles of an airport.	U.S. Department of Transportation and FAA	5.12.2.1
State			
California Vehicle Code (CVC), Sections 13369, 15275, and 15278	Address the licensing of drivers and classifications of licenses required to operate particular types of vehicles, including certificates permitting the operation of vehicles transporting hazardous materials.	Caltrans	5.12.2.2
CVC, Sections 25160 et seq.	Address the safe transport of hazardous materials.	Caltrans	5.12.2.2
CVC, Sections 2500-2505	Authorize the issuance of licenses by the Commissioner of the California Highway Patrol (CHP) to transport hazardous materials, including explosives.	Caltrans	5.12.2.2
CVC, Section 31303	Requires transporters of hazardous materials to use the shortest route possible.	Caltrans	5.12.2.2 and 5.12.4.3.2
CVC, Sections 31600-31620	Regulate the transportation of explosive materials.	Caltrans	5.12.2.2
CVC, Sections 32100-32109	Requires transporters of inhalation hazardous materials or explosive materials to obtain a Hazardous Materials Transportation License.	Caltrans	5.12.2.2 and 5.12.4.3.2
CVC, Sections 34000-34121	Establish special requirements for transporting flammable and combustible liquids over public roads and highways.	Caltrans	5.12.2.2
CVC, Sections 34500, 34501, 34505, 34506, 34507, and 34510	Regulate the safe operation of vehicles, including those used to transport hazardous materials.	Caltrans	5.12.2.2
CVC, Section 35100 et seq.	Specifies limits for vehicle width.	Caltrans	5.12.2.2
CVC, Section 35250 et seq.	Specifies limits for vehicle height.	Caltrans	5.12.2.2
CVC, Section 35400 et seq.	Specifies limits for vehicle length.	Caltrans	5.12.2.2
CVC, Section 35780	Requires a Single-Trip Transportation Permit to transport oversized or excessive loads over state highways.	Caltrans	5.12.2.2

TABLE 5.12-1
Laws, Ordinances, Regulations, and Standards Applicable to Traffic and Transportation

LORS	Requirements/ Applicability	Administering Agency	AFC Section Explaining Conformance
California State Planning Law, Government Code Section 65302	Requires each city and county to adopt a General Plan consisting of seven mandatory elements to guide its physical development, including a circulation element.	Caltrans	5.12.2.2
California Street and Highway Code §§117, 660-711	Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery.	Caltrans	5.12.2.2
California Street and Highway Code §§660-711	Requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.	Caltrans	5.12.2.2
Local			
San Diego Association of Governments (SANDAG) Congestion Management Plan	Contains an integrated set of public policies, strategies, and investments to maintain, manage and improve the transportation system in the San Diego region.	SANDAG	5.12.2.3
Circulation and Transportation Element of the San Diego County General Plan	Specifies long-term planning goals and procedures for transportation infrastructure system quality in San Diego County	San Diego County	5.12.2.3
Public Facilities Element of the San Diego County General Plan	Establishes policies and implementation measures regarding the assessment and mitigation of traffic impacts of new development.	San Diego County	5.12.2.3
San Diego County "Moving Permit"	Requires a permit to transport oversize/overweight loads on county roads.	San Diego County	5.12.2.3
City of Carlsbad Municipal Code	Requires a permit to transport oversize/overweight loads on city roads.	City of Carlsbad	5.12.2.3

5.12.2.1 Federal LORS

- Title 49, Code of Federal Regulations (CFR), Sections 171-177, govern the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles. The project will conform to this law by requiring that shippers of hazardous materials use the required markings on their transportation vehicles.
- Title 49 CFR, Sections 350 through 399, and Appendices A through G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways. The project will comply with all

standards for the transportation of goods, materials, and substances over public highways.

- Title 49 CFR, Section 397.9, the Hazardous Materials Transportation Act of 1974, directs the United States Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials. The project will comply with all standards for the transportation of hazardous materials.
- Title 14, CFR, Section 77.13(2)(i), requires an applicant to notify the FAA of the construction of structures within 20,000 feet of the nearest point of the nearest runway of an airport with at least one runway longer than 3,200 feet. McClellan Palomar Airport is about 13,500 feet from the project site and has one runway of approximately 4,000 feet. For such case, the following criterion applies:

"Any construction or alteration of greater height than imaginary surface extending outward and upward at one of the following slopes: (i) 100 to 1 for horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in this section with at least one runway more than 3,200 feet in actual length, excluding heliports."

At a distance of 13,500 feet, the maximum allowable height for which no notice needs to be filed is about 135 feet. The proposed construction is not to exceed a maximum height of 75 feet; therefore, no further action is required by the Applicant.

- Title 14, CFR, Section 77.17, requires an applicant to submit a Notice of Proposed Construction or Alteration (FAA Form No. 7460-1) to the FAA for construction within 20,000 feet of the nearest runway of an airport with at least one runway longer than 3,200 feet. No airport meets these criteria in the project's vicinity; therefore, no further action is required by the Applicant.
- Title 14, CFR, Sections 77.21, 77.23, and 77.25, outline the criteria used by the FAA to determine whether an obstruction will create an air navigation conflict. The project will comply with this requirement by determining if any of the structures will create an air navigation conflict.

5.12.2.2 State LORS

- CVC, Sections 13369, 15275, and 15278, address the licensing of drivers and classifications of licenses required to operate particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are addressed. The project will conform to this law by requiring shippers to obtain required licenses and certificates.
- CVC, Sections 25160 et seq., addresses the safe transport of hazardous materials. The project will comply with safety requirements.
- CVC, Sections 2500 through 2505, authorize the issuance of licenses by the Commissioner of the CHP to transport hazardous materials, including explosives. The project will comply with licensing requirements.

- CVC Section 31303, requires that hazardous materials be transported on the state or interstate highway that offers the shortest overall transit time possible. The project will conform to this law by requiring shippers of hazardous materials to use the shortest route feasible to and from the project site.
- CVC, Sections 31600 through 31620 regulate the transportation of explosive materials. The project will comply with these regulations.
- CVC, Sections 32100 through 32109, establish special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. CVC Section 32105 requires that shippers of inhalation hazardous or explosive materials contact the CHP and apply for a Hazardous Material Transportation License. The project will conform to this law by requiring shippers of these types of material to obtain the Hazardous Material Transportation License.
- CVC, Sections 34000 through 34121, establish special requirements for transporting flammable and combustible liquids over public roads and highways. The project will comply with these requirements.
- CVC, Sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5, and 34510-11, regulate the safe operation of vehicles, including those used to transport hazardous materials. The project will comply with these regulations.
- CVC, Sections 35100 through 35559, specify limits for vehicle width, height, length, and gross weight. General Provisions:
 - The gross weight imposed upon the highway by the wheels on any axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds.
 - The maximum wheel load is the lesser of the following: (1) the load limit established by the tire manufacturer, or (2) a load of 620 pounds per lateral inch of tire width, as determined by the manufacturer's rated tire width.

Vehicles with Trailers or Semi-trailers:

- The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 18,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle and resting upon the roadway, shall not exceed 9,500 pounds, except that the gross weight imposed upon the highway by the wheels on any front steering axle of a motor vehicle shall not exceed 12,500 pounds.
- CVC, Section 35780, requires a Single-Trip Transportation Permit to transport oversized or excessive loads over state highways. The permit can be acquired through the California Department of Transportation. This law is enforced by the CHP. The project will conform to this law by requiring that shippers obtain a Single-Trip Transportation Permit for oversized loads for each vehicle.
- California State Planning Law, Government Code Section 65302, requires each city and county to adopt a General Plan consisting of seven mandatory elements to guide its

physical development. Section 65302(b) requires that a circulation element be one of the mandatory elements. The scope of a circulation element consists of the “general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.” San Diego County and the City of Carlsbad both have General Plans. Therefore, no further action is required from the applicant.

- California Street and Highways Code (S&HC), Sections 660, 670, 1450, 1460 et seq., 1470, and 1480, regulates right-of-way encroachment and granting of permits for encroachments on state and county roads.
- S&HC, Sections 117 and 660 through 711, and CVC, Sections 35780 et seq., require permits to transport oversized loads on county roads. California S&HC Sections 117 and 660 through 711 requires permits for any construction, maintenance, or repair involving encroachment on state highway rights-of-way. CVC Section 35780 requires approval for a permit to transport oversized or excessive loads over state highways.

5.12.2.3 Local LORS

This section reviews compliance with relevant local LORS. Local LORS include the following:

- The SANDAG Congestion Management Program (CMP), which is a part of SANDAG’s Regional Transportation Plan, contains an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system in the San Diego region. One of the CMP requirements is a review of large projects that generate 2,400 or more average daily trips or 200 or more peak hour trips to assess impacts to state highways and regionally significant arterials.
- The County of San Diego General Plan Public Facilities Element (PFE) establishes policies and implementation measures regarding the assessment and mitigation of traffic impacts of new development. One of the PFE objectives is a minimum Level of Service (LOS) C or better on County Circulation Element roads. According to PFE, when an existing LOS is already LOS D, a LOS D may be allowed without mitigation, while projects that significantly increase congestion on roads operating at LOS E or LOS F must provide mitigation.
- San Diego County “Moving Permit” requires a permit from the Public Works Department before operating any overweight and/or oversized loads on the county roads. The project will comply with the “Moving Permit” requirements by obtaining the permit from the San Diego County Public Works Department before operating any overweight and/or oversized loads on the county roads.
- The City of Carlsbad Municipal Code Section 10.33.30 requires an Oversize Load Permit from the City Engineer for any overweight and/or oversized load moving on the City streets.

5.12.3 Affected Environment

The CECP will be located at the existing Encina Power Station site. The CECP will be on the northeast area of the existing site, between the existing rail line and Interstate 5 (I-5), at the

location of the existing fuel oil tanks Nos. 5, 6, and 7. These three tanks are being demolished as part of current operations of the Encina Power Station. The necessary construction laydown area and construction workers parking are available at the project site. An aerial photograph of the project site with surrounding environment is shown in Figure 5.12-1.

The CECP site is located on property that is designated and zoned Public Utility in the City of Carlsbad General Plan and zoning code. The CECP site north of the intersection of Carlsbad Boulevard and Cannon Road. Primary site access for construction workers and operations employees will be from Cannon Road to Carlsbad Boulevard and through the Encina Power Station's front gate. Primary project-related construction truck deliveries will be from Avenida Encinas at Cannon Road to avoid crossing the rail lines, as shown in Figure 5.12-1. The project site is bordered to by Carlsbad Boulevard to the west, Cannon Road to the south, and I-5 to the east. The area to the north and south of the Encina Power Station and the CECP site is mainly residential.

5.12.3.1 Existing Regional and Local Transportation Facilities

The surrounding regional and local roadway networks are shown in Figures 5.12-2 and 5.12-3, respectively. The location of the project site is shown on both figures. Regional access to the CECP site is provided from the south and the north via I-5. Local access to the project site is mainly provided by Cannon Road and Carlsbad Boulevard.

5.12.3.1.1 Interstate 5

I-5, located east of the project site, is a major north-south freeway that extends from the Mexican Border south to the Canadian Border north going through California, Oregon, and Washington States. Access to the site from I-5 is provided via Cannon Road. In the vicinity of the CECP site, I-5 has four lanes in each direction. According to traffic counts published by Caltrans in 2006, I-5 carries approximately 206,000 average daily vehicle trips near the project site. Truck traffic accounts for approximately 4.8 percent of all trips on I-5 in the vicinity of Cannon Road.

5.12.3.1.2 Cannon Road

Cannon Road is an east-west roadway that connects the project site to I-5. It is an undivided arterial that has two lanes in each direction. Cannon Road is directly south of the project site and it provides access to the site for drivers from I-5. According to the City of Carlsbad General Plan, Cannon Road is classified as a major arterial. As described in the City of Carlsbad's General Plan, major arterials typically limit access to adjacent properties and enable circulation within the City, as well as providing connection to regional roadways and freeways.

5.12.3.1.3 Carlsbad Boulevard

Carlsbad Boulevard is a north-south roadway that connects the project site to Cannon Road to the south and Tamarack Avenue to the north. Carlsbad Boulevard is a divided arterial that has two lanes in each direction. According to the City of Carlsbad General Plan, Carlsbad Boulevard is considered a major arterial.

5.12.3.2 Existing Traffic Conditions and Level of Service Analysis

The traffic analysis for the construction and operation of the CECP was conducted according to the methodologies and procedures outlined in SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, the 2000 *Highway Capacity Manual* (HCM) published by the Transportation Research Board, applicable provisions from the California Environmental Quality Act (CEQA), and the City of Carlsbad Engineering Department's recommendations. The study area analyzed in this report includes intersections along Cannon Road between I-5 and Carlsbad Boulevard. In addition, the analysis corridor included roadway segments along Cannon Road and Carlsbad Boulevard. Average daily traffic volumes for roadway segments were obtained from SANDAG (January 2005). Morning and afternoon peak hour turning movement counts were used to assess intersection LOS. Peak hour intersection turning movement counts from 2006 were provided by Southland Car Counters. Peak hour traffic data at the intersection of Cannon Road and Carlsbad Boulevard were available from 2004. Traffic data prior to 2007 were adjusted to reflect projected 2007 traffic volumes by using an annual growth factor of two percent, which is commonly used in San Diego County.

5.12.3.2.1 Existing Roadway Conditions

The City of Carlsbad uses the LOS criteria as defined by the 2000 HCM to assess the performance of its street and highway system and the capacity of roadways. LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. The LOS requirements are specified in the City of Carlsbad Annual Traffic Monitoring Program (2006). Roadway traffic flow characteristics for different LOS are described in Table 5.12-2.

TABLE 5.12-2
Level of Service Criteria for Roadways

LOS	V/C	Traffic Flow Characteristics
A	0.00 – 0.60	Free flow; insignificant delays
B	0.61 – 0.70	Stable operation; minimal delays
C	0.71 – 0.80	Stable operation; acceptable delays
D	0.81 – 0.90	Approaching unstable flow; queues develop rapidly but no excessive delays
E	0.91 – 1.00	Unstable operation; significant delays
F	> 1.00	Forced flow; jammed conditions

Notes:

V/C = traffic volume (demand) / roadway capacity ratio

Sources:

City of Carlsbad, 2006.

Transportation Research Board, 2000.

Daily roadway link V/C ratios were determined using theoretical daily capacities. For purposes of this analysis, the daily volumes for roadways at LOS E were utilized as the definition of capacity conditions.

The classification, lane numbers, and the daily capacity for segments of Cannon Road and Carlsbad Boulevard are summarized in Table 5.12-3.

TABLE 5.12-3
Street Classification, Lanes, and Capacity

Street Name	Section (From/to)	Street Classification	Lanes	Capacity (LOS E)
Cannon Road	I-5 Ramps/Avenida Encinas	Major Arterial	4 Lanes	30,000
Cannon Road	Avenida Encinas/Carlsbad Boulevard	Major Arterial	4 Lanes	30,000
Carlsbad Boulevard	Cannon Road/Project Site	Major Arterial	4 Lanes	30,000

Source: San Diego County Water Authority, 2006.

The analysis for this section is based on average weekday traffic volumes. This analysis focuses on the following study area roadway segments during a typical weekday.

- Cannon Road between I-5 southbound ramps and Avenida Encinas
- Cannon Road between Avenida Encinas and Carlsbad Boulevard
- Carlsbad Boulevard between Cannon Road and the project site

Table 5.12-4 summarizes the existing (2007) daily traffic volumes and V/C ratios for the area roadway segments. For purposes of this analysis, the daily capacity for LOS E was utilized to determine the LOS along these roadway segments. As shown in Table 5.12-4, the study area roadway segments currently operate at LOS C or better.

TABLE 5.12-4
Existing Roadway Segment LOS Analysis Summary

Roadway Segment	Capacity (LOS E)	Volume (2007 Estimates)	V/C	LOS
Cannon Road between I-5 SB Ramps and Avenida Encinas	30,000	13,600	0.45	A
Cannon Road between Avenida Encinas and Carlsbad Boulevard	30,000	7,950	0.27	A
Carlsbad Boulevard between Cannon Road and the project site	30,000	23,600	0.79	C

Source: SANDAG, 2005.

5.12.3.2.2 Existing Intersection Conditions

The HCM 2000 methodology was used to determine the intersection LOS at signalized intersections within the study area. The resulting delay is expressed using LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation. The relationship of delay and LOS at signalized intersections is summarized in Table 5.12-5.

TABLE 5.12-5
Intersection LOS Criteria (2000 HCM)

LOS	Signalized Intersection Delay Per Vehicle (sec)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

Source: Transportation Research Board, 2000, Chapter 17.

The study area analyzed in this report includes the following signalized intersections:

- I-5 northbound ramps/Cannon Road
- I-5 southbound ramps/Cannon Road
- Avenida Encinas/Cannon Road
- Carlsbad Boulevard/Cannon Road

No intersections east of I-5 were analyzed since project-construction and operation related traffic is assumed to access the project site using Cannon Road from I-5 northbound and southbound ramps to Avenida Encinas or Carlsbad Boulevard. The existing turning movement counts for the intersections within the study corridor are presented in Figure 5.12-4 for the AM and PM peak hours. The CECP construction workers access to the construction parking area on the Encina Power Station is from Carlsbad Boulevard, while the CECP construction truck deliveries access point will be Avenida Encinas at Cannon Road to avoid crossing the rail lines. The North County Transit District (NCTD) rail lines run north-south, just west of Avenida Encinas. The rail lines cross Cannon Road at a controlled grade cross (drop guards and flashing cross-buck signs). Thus, drivers going eastbound and westbound on Cannon Road will have to stop at the rail crossing for a short time while the trains are passing (Coaster, Amtrak, etc.). With trains clearing the rail crossing within few seconds (average speed of 60 mph) and the guard gates going up to their initial position within less than a minute, the delays at the Avenida Encinas and Cannon Road intersection are not anticipated to be significant.

The results of the existing AM and PM peak-hour LOS analysis for the study area intersections are summarized in Table 5.12-6. All study area intersections operate at LOS C or better in the AM and PM peak hour.

TABLE 5.12-6
Existing Intersection LOS Summary

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
I-5 northbound ramps/Cannon Road	10.6	B	11.2	B
I-5 southbound ramps/Cannon Road	16.7	B	13.8	B
Avenida Encinas/Cannon Road	15.3	B*	14.7	B*
Carlsbad Boulevard/Cannon Road	16.6	B	27.8	C

* Analysis scenario without accounting for trains.

Source: using HCM reports provided by Synchro 7.0

5.12.3.3 Truck Routes—Weight and Load Limitations

In addition to CVC Sections 35550-35559, the City of Carlsbad Municipal Code, Chapter 10.32 establishes truck routes and load limitations for city roads. The use of all streets by commercial vehicles within the city is prohibited for vehicles exceeding a maximum gross vehicle weight rating of 14,000 pounds, except on the following truck routes:

- Carlsbad Boulevard from the northerly city limits to the southerly city limits
- Carlsbad Village Drive from Carlsbad Boulevard east to Interstate 5 Freeway
- Tamarack Avenue from Interstate 5 Freeway to Carlsbad Boulevard
- Cannon Road from Carlsbad Boulevard to El Camino Real
- Interstate 5 Freeway from the northerly city limits to the southerly city limits
- Palomar Airport Road from Carlsbad Boulevard to the easterly city limits
- El Camino Real from the northerly city limits to the southerly city limits
- La Costa Avenue from the westerly city limits to El Camino Real
- Rancho Santa Fe Road from the southerly city limits to the northerly city limits
- Olivenhain Road from the westerly city limits to Rancho Santa Fe Road
- Melrose Drive from Palomar Airport Road to the northerly city limits
- Faraday Avenue from Cannon Road to the easterly city limits
- College Boulevard from Palomar Airport Road to El Camino Real

5.12.3.4 Cumulative Projects

5.12.3.4.1 Future Plans and Projects

Based on the review of the area in the vicinity of the CECP site, it has been determined that the area within one mile of the project site radius is mostly developed; a substantial amount of open space (i.e., Lagoons and agricultural lands) is located in close proximity to the CECP site, which limits the scope of projects that register on the scale of cumulative effects. Only small in-fill commercial and residential projects are occurring in the vicinity of the CECP site. These include:

- The Carlsbad Seawater Desalination Plant proposed to be located on land leased from the Encina Power Station.

- The I-5 North Coast Corridor Improvements.
- The City of Carlsbad Capital Improvement projects, including Terramar Lift Station Emergency Generator, Vista/Carlsbad Interceptor Agua Hedionda Lift Station, Vista/Carlsbad Interceptor Sewer Reaches VC11B and VC13 to VC15, and Carlsbad Boulevard Bridge Over Power Plant Discharge Channel.
- The Flower Fields project.

Details on these projects are provided in Section 5.6, Land Use.

5.12.3.4.2 Local Comprehensive Transportation Plans

The current Regional Transportation Plan (RTP), called MOBILITY 2030, provides a general description of transportation improvements in the northern San Diegan region. The nearest transportation improvements include the addition of managed/HOV lanes on I-5.

Preliminary engineering and environmental work is underway, and completion is expected in 2015.

5.12.3.5 Pedestrian/Bicycle Facilities

The City of Carlsbad Citywide Trails Program identifies existing and planned facilities throughout the City. As part of the Circulation Element of the General Plan, an existing bike lane and sidewalk connection runs along Cannon Road and Carlsbad Boulevard. A future regional coastal rail trail and sea wall on Avenida Encinas are included in the study corridor. Existing and planned facilities are shown on Figure 5.12-5.

5.12.3.6 Public Transportation

Public transportation in the area is provided by NCTD and Amtrak.

- The Commuter Rail (Coaster) runs from Santa Fe Depot in downtown San Diego to Oceanside. The tracks used run parallel to Carlsbad Boulevard and I-5. Two stops are in Carlsbad: The Village station, on Grand at Washington and State, and Poinsettia station, on Avenida Encinas north of Poinsettia Lane. Trains are operated six days a week, excluding Sundays. Mondays through Thursdays the Coaster operates from 5:23 AM until 11:43 PM with a total of 24 trains per day. On Fridays the Coaster is active from 5:23 AM to 1:09 AM with a total of 26 trains per day. There are a total of eight trains on Saturdays that begin service at 9:14 AM and end at 10:03 PM.
- Amtrak Pacific Surfliner runs from San Diego to San Luis Obispo, and uses the same tracks. Twelve trains in each direction stop in Oceanside, the closest Amtrak station in the area. Time headway may vary depending on weekday or weekend schedules.
- The “Sprinter” rail line, a 22-mile passenger line between Oceanside and Escondido, is currently in the planning process. This commuter passenger train is intended to operate seven days a week with week day service from 5:00 AM to 9:00 PM. With 64 daily trips, the Sprinter is projected to run every thirty minutes in each direction. Service is expected to begin in December 2007.
- NCTD bus routes serving Carlsbad include Route 301 (from Oceanside to San Diego University Towne, running on Carlsbad Boulevard near the project site), Express Route 310 (from Plaza Camino Real to northern San Diego, running on I-5 in the vicinity

of the project site), Route 321 (from Poinsettia station up along I-5 to Carlsbad Village) and Route 344 (from South Carlsbad to San Marcos, running on Carlsbad Boulevard and Cannon Road near the project site).

5.12.3.7 Rail Traffic

Besides Coaster and Amtrak train traffic on the tracks west of the project site, goods are also transported by the Burlington Northern Santa Fe (BNSF), which is a national freight operator serving the San Diego area. Only one train per day uses these tracks at most.

5.12.3.8 Air Traffic

The CECP site is located approximately 2.5 miles west of the McClellan Palomar Airport. In 2006, the airport's annual operations averaged approximately 201,000 combined landings and takeoff (i.e. one roundtrip is counted as two operations). The Comprehensive Land Use Plan McClellan-Palomar Airport (SANDAG, 1994) identifies areas likely to be impacted by noise and flight activity created by aircraft operations at the airport. The three areas identified in the Land Use Plan include: the Airport Influence Area; the Runway Protection Zone; and the Flight Activity Zone. Those are represented on Figure 5.12-6.

Lindbergh Field, San Diego's international airport (passenger and freight traffic) also serves San Diego County's air transportation needs. Lindbergh Field (SAN) is approximately 30 miles south of the project site. Airports in the project vicinity are shown on Figure 5.12-2.

5.12.3.9 Marine Traffic

The Tenth Avenue Marine Terminal in San Diego and the National City Marine Terminal in National City are the two major marine terminals in the San Diego region. There is also a Marine Terminal that services the Encina Power Station, which is an open, unsheltered terminal consisting of a single 8-point mooring and a single submarine fuel oil pipeline.

5.12.4 Environmental Analysis

This section assesses the traffic and transportation system impacts associated with the construction and operation of the CECP. This analysis primarily examines impacts on roadway and intersection LOS expected during construction and operation of the CECP.

Potential traffic impacts during construction of the CECP, as well as CECP operation after construction, have been considered and analyzed. Significance criteria were developed based upon Appendix G of the CEQA *Guidelines*, which identifies significant impacts to be caused by a project if it results in an increase in traffic that is substantial relative to the existing traffic volumes and the capacity of the surrounding roadway network. In addition, impacts are assessed in accordance with the criteria used by the San Diego Traffic Engineers' Council (SANTEC). The more stringent criteria were used to determine project-related impacts.

Two options are available for the construction of the CECP. In the first option (Single Phase construction), both of the new units come on line in July 2010, and construction of the CECP is scheduled for a total of 19 months. In the second option (Phased Construction schedule), the first unit comes on line in July 2010 and the second unit in January 2011; thus, the construction effort is extended to 25 months. Because the construction is more spread out in

the second option, the worse case construction-related traffic effects are expected to occur with the first option (single phase construction). During the peak construction phase in Option 1, from Month 6 to Month 15, the project is expected to generate an average of 291 daily construction worker trips and 317 monthly construction truck deliveries. During the peak construction phase in Option 2, from Month 9 to Month 19, the project is expected to generate an average of 266 daily construction worker trips and 268 monthly construction truck deliveries. This finding supports that Option 1 represents the worse case scenario, which will be studied in this section.

When completed, the operations of CECP would not require additional staffing. However, the new project would generate in average approximately 16 delivery trips per month during project operation. To analyze the “worst-case” scenario, traffic impacts associated with peak construction traffic were analyzed. A quantitative traffic analysis was not conducted for the long-term operations phase since it would generate a very low volume of trips. Thus, operational traffic will not have a measurable impact on the study area roadways; only the impacts of construction traffic were analyzed.

5.12.4.1 Significance Criteria

The significance criteria have been developed using guidance provided in the CEQA, Appendix G (Title 14 California Code of Regulations 15000 et seq.), SANTEC, and other relevant considerations. Impacts of the proposed project to transportation and circulation will be considered significant if the project would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system
- Exceed, either individually or cumulatively, a LOS standard established by the county congestion management agency for designated roads or highways
- 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
- Cause unannounced traffic delays greater than 15 minutes during construction within or adjacent to public roadways
- Substantially increase hazards due to a design feature or incompatible uses
- Result in inadequate emergency vehicle access
- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation

City’s engineers also indicated that LOS C is the threshold of significance during non-peak period, and LOS D is the threshold of significance during peak period. In any case where additional project traffic causes a change greater than the thresholds discussed, a project applicant is responsible for its proportional share of the improvements required to mitigate the site traffic to and acceptable LOS.

5.12.4.2 “With Project” Traffic Conditions and Level of Service Analysis

As discussed above, it is anticipated that the single phase construction period will require approximately 19 months, beginning the fourth quarter of 2008 and ending in the second quarter of 2010. The analysis of the “with project” traffic scenario was conducted for the peak month construction traffic.

5.12.4.2.1 Construction Traffic Generation

To determine the construction traffic for the CECP, the Applicant provided construction data that included the anticipated number of delivery vehicles, haul vehicles, and construction workers. Construction parking and laydown areas are allocated for construction workers and materials staging, respectively, at the project site (see Figure 5.12-7). Trucks will access the site using Avenida Encinas at Cannon Road to avoid crossing the rail lines. Heavy equipment will be delivered using an existing rail spur that serves the Encina Power Station, and thus, will not have any impacts on the highway network.

The peak construction workforce level is expected to last from Month 6 through Month 15 of the construction period, with the peak being Month 13, as shown in Table 5.12-7.

TABLE 5.12-7
Trips During Peak Construction Period

Month	6	7	8	9	10	11	12	13	14	15
Workers	217	243	258	283	301	310	345	357	331	261
Truck Deliveries/Month	502	569	377	349	307	296	274	192	169	128
Truck Deliveries/Day	24	27	18	17	15	14	13	9	8	6
Total Daily Trips	241	271	276	300	316	325	359	367	340	268

Based on the provided construction data, the average and peak month (Month 13) daily construction workers are approximately 291 and 357, respectively. The average and peak (Month 7) daily truck deliveries are approximately 16 and 28, respectively. Month 13 is the critical construction period when the highest total number of daily trips is anticipated. Of the nine delivery/haul truck trips anticipated in Month 13, three truck trips are assumed to access the site during the AM peak hour and no truck trips during the PM peak hour. The remaining six delivery/haul truck trips are assumed to occur during the hours of 9:00 AM to 4:00 PM. Construction workers will arrive during the AM peak and leave the project site during the PM peak period. Based on data collected in San Diego County by SANDAG¹, the average vehicle occupancy (AVO) is 1.2 and 1.25 for freeways and arterials, respectively. An AVO of 1.1 was conservatively assumed in this analysis for construction workers.

For purposes of this analysis, the truck trips were converted to passenger car equivalent (PCE) trips at a ratio of 2.5 passenger cars for each truck, consistent with the HCM 2000 guidelines. The construction trip estimates are presented in Table 5.12-8.

¹ San Diego Region Vehicle Occupancy and Classification Study 2000, by SANDAG, Revised in 2002

TABLE 5.12-8
Peak Construction Trip Generation Estimate

Trip Type	ADT	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Delivery/Haul Trucks	9	3	3	6	—	—	—
PCE (2.5)	46	8	8	16	—	—	—
Workers	714	357	—	357	—	357	357
PCE (1.0)/AVO (1.1)	650	325	—	325	—	325	325
Total Construction Traffic in PCE	695	333	8	341	—	325	325

5.12.4.2.2 Construction Traffic Distribution

The following assumptions were used to distribute construction traffic over the study area network:

- All truck trips will originate from south of the project site. Carlsbad is located in the northern end of San Diego County. The heavy industrial areas are in the southern part of the County, where the ports and terminals are. Thus, it is reasonable to assume that the majority of trucks will come from south to north on I-5.
- Trucks arriving at the site will use the northbound ramps on I-5 to get on Cannon Road and then Avenida Encinas to the project site. Trucks will use the southbound ramps to return to their origin.
- Ten percent of construction workers trips will originate north of the project site. The remaining workers will originate from south of the site. It is anticipated that all construction workers for this project will be residents of San Diego County. Since Carlsbad is located in the northern part of the County, it was safe to assume that the majority of the worker trips will come from south of the project site on I-5.

The distribution of the estimated construction trips, which include the worker trips, and truck delivery/haul trips to the project site, are shown in Figure 5.12-8 for the AM and PM peak hours.

5.12.4.2.3 Roadway LOS with Construction Traffic

As shown in Figure 5.12-9, average daily traffic generated during the construction period were added to the existing traffic volumes on each roadway segment. Then, the traffic impacts were assessed based on the 2000 HCM guidelines. The daily traffic volumes and V/C ratios for the study area roadway segments in the existing condition and with the addition of construction traffic are summarized in Table 5.12-9. Based on the analysis, the roadway segments are forecast to operate at LOS D or better when construction traffic is added to existing conditions.

TABLE 5.12-9
Roadway Sections LOS Analysis With Project Construction Traffic

Roadway Segment	Capacity (veh/day)	Existing (2007)			Construction Traffic	With Project (2007)		
		Volume	V/C	LOS		Volume	V/C	LOS
Cannon Road between I-5 SB Ramps and Avenida Encinas	30,000	13,600	0.45	A	Construction workers: 650 (roundtrip) Truck Deliveries: 46 (roundtrip PCE = 2.5)	14,296	0.48	A
Cannon Road between Avenida Encinas and Carlsbad Boulevard	30,000	7,950	0.27	A	Construction workers: 650 (roundtrip)	8,600	0.28	A
Carlsbad Boulevard between Cannon Road and the project Site	30,000	23,600	0.79	C	Construction workers: 650 (roundtrip)	24,250	0.81	D

Evaluation of the roadway V/C ratios shows that the addition of the project's peak construction traffic to the existing traffic volumes will not cause significant impacts, according to the City's performance criteria.

5.12.4.2.4 Intersection LOS with Construction Traffic

The AM and PM peak hour traffic generated during the peak construction period were added to the existing turning movement counts on the analyzed intersection within the study corridor. Then, the traffic impacts were assessed based on the 2000 HCM guidelines. The results of the existing and the "with project" AM and PM peak-hour LOS analysis for all study area intersections are summarized in Table 5.12-10.

As shown in the table, all study area intersections will continue to operate at an acceptable LOS (LOS D or better) in the AM and PM peak hour with the addition of the project's peak construction traffic. Therefore, the construction traffic will not create significant impacts at any of the study area intersections in the existing condition based on the City's significance criteria.

TABLE 5.12-10
Intersection LOS Analysis With Project Construction Traffic

Intersection	Existing (2007)				With Project (2007)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
I-5 northbound ramps/Cannon Road	10.6	B	11.2	B	14.1	B	14.7	B
I-5 southbound ramps/Cannon Road	16.7	B	13.8	B	16.8	B	10.1	B
Avenida Encinas/ Cannon Road	15.3	B*	14.7	B*	14.0	B*	19.7	B*
Carlsbad Boulevard/ Cannon Road	16.6	B	27.8	C	16.7	B	34.0	C

* Analysis scenario without accounting for trains

Source: using HCM reports provided by Synchro 7.0

5.12.4.3 Transport of Hazardous Materials

During construction of the project and linear facilities, regulated substances, as defined in California Health and Safety Code Section 25531, will not be used. Hazardous materials to be used during construction of the project and its associated linear facilities will include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner, all in small quantities. Because of the small quantities of hazardous materials used during project construction, shipments will likely be consolidated. Multiple truck deliveries of hazardous materials during construction are unlikely. During construction, a minimal number of truck trips per month will be required to haul waste for disposal. Because the transport of hazardous wastes will be conducted in accordance with the relevant transportation regulations no significant impact is expected.

During the project's operations phase, several hazardous materials, including one regulated substance (19 percent aqueous ammonia, which is considered to pose inhalation hazards) will be shipped and stored at the generating site during CECP operation. The aqueous ammonia will be delivered to the plant by truck, twice a month, with a maximum of five trucks per month. Other chemical deliveries will require two trucks per month. Shipments will be via I-5 to Cannon Road and then to Carlsbad Boulevard for entrance to the site.

According to Division 13, Section 31303 of the CVC, the transportation of regulated substances and hazardous materials will be on the state or interstate highways that offer the shortest overall transit time possible. Transporters of hazardous or explosive materials must be licensed by the CHP hazardous material Transporters. Transportation impacts related to hazardous materials associated with CECP operations will not be significant since deliveries of hazardous materials will be limited. Delivery of these materials will be in compliance with all LORS governing the safe transportation of hazardous materials.

Standards for the transport of hazardous materials are contained in CFR Title 49 and enforced by the U.S. Department of Transportation. Additionally, the State of California has promulgated rules for hazardous waste transport that can be found in the California Code of Regulations, Title 26. Additional regulations for the transportation of hazardous materials are outlined in the CVC (Sections 2500 through 2505, 12804 through 12804.5, 31300, 3400, and 34500 through 34501). The two state agencies with primary responsibility for enforcing federal and state regulations governing the transportation of hazardous wastes are the CHP and Caltrans. Transport of hazardous materials to and from the CECP will comply with all applicable requirements, and the traffic impacts related will not be significant.

For those materials that require offsite removal during operation, a licensed hazardous waste transporter would move these substances to one of the Class I hazardous waste landfills in proximity to the project site. Access by waste haulers to the project site would be via I-5. Specific outbound truck routes from the project site to I-5 are as follows:

1. Project site (Carlsbad Boulevard) to Cannon Road – southbound
2. Cannon Road to I-5 on-ramps – westbound

Specific inbound truck routes to the project site from I-5 are as follows:

1. I-5 off-ramps to Cannon Road – westbound
2. Cannon Road to Carlsbad Boulevard (project site) – northbound

Outbound trucks would proceed on I-5 to access hazardous waste facilities throughout the state. Hauling would be carried out in accordance with local, state, and federal regulations that include the Resource Conservation and Recovery Act (42 U.S. Code 6901 et seq.), the California Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.) and the City of Carlsbad Municipal Code requirements.

In addition, the federal government prescribes regulations for transporting hazardous materials. These regulations are described in the Code of Federal Regulations, Title 49, Section 171. These laws and ordinances place requirements on various aspects of hazardous waste hauling, from materials handling to vehicle signs, to ensure public safety. Transporting and handling of chemicals and wastes are discussed in Section 5.5, Hazardous Materials Handling.

A transportation risk analysis was also prepared for this project to determine the risk of delivering ammonia to CECP (see Appendix 5.5C). The risk of an incident occurring during a calendar year that would result in 10 or more fatalities is 0.017/million miles x 93.6 miles, or 1.59 in one million. The risk of an accident occurring in any year that would result in 33 or more fatalities is 0.0027/million miles x 93.6 miles, or 0.25 in one million. The CEC uses a significance threshold of 1 in 100,000 (or 10 in 1,000,000) for a risk of 10 fatalities and a threshold of 1 in 1,000,000 for a risk of 100 fatalities (CEC, 2001). Both of the project's risk estimates (1.59 and 0.25 in one million) are at least 6 times below the CEC thresholds. Therefore, the risk of exposure to aqueous ammonia during transport to the CECP site is not significant.

5.12.4.4 Public Safety

Construction-related traffic is not expected to cause safety impacts to the general public because it will not be routed through residential areas. Hazards due to possible backup as construction workers enter and exit the plant when their shifts begin and end, respectively, should be resolved by the use of a flagman to route construction traffic. Another anticipated increase in traffic during project construction and operation will be truck trips, including delivery of hazardous materials and removal of wastes. As stated in Section 5.5 and Section 5.12.4.3, the transporter will be required to obtain a Hazardous Material Transportation License in accordance with CVC Section 32105 and will be required to follow appropriate safety procedures at railroad crossings.

One road feature with the potential for resulting in a safety hazard are at-grade railroad crossings. Two at-grade crossings are located in the project vicinity: the first one is on Cannon Road, and the second one is on Tamarack Avenue. However, both are protected and do not represent a danger to the public. At the Encina Power Station itself, an internal road crosses the rail line between the main part of the Encina Power Station and the eastern part of the site. This private crossing is protected by a drop guard and flashing cross buck to ensure safe crossing by vehicles, construction workers and employees. Besides construction delivery trucks, some vehicles such as construction management or construction support fleet are parked on the west portion of the Encina Power Station, as well as the heavy/oversize deliveries unloaded at the existing onsite rail spur will be required to be transported across the internal road and rail crossing. The drop guards and flashing cross buck ensure safe crossing by vehicles.

5.12.5 Cumulative Effects

Based on the information available at this time, the City of Carlsbad has not assessed yet the use of the Flower Fields. A planning document is expected the first quarter of 2008.

Improvements along I-5 North Coast Corridor are still under preliminary study, and no accurate information is available as to project phasing/traffic handling. The overall corridor project is expected to end in 2015.

The Carlsbad Seawater Desalination Plant is still in its initial approval phase: the Final Environmental Impact Report was certified by the City of Carlsbad on June 13, 2006; review and approval of the California Coastal Department Permit and California State Lands Commission Lease are pending. The project is slated to be operational as early as 2010, but details on construction phasing are unknown at this time.

Construction of projects tied to the City of Carlsbad Capital Improvement Program spans from 2006 to 2009, except for the Vista/Carlsbad Interceptor Sewer which has no construction schedule at this time.

5.12.6 Mitigation Measures

5.12.6.1 Construction Impacts

Construction of the CECP will add traffic to local roadways during the construction period. The increase in delay at the intersections is minimal. At these locations, no significant impact is expected to occur during construction. Thus, the CECP will not:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system
- Exceed, either individually or cumulatively, a LOS standard established by the county congestion management agency for designated roads or highways
- 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
- Cause unannounced traffic delays greater than 15 minutes during construction within or adjacent to public roadways

Moreover, no new design feature or incompatible uses that would substantially increase hazards have been identified. The implementation of a proper safety plan will address the hazards due to the crossing of the onsite rail line both on foot and by vehicle. The implementation of a traffic control plan will address the potential backup as workers enter the project site.

Specific construction worker parking areas have been designated onsite; hence, the CECP will not result in inadequate parking capacity. A secondary emergency access route has been designated for both construction and operations, as shown in Figure 5.12-7, so that the CECP will not result in inadequate emergency vehicle access. No conflict with adopted policies, plans, or programs supporting alternative transportation has been found.

Trenching relative to the reclaimed water pipeline construction may result in temporary traffic disruption from road and lane closures. The work area will be delineated with lane

closure devices approved by State of California Department of Transportation traffic standards or other approved traffic control standard per governing agency request, such as "WATCH". This will generally cause temporary lane closures during construction. It is expected that the contractor will cover any open trenches at the conclusion of the work day and repave at the end of the construction of the water line.

Cities and counties require a utility excavation and an encroachment permit (typically available from the Department of Public Works), and the permit application in most cases specifies some requirements for traffic control. Therefore, the specifics of the traffic control requirements will be addressed with the City of Carlsbad. In general, the traffic control plans are prepared in accordance with Caltrans Manual on Uniform Traffic Control Devices and the WATCH Manual. After construction is complete, no permanent alterations to the area roadways are proposed. Implementation of a traffic control plan for the affected area for the short duration of construction in that area is adequate to minimize the traffic impacts to an acceptable level.

5.12.6.2 Operations Impacts

In addition to the chemical deliveries described in section 5.12.4.3, CECP operations will require on average 12 trailers and at most 32 trailers to provide chemicals for the reverse osmosis water treatment facility per month. Therefore, the operations-related and maintenance-related traffic associated with the project is minimal and insignificant when added to major movements on freeways and local roadways. Consequently, no operations-related mitigation measures are required.

5.12.7 Proposed Conditions of Certification

The Applicant proposed the following conditions of certification to ensure that project impacts to traffic will remain below a level of significance.

5.12.7.1 Overweight and Oversize Vehicles

TRANS-1: The Applicant shall comply with Caltrans and other relevant jurisdictions limitations on vehicle sizes and weights. In addition, the Applicant or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports, the Applicant shall submit copies of any permits received during that reporting period. In addition, the Applicant shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

5.12.7.2 Encroachment Permits

TRANS-2: The Applicant or its contractor shall comply with Caltrans and other relevant jurisdictions limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: In Monthly Compliance Reports, the Applicant or contractor shall submit copies of permits received during the reporting period. In addition, the Applicant shall

retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

5.12.7.3 Licensed Hazardous Materials Haulers

TRANS-3: The Applicant shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.

Verification: The Applicant shall include in its Monthly Compliance Reports, copies of all permits/licenses acquired by the Applicant and/or contractor concerning the transport of hazardous substances.

5.12.7.4 Offsite Parking and Staging Plan

TRANS-4: During construction of the plant and all related facilities, the Applicant or contractor shall develop a parking and staging plan for all phases of project construction to enforce a policy that all project-related parking occurs onsite or in designated offsite parking areas.

Verification: At least 60 days prior to start of site mobilization, the Applicant or contractor shall submit the plan to the City of Carlsbad and other jurisdictions affected by site selection, such as the City and/or County of San Diego for review and comment, and to the CPM for review and approval.

5.12.7.5 Traffic Control Plan

TRANS-5: The Applicant or contractor shall consult with the City of Carlsbad, and prepare and submit to the CPM for approval a construction traffic control plan and implementation program which addresses the following issues:

- Timing of heavy equipment and building materials deliveries
- Redirecting construction traffic with a flag person
- Signing, lighting, and traffic control device placement if required
- Need for construction work hours and arrival/departure times outside of peak traffic periods
- Ensure access for emergency vehicles to the project site
- Temporary travel lane closure
- Access to adjacent residential and commercial property during the construction of all pipelines
- Specify construction related haul routes
- Identify safety procedures for exiting and entering the site access gate

Verification: At least 30 days prior to site mobilization, the Applicant or contractor shall provide to the CPM a copy of the referenced documents.

5.12.7.6 Crossing Safety Plan

TRANS-6: Prior to construction of the plant and all related facilities, the Applicant or contractor shall develop a crossing safety plan for all phases of project construction to address both foot traffic as well as construction related vehicle crossing and the transport of heavy/oversize loads over the internal rail crossing.

Verification: At least 60 days prior to start of site mobilization, the Applicant or contractor shall submit the plan to the CPM for review and approval.

5.12.7.7 Aircraft Hazard Markings

TRANS-7: The CECP stacks shall have all the lighting and marking required by the FAA so that the stacks do not create a hazard to air navigation. The Applicant or contractor shall submit to the FAA Form 7460-1, Notice of Proposed Construction or Alteration and supporting documents on how the project plans to comply with stack lighting and marking requirements imposed by the FAA.

Verification: At least 30 days prior to the start of construction, the Applicant or contractor shall provide copies of the FAA Form 7460-1 with copies of the FAA response to Form 7460-1, to the CPM and the City of Carlsbad Planning Department.

5.12.7.8 Roadway Repairs

TRANS-8: Following completion of project construction, the Applicant or contractor shall repair any damage to roadways affected by construction activity along with the primary roadways identified in the traffic control plan for construction traffic to the road's pre-project construction condition. Prior to the start of construction, the Applicant or contractor shall photograph, videotape, or digitally record images of the roadways that will be affected by pipeline construction and heavy construction traffic. The Applicant or contractor shall provide the Compliance Project Manager (CPM), and the City of Carlsbad with a copy of the images for the roadway segments under its jurisdiction. Also prior to start of construction, the Applicant or contractor shall notify the city about the schedule for project construction. The purpose of this notification is to postpone any planned roadway resurfacing and/or improvement projects until after the project construction has taken place and to coordinate construction related activities associated with other projects.

Verification: Within 30 days after completion of the redevelopment project, the Applicant or contractor shall meet with the CPM and the City of Carlsbad to determine and receive approval for the actions necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible. Following completion of any regional road improvements, the Applicant or contractor shall provide to the CPM a letter from the City of Carlsbad if work occurred within their jurisdictional public right of way stating their satisfaction with the road improvements.

5.12.8 Involved Agencies and Agency Contacts

Table 5.12-11 lists the agency contacts related to traffic and transportation.

TABLE 5.12-11
Agency Contacts for Traffic and Transportation

Issue	Agency	Contact
Single-Trip Transportation Permit for Oversized Loads	Caltrans	South Region Transportation Permits Office 655 West 2nd Street San Bernardino, California 92404-1400 (909) 383-4637 Moe.Bhuyian@dot.ca.gov
Hazardous Material Transportation License	California Highway Patrol	Accounting Section (HM Licensing Program) P.O. Box 942902 Sacramento, CA 94298-2902 (916) 327-5039 Email form available at: http://www.chp.ca.gov/prog/email.cgi
Safety Permits	Federal Motor Carrier Safety Administration	California Field Office 1325 J Street, Suite 1540 Sacramento, CA 95814 (916) 930-2760 Fax: (916) 930-2770 Email contact depends on the nature of the hazardous material hauled.

5.12.9 Permits Required and Permit Schedule

Table 5.12-12 presents the permits and permit schedule for the project. The vehicles used to transport heavy equipment and construction materials will require transportation permits when they exceed the size, weight, width, or length thresholds set forth in Section 35780 of the CVC, Sections 117 and 660-711 of the California SHC, and Sections 1411.1 to 1411.6 of the California Code of Regulations. Affected vehicles will be required to obtain transportation permits from Caltrans, San Diego County, and the City of Carlsbad.

Transport route arrangements would be required with Caltrans and CHP officials for permitting and escort, as applicable. Transportation of hazardous materials to and from CECP will be conducted in accordance with CVC Section 31303.

TABLE 5.12-12
Permits Required and Permit Schedule for Traffic and Transportation

Permit	Administering Agency	Schedule
Single/Annual-Trip Transportation Permit for Oversized Loads and Oversized Vehicles	Caltrans – South Region Transportation Permits Office Permit Officer on Duty (909) 383-4637	Obtain when necessary, 2-hour processing time (single trip) to 2 weeks (annual trip).
Hazardous Materials Transportation License	California Highway Patrol HM Licensing Program (916) 327-5039	Obtain when necessary, approximately 2-week processing time
Moving Permit for moving any extra-legal load which is overweight and/or oversized	San Diego County Department of Public Works (858) 694-2055	Obtain when necessary, most moving permits can usually be issued over the counter
Transportation Permit for the transportation of oversize and overweight loads through the City of Carlsbad	City of Carlsbad Engineering Department / Front Desk Kathleen Farmer (760) 602-2750 kfarm@ci.carlsbad.ca.us	Obtain when necessary, same-day processing if the insurance certificate is on file; otherwise, processed as soon as the insurance certificate is provided

5.12.10 References

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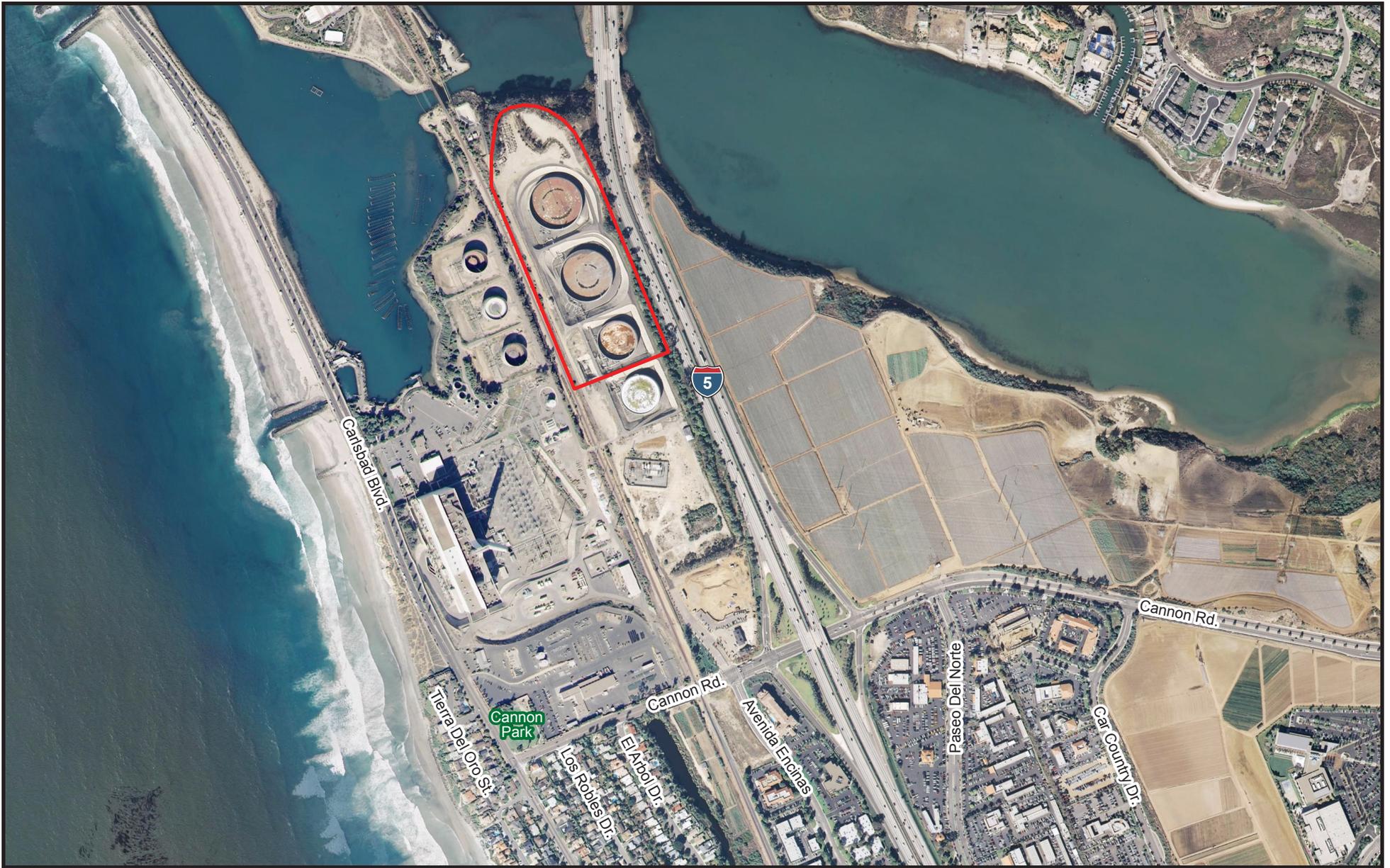
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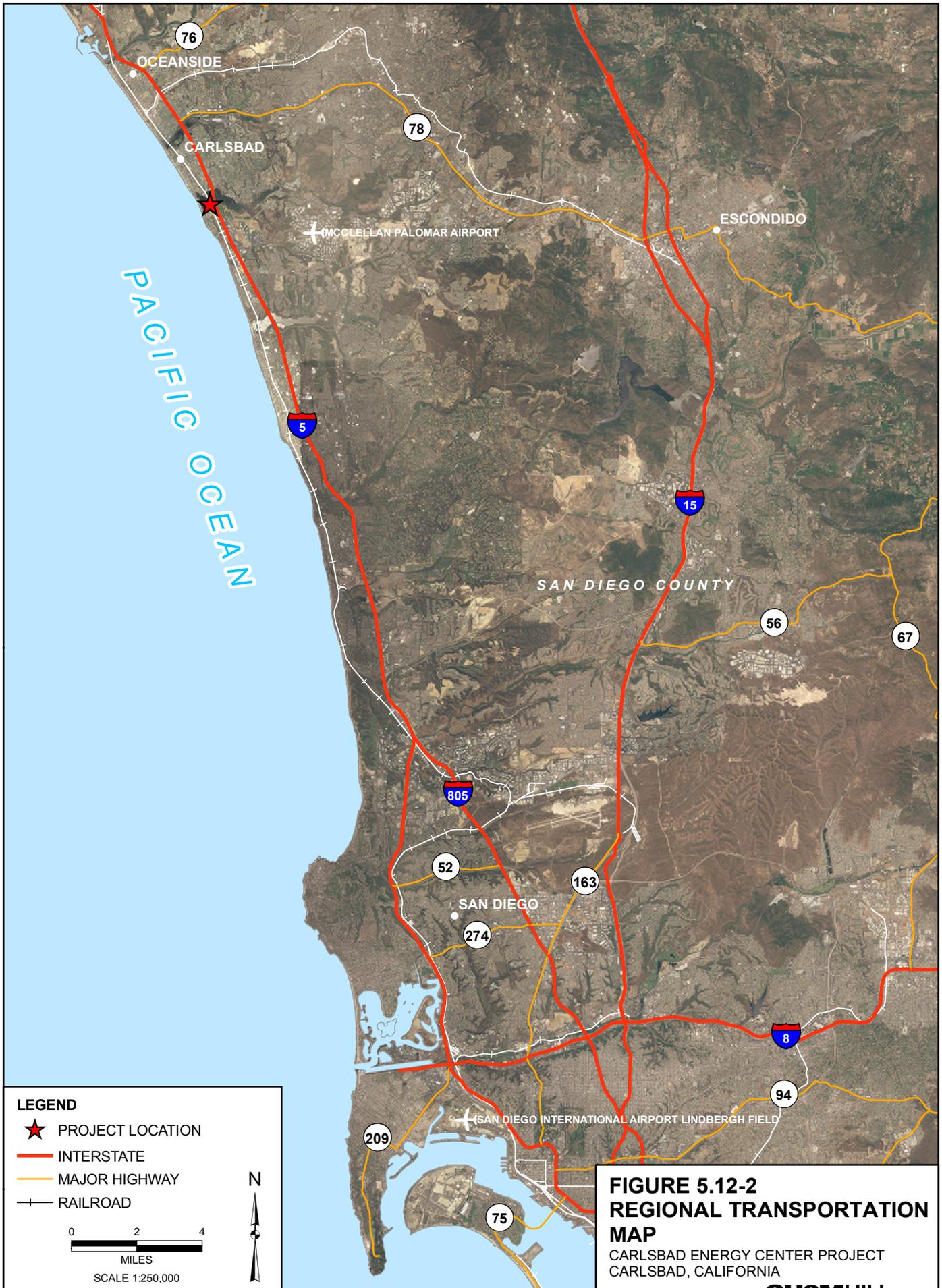
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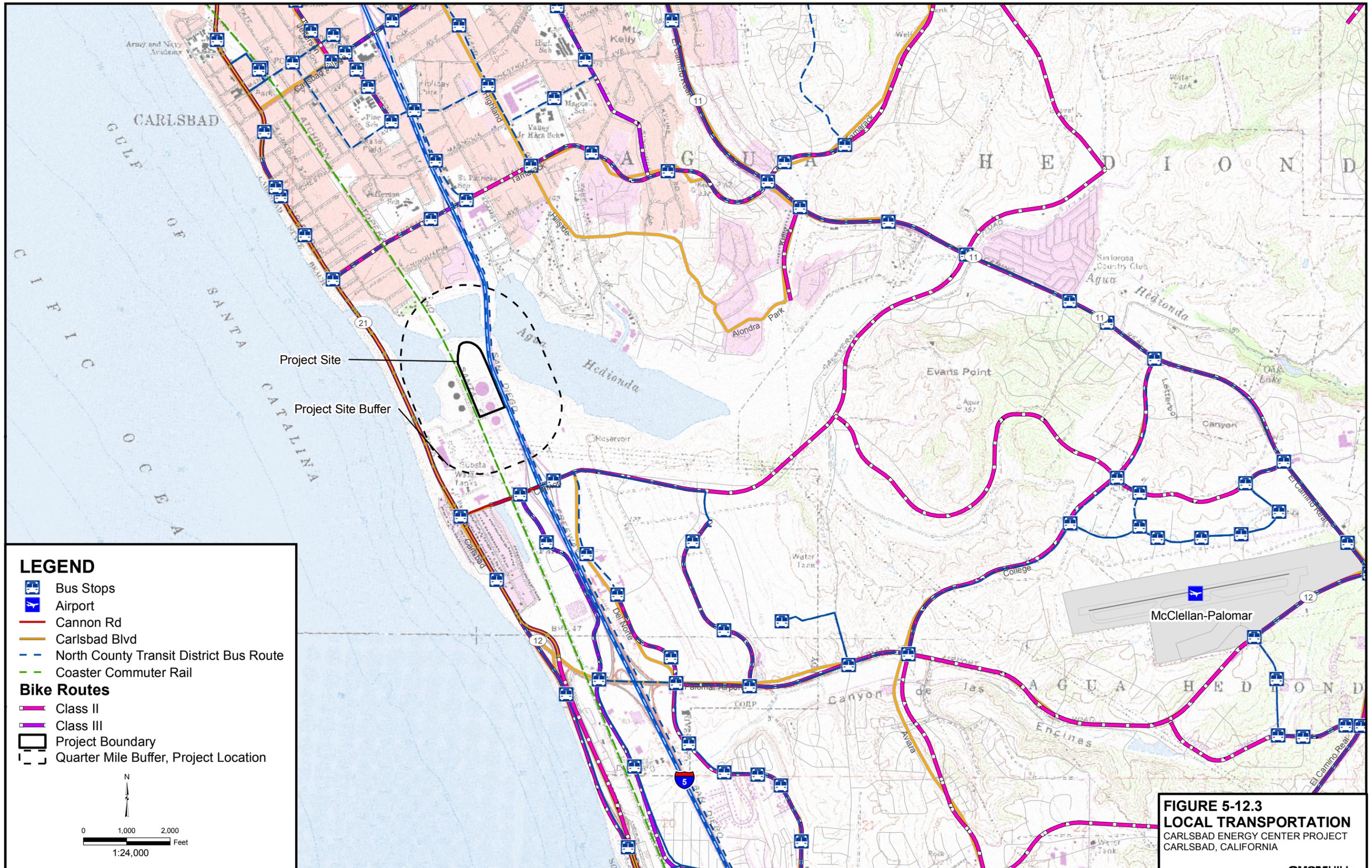
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0 500 1,000
Feet
Approximate Scale

FIGURE 5.12-1
PROJECT SITE AND VICINITY MAP
CARLSBAD ENERGY CENTER PROJECT
CARLSBAD, CALIFORNIA





LEGEND

- Bus Stops
- Airport
- Cannon Rd
- Carlsbad Blvd
- North County Transit District Bus Route
- Coaster Commuter Rail

Bike Routes

- Class II
- Class III
- Project Boundary
- Quarter Mile Buffer, Project Location

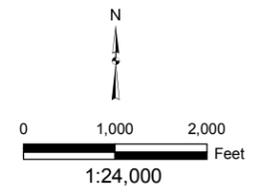
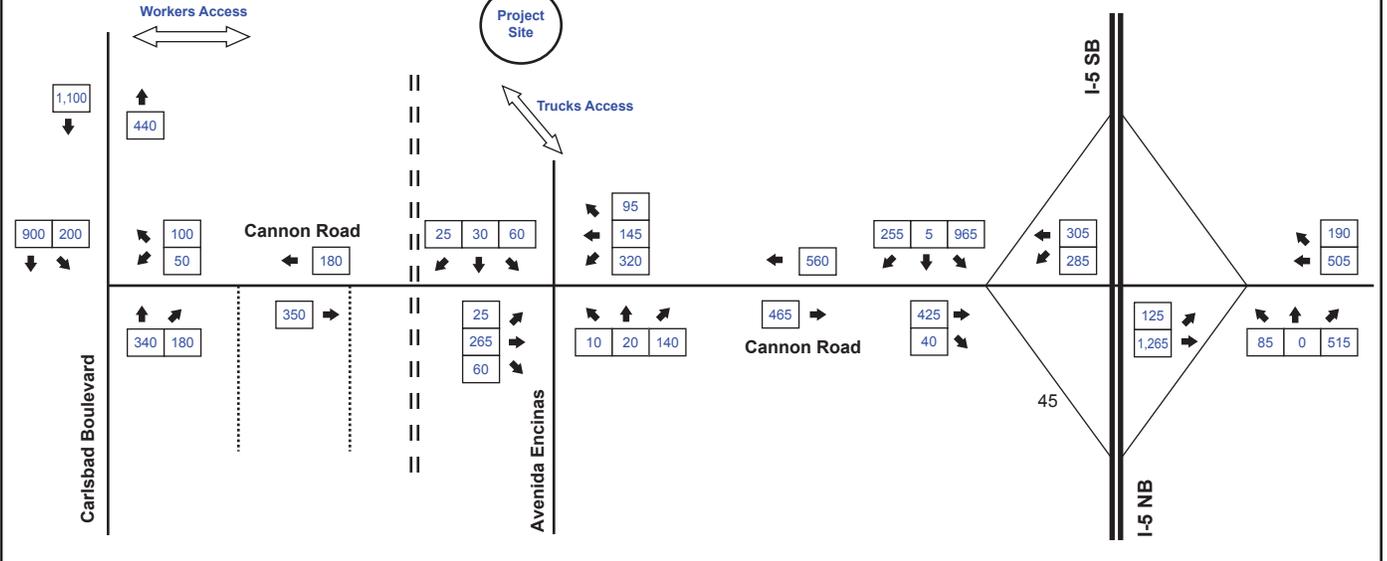


FIGURE 5-12.3
LOCAL TRANSPORTATION
 CARLSBAD ENERGY CENTER PROJECT
 CARLSBAD, CALIFORNIA

AM PEAK



PM PEAK

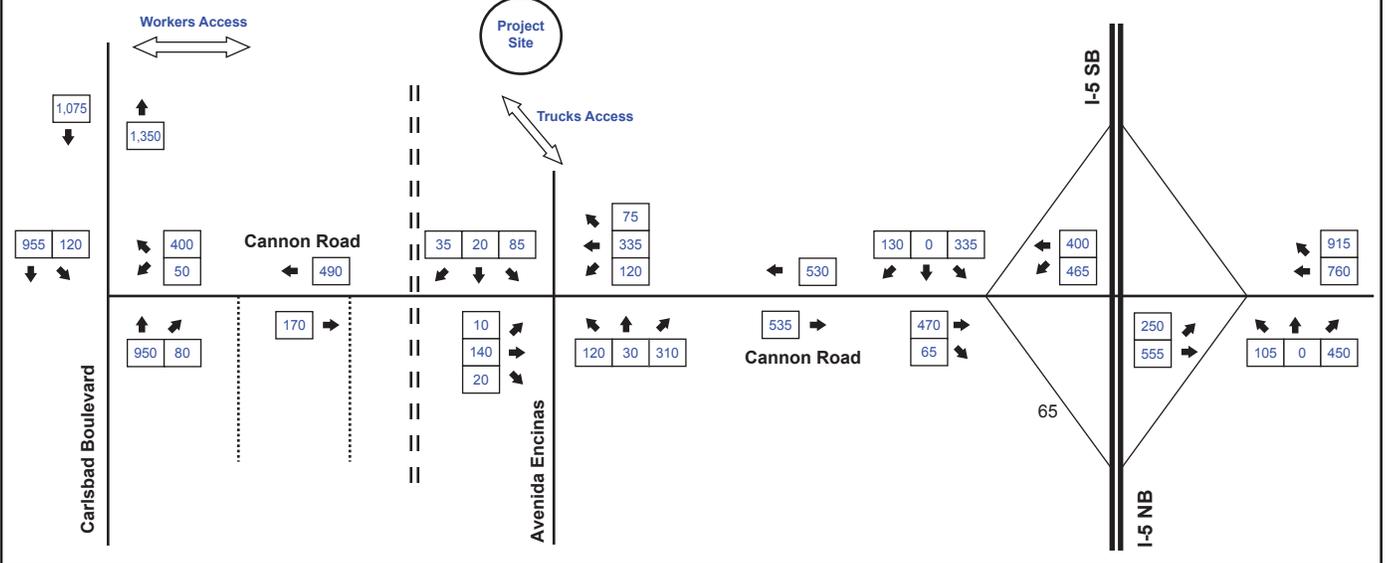
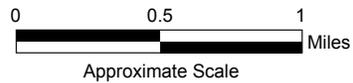


FIGURE 5.12-4
EXISTING INTERSECTION TURNING
MOVEMENT COUNTS - AM AND PM PEAK 2007
 CARLSBAD ENERGY CENTER PROJECT
 CARLSBAD, CALIFORNIA

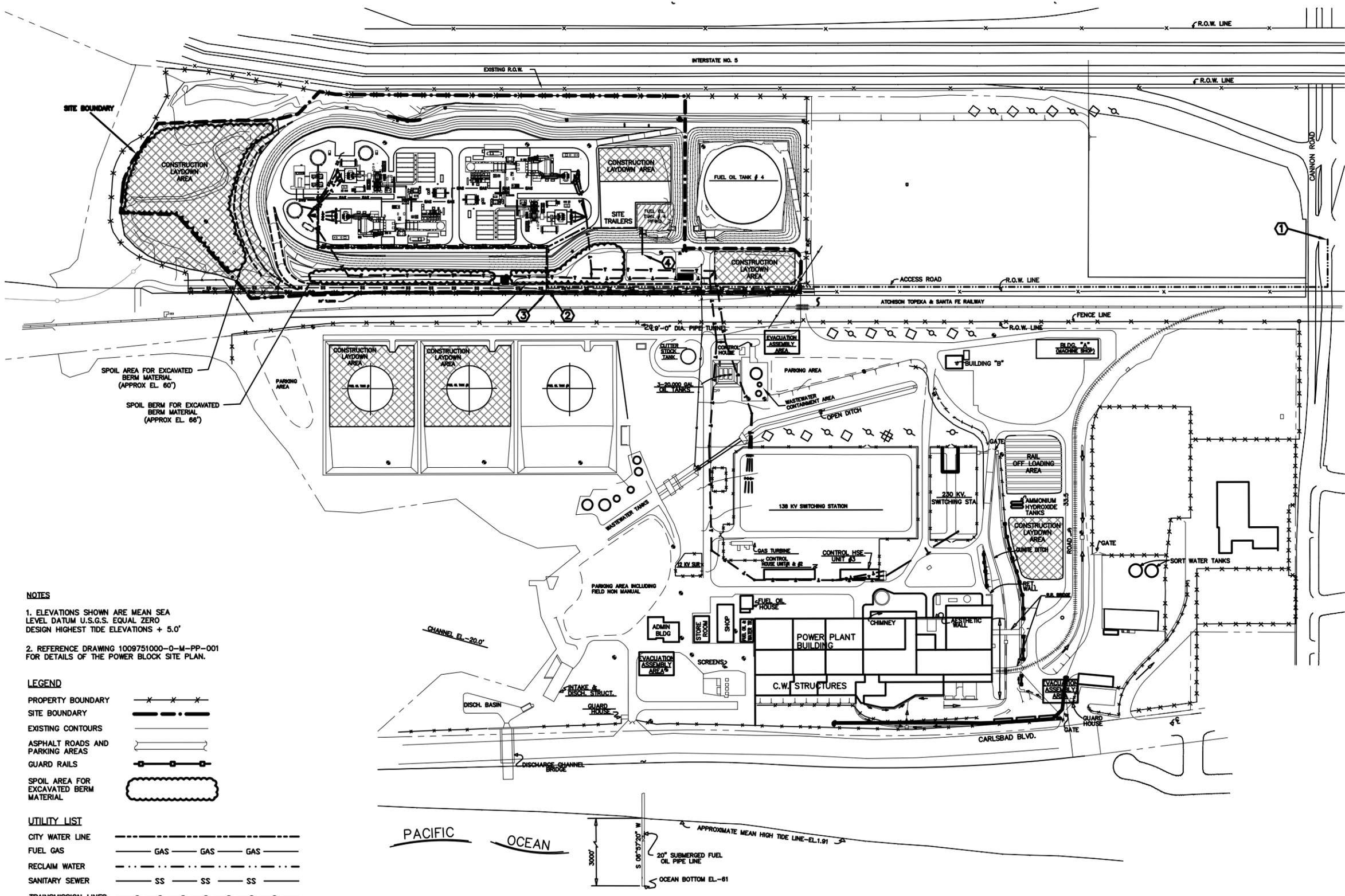


Source: City of Carlsbad, <http://ci.carlsbad.ca.us/>



- Airport Influence Zone
- - - Flight Activity Zone
- Runway Protection Zone

FIGURE 5.12-6
MCCLELLAN-PALOMAR AIRPORT'S AIRPORT INFLUENCE AREA,
RUNWAY PROTECTION ZONE AND FLIGHT ACTIVITY ZONE
 CARLSBAD ENERGY CENTER PROJECT
 CARLSBAD, CALIFORNIA



NOTES

1. ELEVATIONS SHOWN ARE MEAN SEA LEVEL DATUM U.S.G.S. EQUAL ZERO DESIGN HIGHEST TIDE ELEVATIONS + 5.0'
2. REFERENCE DRAWING 1009751000-0-M-PP-001 FOR DETAILS OF THE POWER BLOCK SITE PLAN.

LEGEND

- PROPERTY BOUNDARY
- SITE BOUNDARY
- EXISTING CONTOURS
- ASPHALT ROADS AND PARKING AREAS
- GUARD RAILS
- SPOIL AREA FOR EXCAVATED BERM MATERIAL

UTILITY LIST

- CITY WATER LINE
- FUEL GAS
- RECLAIM WATER
- SANITARY SEWER
- TRANSMISSION LINES

TIE POINTS

- ① RECLAIM WATER
- ② SANITARY SEWER
- ③ FUEL GAS
- ④ CITY WATER

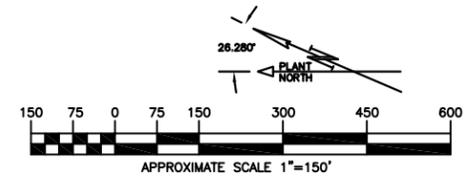
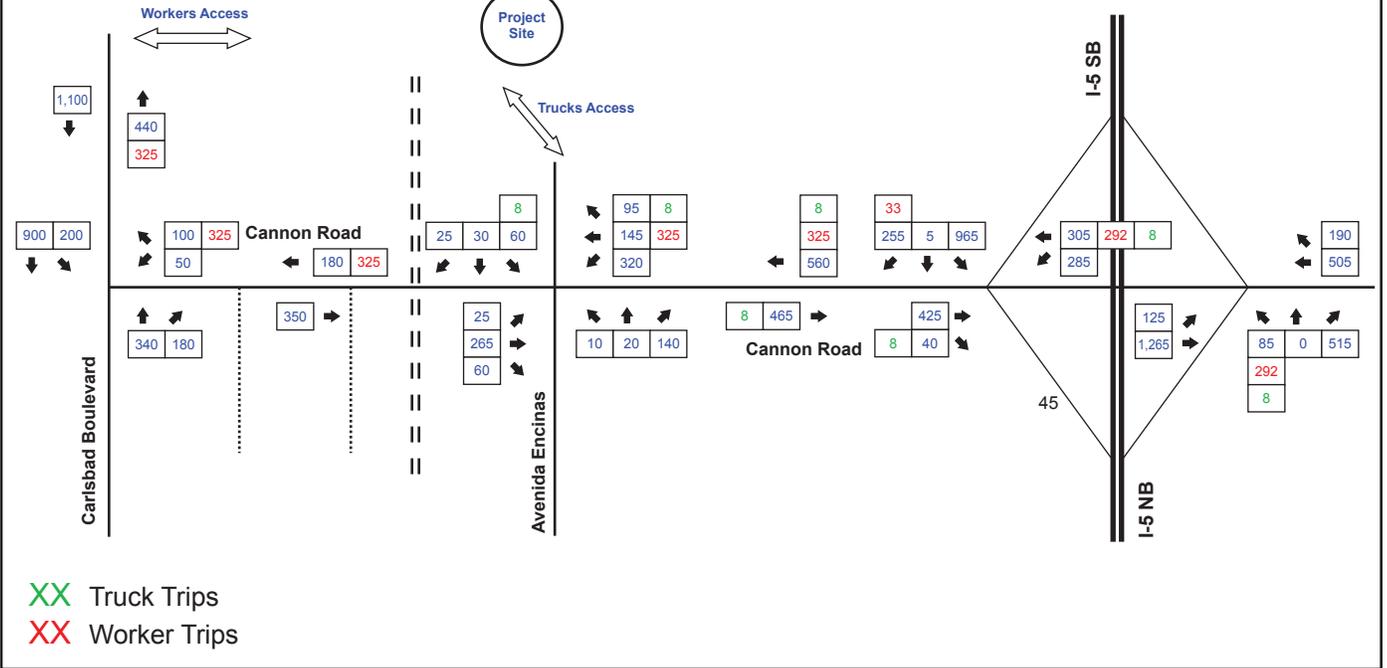


FIGURE 5.12-7
CECP PLOT PLAN
 CARLSBAD ENERGY CENTER PROJECT
 CARLSBAD, CALIFORNIA

Source: Shaw Stone & Webster, Inc.

AM PEAK



PM PEAK

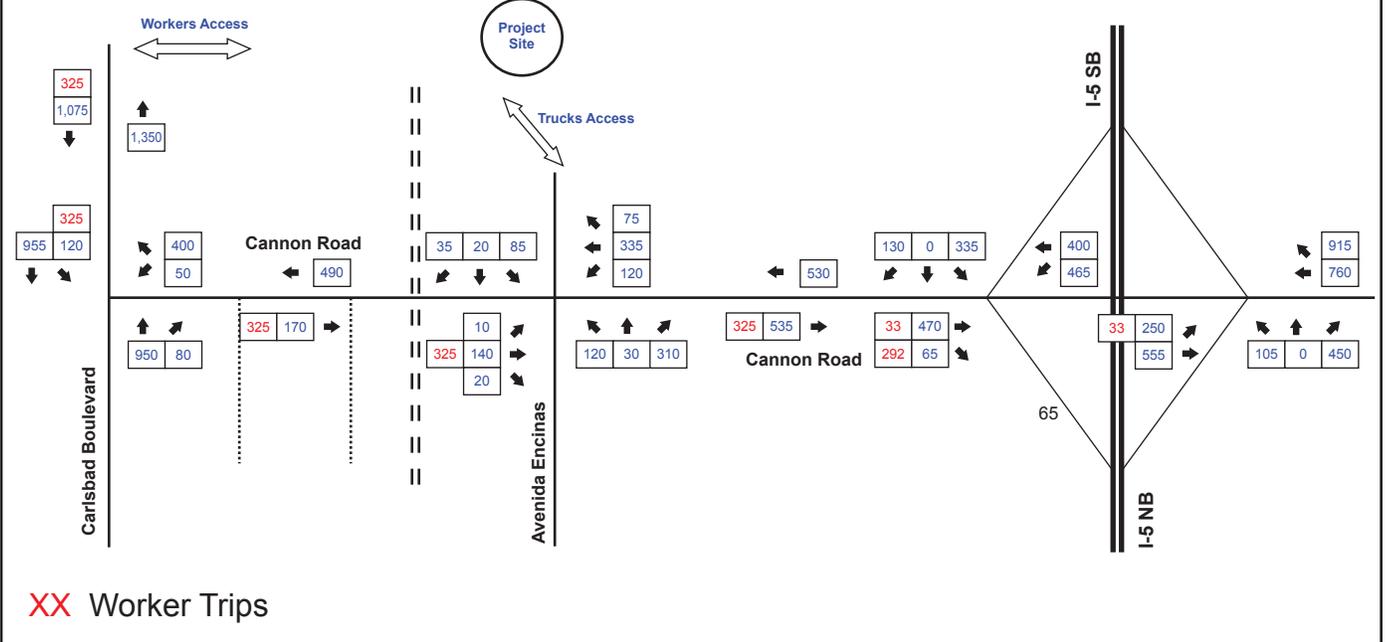


FIGURE 5.12-8
DISTRIBUTION OF AM AND PM PEAK HOUR
TRAFFIC WITH CONSTRUCTION TRIPS
 CARLSBAD ENERGY CENTER PROJECT
 CARLSBAD, CALIFORNIA

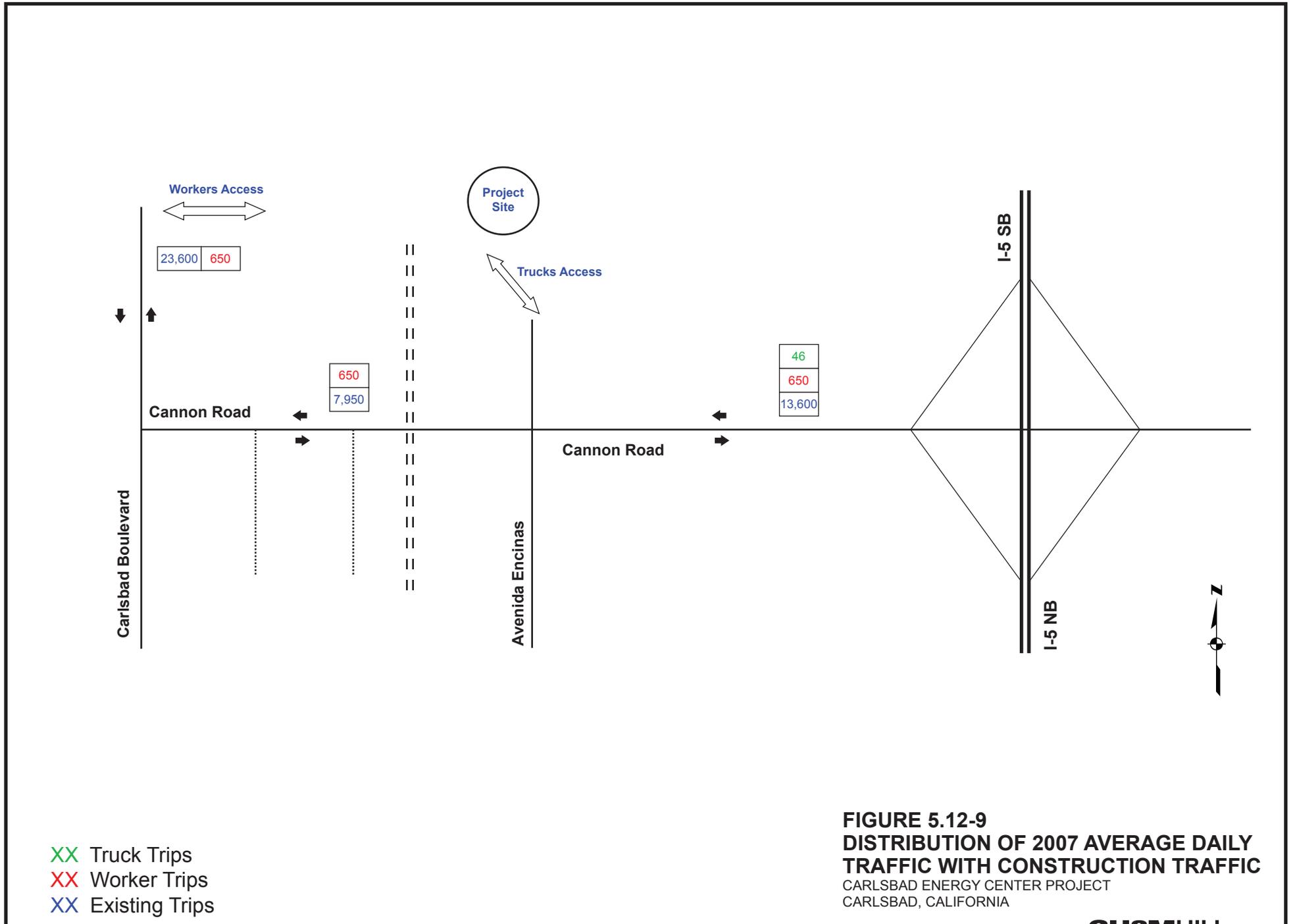


FIGURE 5.12-9
DISTRIBUTION OF 2007 AVERAGE DAILY
TRAFFIC WITH CONSTRUCTION TRAFFIC
 CARLSBAD ENERGY CENTER PROJECT
 CARLSBAD, CALIFORNIA