

4.9 Traffic and Transportation

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As a result of comments received on the January 2017 Draft EIR/EIS, revisions have been made to this EIR/EIS section. Those changes include:

- *Revisions to Mitigation Measures 4.9-1, Traffic Control and Safety Assurance Plan, and 4.9-6, Roadway Rehabilitation Program.*

This section analyzes the potential impacts on traffic, transportation, and circulation that could result from implementation of the Monterey Peninsula Water Supply Project (MPWSP or proposed project). The analysis is based on estimates of workers and vehicles associated with construction and operation of the various components of the proposed project; California Department of Transportation (Caltrans) data on state highway traffic volumes; Transportation Agency for Monterey County (TAMC) data on local roadway traffic volumes; a field reconnaissance by a professional traffic engineer; and review of available maps of transit routes, bike routes, and recreational paths. The analysis focuses primarily on construction-related impacts because most impacts on traffic and transportation would occur during project construction. However, impacts related to long-term project operations and maintenance activities are also discussed.

4.9.1 Setting/Affected Environment

The study area for the evaluation of project impacts on traffic and transportation is comprised of the regional highways and local roadways in the project vicinity. It includes the cities of Marina, Sand City, Seaside, and Monterey, and unincorporated areas of Monterey County. Construction workers and construction vehicles would use regional highways and local roadways to transport materials and equipment and excavated spoils and fill material to and from the construction work areas. In addition, construction workers would install approximately 21 miles of pipeline within or adjacent to roadways and recreational trails. There are no MBNMS resources that would be affected by impacts identified in this section; all impacts related to traffic and transportation would occur outside of MBNMS boundaries. Therefore, MBNMS resources are not described in the environmental setting/affected environment.

4.9.1.1 Regional Roadways

Regional transportation within Monterey County, and within the project area, is supported by a system of highways, including U.S. Highway 101 (Highway 101) and several state routes (Highways 1, 68, 156, 183, and 218). These roadways provide regional access to the project area, the rest of Monterey County, and beyond. These roadways and their associated traffic volumes are summarized below, using the most recent data published by Caltrans (Caltrans, 2015).

Highway 101 is a multi-lane freeway that connects to San Jose and points north and San Luis Obispo and points south. Regional traffic on Highway 101 connects to the project area via interchanges at Highway 156 in Prunedale and Highway 68 in Salinas. The average daily traffic volume on Highway 101 ranges from about 83,700 vehicles north of the Highway 156 interchange; from 58,900 to 73,900 vehicles between Highway 156 and Highway 68; and about 58,500 vehicles south of Highway 68.

Highway 1 varies from a two-lane surface state highway (with at-grade intersections) to a multi-lane freeway (with ramp interchanges). Highway 1 runs north-south directly through the project area, providing direct access to construction work areas in Marina and Seaside, and connecting with regional highways such as Highway 156 in Castroville, Highway 218 in Seaside and Del Rey Oaks, and Highway 68 in Monterey. The average daily traffic volume on Highway 1 ranges from 42,000 to 47,000 vehicles between Highway 156 and Marina; and from 50,000 to 83,000 vehicles between Marina and the Monterey southern city limits.

Highway 68, also known as the Monterey-Salinas Highway, is a surface highway connecting Monterey with Salinas.¹ It is primarily a two-lane road, but there are four-lane segments as well as segments with a center two-way left-turn median. The intersections on Highway 68 at Highway 218–Monterra Road, Ragsdale Drive, and York Road (where turning movements by project-generated trips would occur) are signalized with separate turn lanes. The average daily traffic volume on Highway 68 ranges from 21,800 to 29,000 vehicles between the interchanges with Highway 1 in Monterey and with Reservation Road in Spreckels.

Highway 156 is a predominantly two-lane highway connecting Highway 101 with Highway 1 near Castroville. At Castroville Road it widens to four lanes and becomes a freeway, with interchanges at Highway 183 (Merritt Street) and Highway 1. The average daily traffic volume on Highway 156 ranges from 29,000 to 31,000 vehicles between Highway 1 and Highway 101.

Highway 183, also referred to as Merritt Street in the town of Castroville and Market Street in the city of Salinas, is a predominantly two-lane surface highway connecting Castroville (Highway 1) with Salinas (Highway 101); there are segments with four lanes or a center two-way left-turn median in Castroville. The average daily traffic volume on Highway 183 ranges from 12,000 to 38,200 vehicles between Highway 1 and Highway 101.

¹ Highway 68 (Holman Highway) also connects Carmel with Pacific Grove, and overlaps with Highway 1 between Carmel and Monterey.

Highway 218, also known as Canyon Del Rey Boulevard, is a surface highway connecting Highway 1 (at a freeway interchange) with Highway 68. It has four lanes (plus turn lanes) through Seaside, narrowing to two lanes east of Fremont Street. The average daily traffic volume on Highway 218 ranges from 12,200 to 23,000 vehicles between Highway 1 and Del Rey Oaks, and from 13,000 to 14,600 vehicles between Del Rey Oaks and Highway 68.

4.9.1.2 Local Roadways

The project area has a network of roads that serve various purposes. *Arterial streets* are designed to carry the traffic of local and collector streets to and from freeways and other major streets, generally providing direct access to nonresidential properties. *Collector streets* are designed to move traffic between arterials to local roadways. *Local roads* generally provide direct access to residential land uses. The roadways that would be most affected by project construction activities (and, to a lesser extent, project operations) are primarily two-lane roads, although some potentially affected roadways have four travel lanes (two in each direction).

Table 4.9-1 presents roadway characteristics (e.g., number of travel lanes, bike lanes, parking availability, public transit service, etc.) for the local roadways that would be directly affected by project construction activities (i.e., installation of pipelines within road rights-of-way).

4.9.1.3 Railroads

Amtrak provides passenger rail service in Monterey County. The Coast Starlight, which has daily northbound and southbound departures (with Seattle and Los Angeles as the final destinations), serves Salinas. The Union Pacific Railroad (UPRR) provides freight service in Monterey County.

The TAMC owns a 13-mile segment of railroad right-of-way between Castroville (where it connects with the UPRR) and Monterey (where it terminates at Cannery Row). Known as the Monterey Branch Line, the right-of-way passes through the cities of Marina and Seaside as well as the former Fort Ord military base. In Seaside and Monterey, several portions of the TAMC right-of-way have been paved over to accommodate recreational trails.

4.9.1.4 Public Transit

The Monterey-Salinas Transit (MST) line provides bus service within northern Monterey County and southern Santa Cruz County. In Monterey County, bus service is provided between the cities of Monterey and Salinas, Marina and Watsonville, Salinas and Watsonville, and south from Salinas to Gonzales. In addition, the MST also provides bus service within the cities of Marina, Monterey, Pacific Grove, and Seaside. Bus routes within and around the project area include Routes 2, 7, 8, 10, 11, 12, 14, 16, 18, 19, 21, 22, 24, 27, 28, 56, 69, 70, 71, 74, 75, 93, 94, Jazz A, Jazz B, and Jazz C (MST, 2016). **Table 4.9-1**, above, indicates the project area roadways that are shared with public transit routes.

**TABLE 4.9-1
CHARACTERISTICS OF ROADS THAT COULD BE DIRECTLY AFFECTED
BY PROJECT CONSTRUCTION ACTIVITIES^a**

Roadway / Segment	No. of Travel Lanes	Average Daily Traffic Volumes ^b	Bike Route?	On-Street Parking?	Public Transit Lines ^c	Figure Reference
Source Water Pipeline						
CEMEX Access Road: • Under Highway 1 to Railroad R-O-W	2 lanes	--	No	No	N/A	Figure 3-3
Lapis Road: ▪ CEMEX access road to Del Monte Boulevard	2 lanes	--	No	No	N/A	Figure 3-4
Del Monte Boulevard: ▪ Lapis Road to Charles Benson Road	2 lanes	3,800	No	No	MST 27	Figure 3-4
Charles Benson Road: ▪ Del Monte Boulevard to MPWSP Desalination Plant	2 lanes	--	No	No	N/A	Figure 3-4 Figure 3-5
New Desalinated Water Pipeline						
Charles Benson Road: ▪ Del Monte Boulevard to MPWSP Desalination Plant	2 lanes	--	No	No	N/A	Figure 3-4 Figure 3-5
Del Monte Boulevard: ▪ Charles Benson Road to Lapis Road	2 lanes	3,800	No	No	MST 27	Figure 3-4
Lapis Road: ▪ Del Monte Boulevard to Del Monte Boulevard	2 lanes	--	No	No	N/A	Figure 3-4 Figure 3-6
Crossing of Marina Green Drive	2 lanes	--	No	No	N/A	Figure 3-6
Crossing of Beach Road	2 lanes	--	No	No	MST 16, 27	Figure 3-6
Crossing of Reservation Road	3 lanes	--	Yes	No	MST 16	Figure 3-7a
New Transmission Main						
Marina Drive ▪ Reservation Road to Reindollar Avenue	2 lanes	--	No	No	N/A	Figure 3-7a
Crossing of Palm Avenue	3 lanes	--	No	No	MST 27	Figure 3-7a
Lightfighter Drive ▪ 1st Avenue to General Jim Moore Boulevard	4 lanes (divided)	15,570	No	No	MST 12, 19, 75	Figure 3-8
General Jim Moore Blvd: ▪ Lightfighter Drive to s/o Coe Avenue / Eucalyptus Road	4 lanes (divided)	6,970 to 9,610	Yes	No	MST 12, 18, 75	Figure 3-8 Figure 3-9a
Carmel Valley Pump Station						
▪ Rancho San Carlos Road	2 lanes	--	No	No	N/A	Figure 3-10c
Ryan Ranch-Bishop Interconnection Improvements						
Ragsdale Drive: ▪ Highway 68 to Lower Ragsdale Drive	4 lanes	--	No	No	MST 8, 93	Figure 3-10a

**TABLE 4.9-1 (Continued)
CHARACTERISTICS OF ROADS THAT COULD BE DIRECTLY AFFECTED
BY PROJECT CONSTRUCTION ACTIVITIES**

Roadway / Segment	No. of Travel Lanes	Average Daily Traffic Volumes ^d	Bike Route?	On-Street Parking?	Public Transit Lines ^c	Figure Reference
Ryan Ranch–Bishop Interconnection Improvements (cont.)						
Lower Ragsdale Drive: ▪ Ragsdale Drive to Wilson Road	2 lanes	–	Yes	No	N/A	
Wilson Road: ▪ Lower Ragsdale Drive to Citation Court	2 lanes	–	Yes	No	MST 8, 93	
Main System–Hidden Hills Interconnection Improvements						
Terra Grande Drive: ▪ Telerana Way to terminus	2 lanes	–	No	No	N/A	Figure 3-10b
Castroville Pipeline						
Crossing of Del Monte Avenue	2 lanes	–	No	No	N/A	Figure 3-12
Crossing of Neponset Road	2 lanes	--	No	No	N/A	Figure 3-11a
Castroville Pipeline Optional Alignment						
Merritt Street: ▪ Del Monte Avenue to Haro Street	2 lanes	--	No	No	MST 28	Figures 3-11b and 3-13
Haro Street: • Merritt Street to Rec Trail	2 lanes	--	No	No	N/A	
Nashua Road: • Rec Trail to UPRR	2 lanes	--	No	No	N/A	

NOTES:

- ^a The exact locations of the proposed pipelines relative to the roadways listed in this table (i.e., within the travel lanes, within the right-of-way but not within the travel lanes, or outside the right-of-way) are not known at this time. To inform the reader of potential impacts (as described under Impact 4.9-2), the information in the table is based on the conservative assumption that roadway travel lanes would be affected.
- ^b Average daily traffic volumes provided by the Transportation Agency for Monterey County (TAMC, 2015).
– = no data available
- ^c Public transit information provided by Monterey-Salinas Transit (MST, 2016).
N/A = not applicable
- ^d MST routes along this segment of Fremont Street include Routes 2, 12, 14, 18, 19, 21, 22, 24, 56, 69, 93, 94, and Jazz A/B/C.

SOURCE: ESA, 2016.

4.9.1.5 Bicycle Routes and Pedestrian Paths

Within Monterey County, bicycle travel for both commuting and recreational purposes is common. A network of bicycle facilities, including Class I (bicycle paths), Class II (bicycle lanes, striped in roads), and Class III (bicycle routes without striping), extend throughout the county (as well as the project area) and are frequently located along the right-of-way of roadways or railroads. For example, the 18-mile-long Class I Monterey Peninsula Recreational Trail (also known as the Monterey Bay Coastal Bike Path) originates at Merritt Street in Castroville and heads south along Del Monte Boulevard to Canyon Del Rey Boulevard in Seaside. From there the trail follows the TAMC right-of-way and terminates in Pacific Grove near Forest Avenue. As part of the proposed project, approximately 9 miles of underground pipeline would be installed within or adjacent to the

TAMC right-of-way, with 6 of the 9 miles located alongside the Monterey Peninsula Recreational Trail. There are numerous other designated bike routes, some with designated bike lanes, in and around the project area. **Table 4.9-1** indicates the project area roadways that have bikeways.

The level of pedestrian facilities (e.g., sidewalks versus edge-of-road paths) and volumes of pedestrians vary depending on location.

4.9.2 Regulatory Framework

This section provides an overview of notable federal, state, and local environmental laws, policies, plans, regulations, and/or guidelines (hereafter referred to generally as “regulatory requirements”) relevant to traffic and transportation, and analyses of the proposed project’s conformity with such regulatory requirements, without mitigation.

4.9.2.1 Federal and State

California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in Monterey County. In California, Caltrans implements federal interstate highway standards. Caltrans requires that project proponents seeking to conduct construction activities within a state-owned right-of-way obtain a Caltrans encroachment permit.

California Coastal Commission

The California Coastal Act (Public Resources Code Section 30000 et seq.) provides for the long-term management of lands within California’s coastal zone boundary. Of primary relevance to traffic and transportation are Coastal Act policies concerning minimizing vehicle miles traveled, protecting public access, and maintaining recreational opportunities within the coastal zone. A preliminary assessment of project consistency with these priorities provided here. Final determinations regarding project consistency are reserved for the Coastal Commission. With respect to vehicle miles traveled, any increase in the number of vehicle trips associated with operation of project components in the coastal zone negligible. Maintenance activities would include periodic inspections and repairs, but would not generate a substantial number of new vehicle trips. With respect to public access and recreation, project construction may have short-term indirect effects on shoreline access (i.e., increased traffic and lane closures) during the construction period. However, pipelines would be buried underground and would not substantially affect long-term public access to or along the coast. For these reasons, the project would be consistent with Coastal Act policies related to traffic and transportation.

4.9.2.2 Local

Transportation Agency for Monterey County

The TAMC is an independent association of local officials that oversees planning and funding of regional transportation improvements throughout Monterey County. The agency prepares the Regional Transportation Plan and oversees the implementation of its recommended improvements.

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the federally-designated Metropolitan Planning Organization (MPO) for the tri-county Monterey Bay region. It is the lead agency responsible for developing and administering the transportation plans and programs that receive federal funds in Monterey, San Benito, and Santa Cruz Counties. As the MPO, AMBAG acts as a forum for cooperative decision-making in the development of transportation plans, programs, and recommendations. AMBAG also develops and maintains a regional travel-demand forecasting model used to plan regional transportation facilities and assess development proposals.

Local Jurisdictions

The incorporated cities of Monterey, Marina, Sand City, and Seaside have adopted General Plans, policies, and capital improvement programs that regulate development and transportation improvements within their jurisdictions. The cities administer encroachment permits for work performed within the rights-of-way of their respective roadways.

Monterey County Public Works Department

The Monterey County Public Works Department is responsible for maintaining roads, bridges, and related facilities within the unincorporated area of the county. The Public Works Department works with the Monterey County Planning Department to review land development applications for compliance with local and state regulations (i.e., private roads, driveways, and county-maintained roads). The Public Works Department administers encroachment permits for work performed within county rights-of-way (such as underground utility work, and driveways and road approaches); permits street closures; and issues transportation permits for county roads.

4.9.2.3 Applicable Regional and Local Land Use Plans, Policies, and Regulations

Table 4.9-2 identifies the traffic- and transportation-related regional and local land use plans, policies, and regulations relevant to the MPWSP that were adopted for the purpose of avoiding or mitigating an environmental effect, and indicates project consistency with such plans, policies, and regulations. Where the analysis concludes the proposed project would not conflict with the applicable plan, policy, or regulation, the finding is noted and no further discussion is provided. Where the analysis concludes the proposed project would be potentially inconsistent with the applicable plan, policy, or regulation, the reader is referred to the specific impact discussion in Section 4.9.5, Direct and Indirect Effects of the Proposed Project, where the potential inconsistency is addressed in more detail. In that subsection, the significance of the potential conflict is evaluated. Where the effect of the potential conflict would be significant, feasible mitigation is identified to resolve or minimize that conflict.

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**TABLE 4.9-2
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TRAFFIC AND TRANSPORTATION**

Project Planning Region	Applicable Plan	Plan Element/Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
City of Marina (coastal zone and inland areas)	City of Marina General Plan	Community Infrastructure	Subsurface Slant Wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	Policy 3.3: The intent of the General Plan Transportation and Infrastructure Element is to ensure that the requirements for transportation, water supply, wastewater collection and treatment, storm water drainage, and solid-waste disposal generated by existing and future development are adequately provided for. It is also the intent of this section to ensure, to the maximum extent possible, that the provision of such services does not have a deleterious effect on either natural resources or the quality of life of residents of Marina or other potentially affected areas. The major concerns of this section are outlined below: 6. Protect existing and future residential areas from through-traffic that creates safety, noise, and pollution problem.	This policy is intended to protect residential areas from traffic-induced safety hazards, disruptive noise levels, and air pollutants.	<u>Consistent:</u> The subsurface slant wells would not be staffed. Routine and periodic site visits from CalAm personnel would be minimal (no more than 4 roundtrips or 8 one-way trips per day) and would not generate traffic in residential areas. Pipelines would be periodically inspected and repaired, as needed, but would not generate a substantial number of new vehicle trips.
City of Marina (coastal zone)	City of Marina Local Coastal Program Land Use Plan	Policies	Subsurface Slant Wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main	Policy 1: Insure access to and along the beach, consistent with the recreational needs and environmental sensitivity of Marina Coastal area.	This policy is intended to maintain public access to and along the shoreline.	<u>Consistent:</u> Project construction may have short-term indirect effects on shoreline access (i.e., increased traffic and lane closures) during the construction period. None of the project components proposed within the coastal zone would permanently preclude public access to or along the coast. Refer to Table 4.2-6 for additional discussion of the project's conformity with applicable Marina Local Coastal Land Use Plan policies related to beach erosion.
City of Seaside (coastal zone and inland areas)	City of Seaside General Plan	Circulation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline	Policy C-1.7: Reduce impacts on residential neighborhoods from truck traffic and related noise.	This policy is intended to protect residential areas from traffic congestion and disruptive noise levels.	<u>Potentially Inconsistent:</u> Construction-related traffic increases could result in substantial adverse effects on traffic conditions along neighborhood (residential) streets in Seaside. This issue is addressed further in Impact 4.9-1, which identifies a mitigation measure whose implementation would minimize or avoid this potential inconsistency. Traffic-related noise is addressed in EIR/EIS Section 4.12, Noise and Vibration. (Refer to Table 4.12-3 for additional discussion of the project's conformity with applicable Seaside General Plan policies related to noise and vibration.)
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Circulation	MPWSP Desalination Plant, Source Water Pipeline, Brine Discharge Pipeline, Brine Mixing Box, new Desalinated Water Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Carmel Valley Pump Station, Main System-Hidden Hills Interconnection Improvements, Ryan Ranch-Bishop Interconnection Improvements	Policy C-3.4: Strategies to encourage travel in non-peak hours shall be supported.	This policy is intended to avoid traffic congestion.	<u>Potentially Inconsistent:</u> Project construction would temporarily increase traffic and congestion during peak hours. This issue is addressed in Impact 4.9-1, which identifies a mitigation measure whose implementation would minimize or avoid this potential inconsistency.
County of Monterey (coastal zone and inland areas)	Monterey County General Plan	Circulation	MPWSP Desalination Plant, Source Water Pipeline, Brine Discharge Pipeline, Brine Mixing Box, new Desalinated Water Pipeline, Pipeline to CSIP Pond, Castroville Pipeline, Carmel Valley Pump Station, Main System-Hidden Hills Interconnection Improvements, and Ryan Ranch-Bishop Interconnection Improvements	Policy C-4.3: The needs of bicyclists and pedestrians, as well as provisions for utilities and drainage, shall be considered and, where appropriate, provided in all public rights-of-way in a manner that minimizes impacts on adjacent land uses.	This policy is intended to protect bicycle and pedestrian modes of transportation.	<u>Consistent:</u> Project construction may have short-term indirect effects on pedestrian and bicycle use within public rights-of-way (i.e., increased traffic and lane closures) during the construction period. However, all project components proposed within public rights-of-way would ultimately be buried underground and would not substantially impede use of these rights-of-way for long-term pedestrian and bicycle use.
County of Monterey	Castroville Community Plan	Economic Development	Castroville Pipeline	Policy 12.2: The road improvements, flood control improvements, and slough enhancements included in the Community Plan shall be implemented to result in a smooth flowing circulation system, an increase in redevelopment potential, and an attractive public amenity along the Tembladero Slough that will attract new quality businesses and visitors.	This policy is intended to ensure that road improvements, flood control improvements, and slough replacements result in a smooth flowing circulation system.	<u>Consistent:</u> The Castroville Pipeline would be buried underground and would not substantially affect the circulation system.

**TABLE 4.9-2 (Continued)
APPLICABLE REGIONAL AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO TRAFFIC AND TRANSPORTATION**

Project Planning Region	Applicable Plan	Plan Element/Section	Project Component(s)	Specific Plan, Policy, or Ordinance	Relationship to Avoiding or Mitigating a Significant Environmental Impact	Project Consistency with Plan, Policy, or Ordinance
Fort Ord Reuse Authority (Seaside and Monterey County)	Fort Ord Reuse Plan	Circulation	New Transmission Main, ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, and Ryan Ranch-Bishop Interconnection Improvements	<i>Pedestrian and Bicycles Policy B-1:</i> Each jurisdiction shall provide and maintain an attractive, safe and comprehensive bicycle system. <i>Program B-1.2:</i> Each jurisdiction shall review new development to provide bicycle system facilities consistent with the Reuse Plan and the Bicycle System Plan concurrently with development approval.	This policy is intended to maintain a safe bicycle system.	<u>Consistent:</u> Project construction may have short-term indirect effects on the existing bicycle network within the former Fort Ord area (i.e., increased traffic and lane closures) during the construction period. However, all project components potentially affecting the bicycle network would ultimately be buried underground and would not substantially impede long-term use of the bicycle network.
Fort Ord Reuse Authority (Seaside and Monterey County)	Fort Ord Reuse Plan	Circulation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Ryan Ranch-Bishop Interconnection Improvements	<i>Transportation Demand Management Policy A-1:</i> Transportation demand management (TDM) programs shall be encouraged. <i>Program A-1.3:</i> Require new development to incorporate design features that will strengthen TDM programs.	This policy is intended to provide adequate service levels for the local transportation system.	<u>Consistent:</u> Implementation of the proposed project would result in a negligible long-term increase in traffic volumes.
Fort Ord Reuse Authority (Seaside and Monterey County)	Fort Ord Reuse Plan	Circulation	New Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and Ryan Ranch-Bishop Interconnection Improvements	<i>Land Use and Transportation Objective A:</i> A transportation system that supports the planned land use development patterns. <i>Program A-1.2:</i> Each jurisdiction with lands at former Fort Ord shall require new developments to conduct a traffic analysis to determine impacts on traffic conditions, require measures such as TDM programs and traffic impact fees to mitigate these impacts.	This policy is intended to provide adequate service levels for the local transportation system.	<u>Consistent:</u> Implementation of the proposed project would result in a negligible long-term increase in traffic volumes.

SOURCE: City of Marina, 1982, 2000; City of Seaside, 2004; FORA, 1997; Monterey County, 2007, 2010

4.9.3 Evaluation Criteria

The proposed project would have a significant impact related to traffic and transportation if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel as well as relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including but not limited to level of service (LOS) standards, travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

Further discussion of significance criteria follows Table 4.9-2.

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would cause substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities;
- Substantially increase traffic safety hazards;
- Cause substantial damage or wear of public roadways by increased movement of heavy vehicles; or
- Result in parking interference during construction.

Based on the nature of the proposed project, no impacts related to the following significance criteria would result for the reasons described below:

- ***Conflict with the applicable congestion management program, including LOS standards.***
The operating conditions of a roadway, as measured by the level of traffic congestion experienced by motorists, are described as the level of service (LOS). There are six service levels ranging from LOS A as the best operating condition (free-flow conditions with limited travel delays) to LOS F as the worst-case condition (congested or overloaded roadways with extremely long delays). LOS A through D generally represent traffic volumes that are less than roadway capacity, while LOS E represents at-capacity conditions. The LOS of a particular roadway segment is based on several factors, including traffic volumes, number of lanes, type of intersection control, speed and travel time, traffic interruptions, and driving comfort and convenience. LOS standards established by jurisdictions and agencies are intended to regulate long-term (permanent) traffic increases associated with new development and do not apply to short-term (temporary) traffic increases that occur during construction. As discussed under Impact 4.9-8, long-term operations of the MPWSP Desalination Plant would generate approximately 33 round-trips (66 one-way trips) per day (60 commute trips and 6 midday trips). The greatest long-term

increase in vehicle trips from MPWSP Desalination Plant operations would occur on Charles Benson Road. Based on existing traffic conditions and the industrial nature of the surrounding land uses on Charles Benson Road, the projected increase is well within the roadway carrying capacity of this two-lane road and would not affect traffic conditions. None of the other proposed facilities (subsurface slant wells, ASR-5 and ASR-6 Wells, and Carmel Valley Pump Station) would be routinely staffed. However, routine and periodic site visits by CalAm staff to monitor operations and conduct maintenance would be required. The long-term operations and maintenance requirements for these proposed project facilities would be similar to those required for existing CalAm operations in the Monterey District service area. They would be incorporated into existing routine site visits and activities and would not generate a significant number of new vehicle trips. Any additional increase in the number of vehicle trips associated with these facilities would be negligible. Pipelines would be periodically inspected and repaired, as necessary, but otherwise would not generate vehicle traffic. Because implementation of the proposed project would not result in substantial long-term, ongoing effects related to traffic and congestion, typical LOS calculations were not performed for this traffic analysis, and county LOS standards were not used to evaluate potential project impacts. Temporary traffic impacts caused by the project were analyzed (see Impacts 4.9-1 and 4.9-2) using a non-LOS-based methodology (see Section 4.9.4 Approach to Analysis). No impact related to conflicts with the applicable congestion management program or LOS standards would occur, and this significance criterion is not discussed further.

- ***Changes in air traffic patterns.*** Construction and operation of the proposed project facilities would not affect air traffic patterns. Neither the construction equipment proposed for use during project construction nor the proposed facilities, once completed, would exceed the height restrictions established by nearby airports (Monterey Peninsula Airport and Marina Municipal Airport). Therefore, this significance criterion is not applicable and is not discussed further.
- ***Permanent increases in traffic safety hazards due to a design feature or incompatible uses.*** The proposed project would not introduce new design features (e.g., new facilities or obstructions within public roadways) or alter existing features (e.g., road realignment). In addition, traffic generated during operation of the proposed project would be compatible with the mix of vehicle types (autos and trucks) currently using regional and local roadways. Therefore, this significance criterion is not applicable and is not discussed further. Temporary increases in traffic safety hazards during project construction are addressed under Impact 4.9-3, below.
- ***Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.*** In general, adopted policies, plans, and programs pertaining to public transit, bicycle, and pedestrian travel are intended to be used for long-term planning purposes and do not apply to construction activities. Implementation of the proposed project would not permanently change the existing or planned transportation network in the affected jurisdictions in Monterey County, nor would the proposed project directly or indirectly eliminate alternative modes of transportation, transportation corridors, or facilities (e.g., bicycle paths, lanes, or routes; bus turnouts or bus routing; walkways, sidewalks, or crosswalks, etc.). Further, the proposed project would not prevent the use of any roads on which public transit routes operate, nor would it generate increased traffic volumes on roads used as public transit routes to a degree that would cause lengthy delays for transit riders or eliminate and/or reduce access to such transit facilities. Therefore, the proposed project would not conflict with policies, plans, or programs related to transit, bicycle, or pedestrian travel. Temporary impacts related to alternative modes of transportation during project

construction are addressed in Impact 4.9-3 (increased traffic safety hazards) and Impact 4.9-5 (temporary disruptions to public transit during construction).

- ***Result in substantial traffic delays or increase safety hazards for commercial vessels, or result in the permanent displacement of commercial vessels.*** Implementation of the MPWSP would not involve construction or operations activities that would require the use of ocean vessels, and would not involve the temporary or permanent placement of any facilities in the Monterey Bay or adjacent harbors. Therefore, implementation of the proposed project would have no effect on commercial vessel traffic or movement. Therefore, this criterion is not applicable to the proposed project and is not discussed further.

4.9.4 Approach to Analysis

Most impacts on traffic and transportation would occur during project construction. As a result, the following analysis is focused primarily on construction-related effects, although impacts related to long-term project operations and maintenance activities are addressed under Impact 4.9-8. As discussed below in Section 4.9.5, Direct and Indirect Effects of the Proposed Project, project operations and maintenance activities would generate a very small increase in traffic (up to 10 workers per shift at the MPWSP Desalination Plant, and a negligible increase for all other proposed facilities compared to existing CalAm operations in the Monterey District service area), thus eliminating the need to perform LOS calculations (because of the reasonable expectation that LOS would not be adversely affected).

Construction of the project components would temporarily affect segments of the roadway network in the project area by increasing traffic volumes on roads that provide access to the construction work areas. There is also a potential for project construction to result in temporary lane closures and detours, particularly along pipeline segments that require construction within vehicle travel lanes or road shoulders. Construction-related traffic and changes in traffic circulation patterns could have an impact on traffic flow and traffic safety conditions on area roads, including roads used for recreation and coastal access (see Section 4.8, Land Use, Land Use Planning and Recreation). Construction characteristics, including crew sizes, techniques, materials and equipment, and the rate of construction, were used to estimate the number of vehicles that would be required for construction of the individual facilities.

This analysis relies on published information regarding roadway characteristics and existing traffic volumes; preliminary construction information provided by the project applicant (CalAm); and estimates of daily vehicle trips for construction activities and for long-term maintenance and operations, augmented by the professional traffic analyst's knowledge of the project area. Existing traffic volumes on project area roadways were gathered from the Caltrans website (for state highways) and the TAMC website (for local roads). Estimates of project-related traffic increases were added to existing traffic volumes, and a qualified expert in traffic analysis evaluated the effect of that percent increase on traffic flow, based upon professional experience and knowledge of the relevant roadways. The following factors were considered in the evaluation of construction-related traffic impacts on area roadways: (1) workers would commute to and from the construction work areas earlier and/or later than project-related construction truck trips (i.e., those trips would not happen at the same time); (2) daily traffic volumes on public roads

typically vary from day-to-day (by about 10 percent, ± 5 percent), and any increased traffic within the typical daily fluctuation would not be perceptible to the average motorist; and (3) although construction-related vehicle trips would increase traffic volumes on local, two-lane roadways in the project area, the increase would not substantially affect traffic flow if the traffic volumes remained within the carrying capacity of the roads (roughly 10,000 to 15,000 vehicles per day for two-lane roads, depending on design features).

Construction activities associated with the subsurface slant wells and MPWSP Desalination Plant would occur 24 hours a day, 7 days a week, as would construction activities during 8 weeks of development and completion of the proposed ASR-5 and ASR-6 Wells. To the extent feasible, pipeline installation and construction of all other proposed facilities would be conducted during daytime hours. However, some construction might be performed at night to expedite construction and meet the project schedule. The following describes typical construction methods to be used for proposed project components:

- Construction of non-linear facilities (e.g., the MPWSP Desalination Plant, Carmel Valley Pump Station, the proposed ASR injection/extraction wells) would typically involve site preparation, grading and excavation, equipment and materials deliveries, concrete formwork, building construction, installation of support equipment, installation of security fencing, and revegetation. Earthmoving activities would be performed using heavy construction equipment such as bulldozers, backhoes, cranes, and graders. Construction workers would pour concrete footings for tanks, lay pipelines, and make pipeline connections.
- Most pipelines would be installed using conventional open-trench construction techniques. However, trenchless technologies would be used where open-cut trenching is not feasible or desirable (e.g., state highway crossings, stream and drainage crossings, and areas with high utility congestion). It is anticipated that trenchless technologies would be used in at least seven locations (see Section 3.3.5.2 in Chapter 3, Project Description).
- Upon the completion of construction activities, roadways (and all other areas) disturbed during pipeline installation would be restored to their preconstruction condition.

Construction activities would generate daily vehicle trips by construction work crews commuting to and from work each day; trucks hauling equipment and materials to the construction work areas; and trucks hauling excavated spoils and construction debris offsite for disposal. The number of construction-related trips would vary during the 24 months of project construction depending on the construction phase, the facilities being constructed, and the nature of the construction activities taking place. The impact analysis presented below is based on the estimated maximum number of daily and hourly vehicle trips that would be generated during periods of peak construction activity, based on a worst-case scenario that assumes all project components would be constructed simultaneously. Due to the construction durations associated with individual project components, the duration of overlap between components would be limited, and the actual traffic volumes generated during project construction are likely to be lower than described below.

The average pace of work for pipeline installation would be 150 to 250 feet per day. It is estimated that project construction activities would generate an estimated 25,110 cubic yards of

excavated spoils and construction materials that would be hauled to the Monterey Materials Recovery Facility to be recycled or the Monterey Peninsula Landfill for disposal. The average capacity for haul trucks would be 10 cubic yards per truck. Vehicle trips associated with spoils hauling and placement would occur throughout the 24-month construction duration. However, as noted below, not all of the proposed facilities are anticipated to generate excess spoils and construction debris that would be hauled offsite.

Construction equipment and materials associated with the subsurface slant wells, MPWSP Desalination Plant, and ASR injection/extraction wells would be stored within the respective construction work areas or at designated staging areas (see **Table 3-4** in Chapter 3, Project Description). Construction equipment and materials associated with pipeline installation would be stored along the pipeline easements and at nearby designated staging areas. To the extent feasible, parking for construction and worker vehicles would be accommodated within the construction work areas and on adjacent roadways.

The discussion of construction-related impacts relies on the following: estimates of construction worker vehicle trips and construction truck trips associated with each project component, and assumptions related to potential overlap of individual facility construction. As described in Chapter 3, Project Description, Section 3.3.10, all project components would be constructed over the 24-month project construction period, with multiple facilities being constructed concurrently. The final construction schedule and phasing could vary from that presented in this assessment. However, the construction scenarios described in this section (estimated vehicle trips for the construction of each project component and the combined impacts associated with concurrent construction of multiple components) are conservative and have been developed to allow for a reasonable assessment of the nature and magnitude of potential construction impacts.

4.9.5 Direct and Indirect Effects of the Proposed Project

Table 4.9-3 summarizes the proposed project’s impacts and significance determinations related to traffic and transportation.

**TABLE 4.9-3
 SUMMARY OF IMPACTS – TRAFFIC AND TRANSPORTATION**

Impacts	Significance Determinations
Impact 4.9-1: Temporary traffic increases on regional and local roadways due to construction-related vehicle trips.	LSM
Impact 4.9-2: Temporary reduction in roadway capacities and increased traffic delays during construction.	LSM
Impact 4.9-3: Increased traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways during construction.	LSM
Impact 4.9-4: Impaired emergency access during construction.	LSM
Impact 4.9-5: Temporary disruptions to public transportation, bicycle, and pedestrian facilities during construction.	LSM
Impact 4.9-6: Increased wear-and-tear on the designated haul routes used by construction vehicles.	LSM
Impact 4.9-7: Parking interference during construction.	LSM

**TABLE 4.9-3 (Continued)
 SUMMARY OF IMPACTS – TRAFFIC AND TRANSPORTATION**

Impacts	Significance Determinations
Impact 4.9-8: Long-term traffic increases on regional and local roadways during project operations and maintenance.	LS
Impact 4.9-C: Cumulative impacts related to traffic and transportation.	SU

NOTES:

- LS = Less than Significant impact, no mitigation proposed
- LSM = Less than Significant impact with Mitigation
- SU = Significant and Unavoidable, even with implementation of feasible mitigation

4.9.5.1 Construction Impacts

Impact 4.9-1: Temporary traffic increases on regional and local roadways due to construction-related vehicle trips. (*Less than Significant with Mitigation*)

Construction-related vehicle traffic could result in increased congestion and delays for vehicles, which could cause temporary conflicts with local jurisdictions’ measures of effectiveness for the performance of the circulation system. Because multiple project components would be constructed simultaneously, and the construction traffic for many of the components would use the same roads, the total number of construction-related vehicle trips along common construction access routes could be higher than the maximum number of daily vehicle trips associated with a single project component. Thus, the analysis below considers the estimated maximum number of daily construction-related vehicle trips and the construction access routes for each project component, the potential for the timing of construction of the various project components to overlap, and the total combined number of additional vehicle trips along the common access routes resulting from all concurrent construction activities. Project components that would increase traffic along common roads or road segments are grouped by area, and the effects of the combined construction-related traffic increases are compared to existing traffic volumes and road carrying capacities. Note that because total trips would be dispersed over various roads and road segments (based on the origins and/or destinations of those trips), the total trips generated by project components in a given area do not necessarily represent the total increase in vehicle trips on any single common road or road segment.

Construction-related traffic occurring on access roadways in the “peak” direction on weekdays from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. would coincide with peak-period commuter traffic and therefore would have the greatest potential to impede traffic flow. Traffic volume increases caused by project construction would be most noticeable on local, two-lane roads (and, conversely, would be less noticeable on regional, multi-lane roads like Highway 1 and major arterials like Del Monte Boulevard). Project-generated truck trips would be dispersed throughout the day, thus lessening the effect on peak-hour traffic. Drivers could experience delays if they were traveling behind a construction truck. This analysis conservatively assumes that construction workers would commute to and from the worksites during the morning and afternoon peak traffic hours.

Table 4.9-4 presents the estimated number of daily construction worker trips and truck trips generated by construction activities for each project component. The total trips for each area reflect the maximum increase in traffic during periods of peak construction activities; peak construction periods are limited to the maximum duration of overlap among project components (i.e., the duration of the facility with the shortest construction duration in each area).

**TABLE 4.9-4
ESTIMATED MAXIMUM DAILY VEHICLE TRIPS DURING PROJECT CONSTRUCTION**

Project Facility	Duration (months)	Maximum Daily Totals		Daily Vehicle Trips			
				Workers ^a		Trucks	
		Workers	Trucks	Round-trip	One-Way	Round-trip	One-Way
North of Reservation Road (maximum duration of peak construction activities = 4 month)							
Subsurface Slant Wells ^b	15	30	20	33	66	20	40
MPWSP Desalination Plant	24	88	55	97	194	55	110
Source Water Pipeline	6	25	12	28	56	12	24
Brine Discharge Pipeline and Brine Mixing Box	9	12	6	14	28	6	12
Castroville Pipeline	4	12	6	14	28	6	12
New Desalinated Water Pipeline	8	25	12	28	56	12	24
TOTAL TRIPS ^c =		192	111	214	428	111	222
Marina/Seaside Area (maximum duration of peak construction activities = 5 months)							
New Transmission Main	8	25	12	28	56	12	24
ASR Pipelines (ASR Conveyance, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline)	5	25	12	28	56	12	24
ASR Injection/Extraction Wells	12	25	12	28	56	12	24
TOTAL TRIPS ^c =		75	36	84	168	36	72
Monterey Area (maximum duration of peak construction activities = 3 months)							
Ryan Ranch–Bishop Interconnection Improvements	4	12	6	14	28	6	12
Main System–Hidden Hills Interconnection Improvements	3	12	6	14	28	6	12
TOTAL TRIPS ^c =		24	12	28	56	12	24
Carmel Valley Area							
Carmel Valley Pump Station	6	12	6	14	28	6	12

NOTES:

- ^a Worker round-trips are increased by 10 percent to account for miscellaneous midday trips by some of the workers.
- ^b Accounts for the nine permanent subsurface slant wells that would be constructed *after* construction of the test slant well and completion of the pilot program.
- ^c Because total trips would be dispersed over various roads and road segments (based on the origins and/or destinations of those trips), the total trips generated by project components in a given area do not necessarily represent the total increase in vehicle trips on a single common road or road segment.

SOURCE: ESA, 2016.

Project Components North of Reservation Road

Assumptions about the construction duration, timing, and work hours for the components below are described in Section 3.3.9, Construction Schedule.

Subsurface Slant Wells. Construction access for the subsurface slant wells in the coastal area of northern Marina would use Highway 1, Del Monte Boulevard, Lapis Road, Reservation Road, and the existing CEMEX access road located off Lapis Road. As shown in **Table 4.9-4**, up to 30 workers would be needed to construct the intake facilities located in the coastal area.

Construction workers would generate up to 33 round-trips (66 one-way trips) per day (60 commute trips and six midday trips). Materials and equipment deliveries would generate an estimated 20 truck round-trips (40 one-way trips) per day. There would be no truck trips related to the offsite disposal of excess spoils because excavated sand would be spread onsite.

MPWSP Desalination Plant. Construction vehicles would most likely use Highway 1, Del Monte Boulevard, Reservation Road, and Charles Benson Road to access the MPWSP Desalination Plant site. As shown in **Table 4.9-4**, up to 88 workers would be needed to construct the MPWSP Desalination Plant. Construction workers would generate up to 97 round-trips (194 one-way trips) per day (176 commute trips and 18 midday trips). Materials and equipment deliveries would generate an estimated 55 truck round-trips (110 one-way trips) per day. There would be no truck trips related to the offsite disposal of excess spoils because excavated soils not used for backfill would be spread or reused onsite.

Source Water Pipeline. Construction-related traffic would access the work areas for the 2.2-mile Source Water Pipeline using Highway 1, Del Monte Boulevard, Reservation Road, and Charles Benson Road. As shown in **Table 4.9-4**, construction of the Source Water Pipeline is estimated to require up to 25 workers. Construction workers would generate up to 28 round-trips (56 one-way trips) per day (50 commute trips and six midday trips). This project component would generate an estimated 12 truck round-trips (24 one-way trips) per day for materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

Brine Discharge Pipeline and Brine Mixing Box. Construction traffic for the 2.3-mile Brine Discharge Pipeline and Brine Mixing Box and appurtenances would access the pipeline alignment and MRWPCA property using Highway 1, Del Monte Boulevard, Reservation Road, and Charles Benson Road. As shown in **Table 4.9-4**, construction of the pipeline and Brine Mixing Box would require up to 12 workers. Construction workers would generate up to 14 round-trips (28 one-way trips) per day (24 commute trips and four midday trips). This project component would generate an estimated six truck round-trips (12 one-way trips) per day for materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

Castroville Pipeline. Construction traffic for the 4.5-mile-long Castroville Pipeline would access the pipeline alignment using Highway 1, Highway 156, Highway 183 (Merritt Street/Castroville Road), Monte Road, and Charles Benson Road. As shown in **Table 4.9-4**, construction of this project component would require up to 12 workers. Construction workers would generate up to 14 round-trips (28 one-way trips) per day (24 commute trips and four midday trips). This project

component would generate an estimated six truck round-trips (12 one-way trips) per day for materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

New Desalinated Water Pipeline. Construction traffic for the 3.3-mile new Desalinated Water Pipeline would access the pipeline alignment using Highway 1, Del Monte Boulevard, Lapis Road, Reservation Road, Beach Road, and Charles Benson Road. As shown in **Table 4.9-4**, installation of this pipeline would require up to 25 workers. Construction workers would generate up to 28 round-trips (56 one-way trips) per day (50 commute trips and six midday trips). This project component would generate an estimated 12 truck round-trips (24 one-way trips) per day for materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

Combined Construction-Related Traffic Increases in North Marina Area

Based on assumptions developed by a professional traffic engineer regarding the origins and destinations of trips by construction workers and haul trucks, and the dispersal of construction traffic on area roadways, the estimated maximum increases in vehicle trips during peak construction periods on common regional roads and road segments are as follows:

- **Highway 1 (north of Reservation Road):** Traffic generated by concurrent construction of project components with trip origins and destinations in the Highway 1 and Highway 101 corridors north of Reservation Road would use this road. The total combined vehicle trips associated with the project components in this area (i.e., about 214 one-way worker vehicle trips per day, and about 112 one-way truck trips per day) represent an increase of up to about 0.8 percent above the current daily traffic volume (42,000 to 47,000 vehicles) on this road (Caltrans, 2015).
- **Highway 1 (south of Reservation Road):** Traffic generated by concurrent construction of project components with trip origins and destinations in the Highway 1 corridor south of Reservation Road would use this road. The total combined vehicle trips associated with the project components in this area (i.e., about 108 one-way worker vehicle trips per day, and 56 one-way truck trips per day) represent an increase of up to about 0.3 percent above the current daily traffic volume (50,000 to 83,000 vehicles) on this road (Caltrans, 2015).
- **Reservation Road:** Traffic generated by concurrent construction of project components with trip origins and destinations in the Highway 101 corridor southeast of the project area would use this road. The total combined vehicle trips associated with the project components in this area (i.e., about 108 one-way worker vehicle trips per day, and 56 one-way truck trips per day) represent a 0.6 to 2.8 percent increase above the current daily traffic volume on this road, which ranges from about 5,900 to 27,500 vehicles per day (TAMC, 2015).

Truck trips generated by concurrent construction activities would be dispersed throughout the day and over the area road network. The maximum increases in traffic resulting from concurrent construction of project components during peak periods of construction would fall within the daily fluctuations of traffic volumes and would not be noticeable to the average motorist on Highway 1 or on the higher-volume segments of Reservation Road. While the increased traffic would be noticeable by drivers on the lower-volume segments of Reservation Road, the traffic volumes would continue to be within the carrying capacity of this two-lane road (which is about

10,000 to 15,000 vehicles per day). Therefore, the impact would be less than significant for the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, Brine Discharge Pipeline, Brine Mixing Box, Castroville Pipeline, and new Desalinated Water Pipeline.

Project Components in Marina/Seaside Area

Assumptions about the construction duration, timing, and work hours for the components below are described in Section 3.3.9, Construction Schedule.

New Transmission Main. Depending on the location of each day's worksite, construction traffic for the 6-mile-long Transmission Main would access the pipeline alignment using different roads (e.g., Highway 1, Del Monte Boulevard, Reservation Road, Lightfighter Drive, 2nd Avenue, General Jim Moore Boulevard, Gigling Road, and 8th Street). As shown in **Table 4.9-4**, installation of this pipeline would require up to 25 workers. Construction workers would generate up to 28 round-trips (56 one-way trips) per day (50 commute trips and six midday trips). It is estimated that about 12 truck round-trips (24 one-way trips) per day (spread over the 9-hour workday) would be generated by materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline.

Depending on the location of each day's construction work area, construction traffic for the three parallel 0.8-mile-long ASR pipelines (ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline) would access the work areas using Highway 1, Lightfighter Drive, Fremont Boulevard, Highway 68, Highway 218, and General Jim Moore Boulevard. As shown in **Table 4.9-4**, installation of these pipelines would require up to 25 workers. Construction workers would generate up to 28 round-trips (56 one-way trips) per day (50 commute trips and six midday trips). It is estimated that about 12 truck round-trips (24 one-way trips) per day (spread over the 9-hour workday) would be generated by materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

ASR Injection/Extraction Wells (ASR-5 and ASR-6 Wells). Construction traffic for the proposed ASR injection/extraction wells would use Highway 1, Lightfighter Drive, Fremont Boulevard, Highway 68, Highway 218, and General Jim Moore Boulevard. As shown in **Table 4.9-4**, construction of the ASR injection/extraction wells would require up to 25 workers. Construction workers would generate up to 28 round-trips (56 one-way trips) per day (50 commute trips and six midday trips). Materials and equipment deliveries would generate an estimated 12 truck round-trips (24 one-way trips) per day. There would be no truck trips related to the offsite disposal of excess spoils because excavated soils not used for backfill would be spread or reused onsite.

Combined Construction-Related Traffic Increases in Marina/Seaside Area

Based on assumptions developed by a professional traffic engineer regarding the origins and destinations of trips by construction workers and haul trucks, and the dispersal of construction

traffic on area roadways, the estimated maximum increases in vehicle trips during peak construction periods on common regional roads and road segments are as follows:

- **Highway 1 (north of Fremont Boulevard / Del Monte Boulevard):** Traffic generated by concurrent construction of project components in the Seaside area with trip origins and destinations in the Highway 1 and Highway 101 corridors north of Fremont Boulevard / Del Monte Boulevard would use this road segment. The vehicle trips associated with the project components in this area (i.e., about 84 one-way worker vehicle trips per day, and 36 one-way truck trips per day) represent an increase of up to about 0.2 percent above the current daily traffic volume (58,000 to 83,000 vehicles) on this road segment (Caltrans, 2015).
- **Highway 1 (south of Fremont Boulevard / Del Monte Boulevard):** Traffic generated by concurrent construction of project components in the Seaside area with trip origins and destinations in the Highway 1 corridor south of Fremont Boulevard / Del Monte Boulevard would use this road segment. The vehicle trips associated with the project components in this area (i.e., about 42 one-way worker vehicle trips per day, and 30 one-way truck trips per day) represent an increase of up to about 0.2 percent above the current daily traffic volume (50,000 to 77,000 vehicles) on this road segment (Caltrans, 2015).
- **Other Common Roadways, including Highways 68 and 218:** The combined vehicle trips on other common roadways associated with the project components in the Seaside area (i.e., up to about 42 one-way worker vehicle trips per day, and 30 one-way truck trips per day) represent an increase of up to about 0.3 percent above the current daily traffic volume (21,800 to 29,000 vehicles) on Highway 68 (Caltrans, 2015), up to about 0.6 percent above the current daily traffic volumes (12,200 to 23,000 vehicles) on Highway 218 (Caltrans, 2015), and from 0.5 to 1.2 percent above the current daily volumes on non-state roadways, which range from about 5,900 to 15,570 vehicles per day (TAMC, 2015).

Truck trips generated by concurrent construction activities would be dispersed throughout the day and over the area road network. Although the combined traffic increases resulting from concurrent construction activities would fall within the daily fluctuations of traffic volumes for the highway and arterial roadways in the area and would not be noticeable to the average motorist, these traffic increases along lower-volume local and neighborhood (residential) streets in the Marina/Seaside area are considered to potentially result in substantial adverse effects. Therefore, the effect of construction-related traffic on traffic congestion is considered a potentially significant impact for the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, and ASR-5 and ASR-6 Wells. However, with implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)**, the impact would be reduced to a less-than-significant level. The mitigation measure includes provisions for reducing construction-related traffic and traffic congestion impacts on local streets.

Project Components in Monterey Area

Assumptions about the construction duration, timing, and work hours for the components below are described in Section 3.3.9, Construction Schedule.

Ryan Ranch–Bishop Interconnection Improvements. Construction traffic for the Ryan Ranch–Bishop Interconnection Improvements would most likely use Highway 68, Ragsdale Drive, Lower Ragsdale Drive, and York Road to access the construction work area. As shown in **Table 4.9-4**, construction of this project component would require up to 12 workers. Construction workers would generate up to 14 round-trips (28 one-way trips) per day (24 commute trips and four midday trips). This project component would generate an estimated six truck round-trips (12 one-way trips) per day for materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

Main System–Hidden Hills Interconnection Improvements. Construction traffic for the Main System–Hidden Hills Interconnection Improvements would use Highway 1, Carmel Valley Road, and Tierra Grande Drive to access the construction work areas. As shown in **Table 4.9-4**, construction of this project component would require up to 12 workers. Construction workers would generate up to 14 round-trips (28 one-way trips) per day (24 commute trips and four midday trips). This project component would generate an estimated six truck round-trips (12 one-way trips) per day for materials and equipment deliveries and hauling of excess spoils and construction debris offsite.

Combined Construction-Related Traffic Increases in Monterey Area

Based on assumptions developed by a professional traffic engineer regarding the origins and destinations of trips by construction workers and haul trucks, and the dispersal of construction traffic on area roadways, the estimated maximum increases in vehicle trips during peak construction periods on common regional roads and road segments are as follows:

- **Highway 1 (north of Highway 68):** Traffic generated by concurrent construction of project components with trip origins and destinations north of the project area would use this road. The vehicle trips associated with the project components in this area (i.e., about 28 one-way worker vehicle trips and 12 one-way truck trips per day) represent an increase of up to about 0.1 percent above the current daily traffic volume (58,000 to 83,000 vehicles) along this segment of Highway 1 (Caltrans, 2015).
- **Highway 1 (south of Highway 68):** Traffic generated by concurrent construction of project components with trip origins and destinations south of the project area would use this road. The vehicle trips associated with the project components in this area (i.e., about 14 one-way worker vehicle trips per day, and 6 one-way truck trips per day) represent less than a 0.1 percent increase above the current daily traffic volume (50,000 to 77,000 vehicles) along this segment of Highway 1 (Caltrans, 2015).
- **Highways 68 and 218:** Traffic generated by concurrent construction of project components with trip origins and destinations east of the project area would use these roads. The vehicle trips associated with the project components in this area (i.e., up to about 14 one-way worker vehicle trips per day, and 6 one-way truck trips per day) represent an increase of up to about 0.1 percent above the current daily traffic volume (21,800 to 29,000 vehicles) on Highway 68, and up to about 0.2 percent above the current daily traffic volumes (12,200 to 23,000 vehicles) on Highway 218 (Caltrans, 2015).

As described above, truck trips generated by concurrent construction would be dispersed throughout the day and over the area road network. The combined traffic increases resulting from

concurrent construction activities would fall within the daily fluctuations of traffic volumes for the regional highways and arterial roadways in the area and would continue to be within the carrying capacities of the two-lane roads (i.e., about 10,000 to 15,000 vehicles per day). The effect of construction-related traffic on traffic congestion would be a potentially significant impact for the Ryan Ranch-Bishop Interconnection Improvements and Main System-Hidden Hills Interconnection Improvements. However, with implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)**, the impact would be reduced to a less-than-significant level.

Traffic Increases in Carmel Valley Area

Carmel Valley Pump Station. Construction traffic for the Carmel Valley Pump Station would use Highway 1 and Carmel Valley Road to access the construction work area. There are no other facilities proposed in the Carmel Valley area that could contribute additional vehicle trips during project construction. As shown in **Table 4.9-4**, construction of this project component would require up to 12 workers. Construction workers would generate up to 14 round-trips (28 one-way trips) per day (24 commute trips and four midday trips). This project component would generate an estimated six truck round-trips (12 one-way trips) per day for materials and equipment deliveries and hauling of excess spoils and construction debris offsite. The increases in traffic resulting from construction of the Carmel Valley Pump Station would fall within the daily fluctuations of traffic volumes for Carmel Valley Road and this segment of Highway 1, and would not be noticeable to the average motorist. Therefore, this impact would be less than significant for the Carmel Valley Pump Station.

Impact Conclusion

Project-related construction activities would result in a temporary increase in traffic from construction workers and trucks traveling to and from the construction work areas. Although the estimated maximum increase in traffic along regional roadways would remain within the carrying capacities of the regional roadways and would not substantially affect traffic flow, construction-related traffic increases along local and neighborhood (residential) streets could result in adverse traffic conditions. For reasons described above, this impact would be less than significant for all project components located north of Reservation Road and for the Carmel Valley Pump Station. This impact would be potentially significant for the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, ASR-5 and ASR-6 Wells, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements. However, implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)** would reduce this potentially significant impact related to increased traffic to a less-than-significant level.

Consistency with Regulatory Requirements

In addition to the impact described above, as noted in **Table 4.9-2**, project construction could conflict with applicable land use policies and ordinances related to increased traffic congestion. These policies and ordinances include Seaside General Plan Policy C-1.7 and Monterey County

General Plan Policy C-3.4. Implementation of **Measure 4.9-1 (Traffic Control and Safety Assurance Plan)** would require that CalAm or its contractors develop project-specific circulation and detour plans to reduce traffic congestion to the extent feasible. Therefore, with this measure implemented, the MPWSP would be brought into conformance with the above-noted policies and ordinances.

Mitigation Measures

Mitigation Measure 4.9-1 has been developed for the project as a whole (to comply with road encroachment requirements for applicable jurisdictions) and applies to all project components and associated construction activities; however, with respect to construction-related increases in traffic and traffic congestion impacts, only the following project components would require implementation of this measure to reduce impacts to a less-than-significant level: the new Transmission Main, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, ASR Recirculation Pipeline, ASR-5 and ASR-6 Wells, Ryan Ranch–Bishop Interconnection Improvements, and Main System–Hidden Hills Interconnection Improvements.

Mitigation Measure 4.9-1: Traffic Control and Safety Assurance Plan.

CalAm and/or the construction contractor(s) shall obtain any necessary road encroachment permits (e.g., from Caltrans and/or the U.S. Army) prior to constructing each project component and shall comply with the conditions of approval attached to all project permits and approvals. As part of the road encroachment permit process, a qualified traffic engineer shall prepare a traffic control and safety assurance plan in accordance with professional engineering standards and submit the plan to the agencies with jurisdiction over the affected roads and recreational trails, as well as to the California Public Utilities Commission, for review and approval. For all project construction activities that could affect the public right-of-way (e.g., roadways, sidewalks, and walkways), the plan shall include measures that would provide for continuity of vehicular, pedestrian, and bicyclist traffic; reduce the potential for traffic accidents; and ensure worker safety in construction zones. Where project construction activities could disrupt mobility and access for bicyclists and pedestrians, the plan shall include measures to ensure safe and convenient access, including recreation and coastal, would be maintained.

The traffic control and safety assurance plan shall be developed on the basis of detailed design plans for the approved project. The plan shall include, but not necessarily be limited to, the elements listed below:

- Develop circulation and detour plans to minimize impacts on local streets. Haul routes that minimize truck traffic on local roadways and residential streets shall be used. As necessary, signage and/or flaggers shall be used to guide vehicles through the construction work areas.
- Control and monitor construction vehicle movements by enforcing standard construction specifications through periodic onsite inspections.
- Install traffic control devices where traffic conditions warrant, as specified in the applicable jurisdiction's standards (e.g., the *California Manual of Uniform Traffic Controls for Construction and Maintenance Work Zones*).

- Schedule truck trips outside of peak morning and evening commute hours to minimize adverse impacts on traffic flow (i.e., if agencies with jurisdiction over the affected roads identify highly congested roadway segments during their review of the encroachment permit applications).
- Post detour signs along affected roadways to notify motorists of alternative routes.
- Perform construction that crosses on-street and off-street bikeways, sidewalks, and other walkways in a manner that allows for safe access for bicyclists and pedestrians. Alternatively, provide safe detours to reroute affected bicycle/pedestrian traffic.
- At least two weeks prior to construction, post signage along all potentially affected recreational trails and coastal access points; Class I, II, and III bicycle routes; and pedestrian pathways, including the Monterey Peninsula Recreational Trail, to warn bicyclists and pedestrians of construction activities. The signs shall include information regarding the nature of construction activities, duration, and detour routes. Signage shall be composed of or encased in weatherproof material and posted in conspicuous locations, including on park message boards, and existing wayfinding signage and kiosks, for the duration of the closure period. At the end of the closure period, CalAm or its contractors shall retrieve all notice materials.
- CalAm and its contractors shall schedule construction activities to minimize impacts during heavy recreational use periods (e.g., weekends and holidays).
- Implement a public information program to notify motorists, bicyclists, nearby residents, and adjacent businesses of the impending construction activities (e.g., media coverage, email notices, websites, etc.). Notices of the location(s) and timing of road closures shall be published in local newspapers and on available websites to allow motorists to select alternative routes. This provision shall be implemented in conjunction with **Mitigation Measure 4.12-1a (Neighborhood Notice)**.
- Consult with non-jurisdictional parties (e.g., CEMEX), as appropriate, regarding strategies for reducing increased traffic on roads that would provide access to construction work areas.
- Store all equipment and materials in designated contractor staging areas.
- Maintain alternate one-way traffic flow past the construction zone where possible.
- Install detour signs to direct traffic to alternative routes around the closed road segment if alternate one-way traffic flow cannot be maintained past the construction zone.
- Limit lane closures during peak hours.
- Restore roads and streets to normal operation by covering trenches with steel plates outside of normal work hours or when work is not in progress.
- Comply with roadside safety protocols to reduce the risk of accidents. Provide “Road Work Ahead” warning signs and speed control (including signs informing drivers of state-legislated double fines for speed infractions in a construction zone) to achieve required speed reductions for safe traffic flow through the work zone. Train construction personnel to apply appropriate safety measures as described in the traffic control and safety assurance plan.
- Maintain access for emergency vehicles at all times. Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, transit

stations, hospitals, and schools. Provide advance notification to local police, fire, and emergency service providers of the timing, location, and duration of construction activities that could affect the movement of emergency vehicles on area roadways.

- Develop a school traffic and pedestrian safety plan to minimize adverse impacts associated with truck trips and lane closures (e.g., in the vicinity of the Marshall Elementary School east of the General Jim Moore Boulevard / Normandy Road intersection).
- Avoid truck trips through designated school zones during the school drop-off and pickup hours to the extent feasible.
- Provide flaggers in school areas at street crossings to manage traffic flow and maintain traffic safety during the school drop-off and pickup hours on days when pipeline installation would occur in designated school zones.
- Coordinate with Monterey-Salinas Transit so the transit provider can temporarily relocate bus stops in work zones as deemed necessary.

Impact 4.9-2: Temporary reduction in roadway capacities and increased traffic delays during construction. (*Less than Significant with Mitigation*)

Whereas Impact 4.9-1 addresses increased vehicle traffic, this impact relates to construction activities occurring within vehicle travel lanes and road shoulders that could require temporary lane closures and/or detours. These lane closures and detours would temporarily reduce roadway capacities and result in increased traffic delays during project construction, which could cause temporary conflicts with local jurisdictions' measures of effectiveness for the performance of the circulation system.

All Proposed Pipelines

The proposed project would include installation of approximately 21 miles of new pipelines. **Table 4.9-1**, above, presents the roads that would be directly affected by project construction activities (i.e., construction would occur within or adjacent to, or across, the road rights-of-way).

Pipeline installation would generally be accomplished using conventional open-trench methods; however, where it is not feasible to perform open-cut trenching—such as state highway crossings, stream and drainage crossings, and areas of high utility congestion—trenchless technologies (e.g., jack-and-bore or horizontal directional drilling) would be used. At a minimum, trenchless methods of pipeline installation would be necessary at seven locations:

1. Installation of the Source Water Pipeline beneath the TAMC right-of-way at Lapis Road, just north of the CEMEX access Road;
2. Installation of the new Desalinated Water Pipeline beneath the TAMC right-of-way near the southern intersection of Lapis Road/Del Monte Boulevard;
3. Installation of the new Transmission Main beneath the TAMC right-of-way near Marine Drive/Del Monte Boulevard/Reindollar Avenue;

4. Installation of the new Transmission Main Optional Alignment at Highway 1 and Lightfighter Drive;
5. Installation of the Castroville Pipeline under the Salinas River; and
6. Installation of the Castroville Pipeline under Trembladero Slough.

Trenchless technologies would not reduce the number or available width of travel lanes because pits used for bore-and-jack and directional drilling would be located out of public roadways. The use of trenchless construction methods beneath Highway 1 and Highway 68 would avoid traffic flow disruptions. Each roadway crossing presents unique conditions, and construction methods at other roadway crossings would vary depending on such factors as the available construction area, possible utility interference, and the contractor's preferred method of construction.

The average open-trench width and depth for pipeline installation would be 6 feet and 8 feet, respectively. Pipeline installation would progress at a rate of approximately 150 to 250 feet per day. The active work area along open trenches would be wider than the trenches themselves to accommodate access by trucks and loaders. Staging areas are proposed at strategic locations throughout the project area (see Table 3-4 in Chapter 3, Project Description).

Depending on the final pipeline alignments, where construction would occur in vehicle travel lanes or the adjacent road shoulder, and the width of roads, temporary lane closures and/or detours could be needed to accommodate the construction zone. Some roadway segments would have sufficient pavement width outside of the construction zone to accommodate two-way traffic flow, but other roadways would not, and alternate one-way traffic flow would be maintained on pavement as narrow as 10 feet.

Where feasible and appropriate, construction contractors would install pipelines so as to avoid construction within vehicle travel lanes and to minimize impacts on roadway capacity and function. Detailed information regarding the final pipeline alignments (i.e., whether the pipelines would require construction in road rights-of-way) and associated construction activities would be developed during final project design. This analysis conservatively assumes that all pipelines could require construction within or adjacent to vehicle travel lanes and could require temporary lane closures and/or detours. Impacts on roadway capacities and traffic flow related to pipeline installation are considered to be potentially significant for all proposed pipelines. However, with implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)**, which includes measures to minimize the adverse effects of roadway construction and detours, these impacts would be reduced to a less-than-significant level.

All Other Proposed Facilities

Installation of non-linear facilities (e.g., subsurface slant wells, MPWSP Desalination Plant, Brine Mixing Box, ASR-5 and ASR-6 Wells, and Carmel Valley Pump Station) would not involve construction within road rights-of-way and would not result in temporary lane closures or detours. Therefore, the impact would be less than significant.

Impact Conclusion

Traffic delays resulting from temporary lane closures and detours would be a potentially significant impact for all of the proposed pipelines, but implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)** would reduce the impact to a less-than-significant level. For all other proposed facilities, the impact would be less than significant because none of the non-linear facilities would require temporary lane closures or detours.

Mitigation Measures

Mitigation Measure 4.9-1 has been developed for the project as a whole (to comply with road encroachment requirements for applicable jurisdictions) and applies to all project components and associated construction activities; however, with respect to reduced road capacity resulting from temporary lane closures and detours during project construction, only construction of the proposed pipelines would require implementation of this measure to reduce impacts to a less-than-significant level.

Mitigation Measure 4.9-1: Traffic Control and Safety Assurance Plan.

(See Impact 4.9-1, above, for description.)

Impact 4.9-3: Increased traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways, and area trails, sidewalks and other pathways, during construction. (Less than Significant with Mitigation)

All Proposed Project Facilities

Construction vehicles traveling to and from the project area, including trucks delivering equipment and supplies to the construction work areas and trucks hauling excavated materials offsite for disposal, would share the area roadways with other vehicles. Also, pipeline construction would take place within or adjacent to the road for a length of approximately 21 miles. The greatest number of daily construction-related truck trips would occur along Highway 1 and Del Monte Boulevard. During project construction, bicyclists and pedestrians could be required to enter the adjacent road shoulder or use other temporary detours to circumvent construction work areas.

Project construction activities could increase traffic safety hazards in the project area due to:

- Conflicts between haul trucks and other large construction vehicles (with slower speeds and wider turning radii than automobiles) and automobiles, bicyclists, and pedestrians using the roadways;
- Conflicts related to the movement of traffic on travel lanes adjacent to construction work areas, particularly at entry and egress points where construction-related vehicles would access public roadways; and
- Confusion on the part of bicyclists and pedestrians due to temporary changes in bicycle and pedestrian circulation along the Monterey Peninsula Recreational Trail, designated bicycle routes, and sidewalks and other public pathways.

Potential increases in traffic safety hazards during project construction would be a potentially significant impact. However, implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)** would reduce this potential impact to a less-than-significant level.

Mitigation Measures

Mitigation Measure 4.9-1 applies to all proposed project facilities and associated construction activities.

Mitigation Measure 4.9-1: Traffic Control and Safety Assurance Plan.

(See Impact 4.9-1, above, for description.)

Impact 4.9-4: Impaired emergency access during construction. (*Less than Significant with Mitigation*)

All Proposed Pipelines

As discussed above for Impact 4.9-2, pipeline installation activities (including the Brine Mixing Box) could require construction within vehicle travel lanes and road shoulders. Temporary reductions in travel lanes and roadway capacity to accommodate the construction work areas could result in delays for emergency vehicles. Trenching and paving along roadways during pipeline installation could also disrupt emergency vehicle access to adjacent land uses. This impact is potentially significant. However, implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)**, which contains provisions to maintain access during construction, would reduce the impact to a less-than-significant level.

All Other Proposed Facilities

Construction activities and staging areas for the subsurface slant wells, MPWSP Desalination Plant, ASR-5 and ASR-6 Wells, and Carmel Valley Pump Station are not expected to require construction in roadways or road shoulders. As such, construction of these facilities would not obstruct access for emergency vehicles in the vicinity of the construction work areas. Therefore, impacts related to disrupted access to adjacent land uses for emergency vehicles would be less than significant.

Mitigation Measures

Mitigation Measure 4.9-1 has been developed for the project as a whole (to comply with road encroachment requirements for applicable jurisdictions). However, with respect to disruptions to emergency access, only construction of the proposed pipelines would require implementation of this measure to reduce impacts to a less-than-significant level.

Mitigation Measure 4.9-1: Traffic Control and Safety Assurance Plan.

(See Impact 4.9-1, above, for description.)

Impact 4.9-5: Temporary disruptions to public transportation, bicycle, and pedestrian facilities during construction. (*Less than Significant with Mitigation*)

Brine Discharge Pipeline, Brine Mixing Box, and Pipeline to CSIP Pond

Construction activities for the Brine Discharge Pipeline, Brine Mixing Box, and Pipeline to CSIP Pond would occur on or adjacent to private roads and would not impede vehicular, bicycle, or pedestrian traffic flow or disrupt public transportation. As such, there would be no impacts on public transportation and bicycle and pedestrian facilities from construction of these facilities.

All Other Proposed Pipelines

Pipeline installation activities could temporarily affect public transportation, bicycle travel, and pedestrian travel along affected roadways and recreational trails in the project area. About 21 miles of pipelines would be installed, with 6 of those miles located within or adjacent to the Monterey Peninsula Recreational Trail.

Construction activities, including vehicle ingress and egress, equipment and materials staging, trenching, and stockpiling, could disrupt established bicycle and pedestrian facilities located along the pipeline alignments. The proposed Source Water Pipeline alignment crosses the Monterey Peninsula Recreational Trail at the intersection of Del Monte Boulevard and Charles Benson Road. The new Desalinated Water Pipeline would be installed on the west side of Del Monte Boulevard, alongside the Monterey Peninsula Recreational Trail and the TAMC right-of-way between Charles Benson Road and Reservation Road. Roughly 3 miles of the new Transmission Main would be constructed along the TAMC right-of-way and the Monterey Peninsula Recreational Trail. This segment of the new Transmission Main would also border the eastern boundary of Fort Ord Dunes State Park. The Monterey Peninsula Recreational Trail serves as a primary bicycle and pedestrian access route into the Fort Ord Dunes State Park from Marina, Sand City, and Seaside. The Ryan Ranch-Bishop Interconnection Improvements would be installed along Ragsdale Drive, Lower Ragsdale Drive, and Wilson Road, all of which have designated Class II bikeways.

Construction activities within or adjacent to vehicle travel lanes could disrupt access to bus stops operated by MST, require that bus stops be temporarily relocated, and/or conflict with bicycle traffic along roads with designated bike lanes. Pipeline installation activities along the Monterey Peninsula Recreational Trail could conflict with bicycle and pedestrian traffic. Construction-related impacts on alternative transportation modes and facilities during pipeline installation activities would be potentially significant. However, implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)**, which includes measures that would minimize impacts on public transportation and provide for continuity of pedestrian and bicyclist traffic during construction, would reduce the impact to a less-than-significant level.

All Other Proposed Facilities

Construction activities for the subsurface slant wells, MPWSP Desalination Plant, ASR injection/extraction wells, and Carmel Valley Pump Station would occur in off-road areas and would not impede vehicular, bicycle, or pedestrian traffic flow or disrupt public transportation.

As such, there would be no impacts on public transportation and bicycle and pedestrian facilities from construction of these facilities.

Consistency with Regulatory Requirements

In addition to the impact described above, as noted in **Table 4.9-2**, project construction could conflict with applicable land use plans, policies, and/or ordinances related to alternative modes of transportation (e.g., public transit, bicycle, pedestrian). These include City of Monterey Del Monte Beach Land Use Plan Policy 13 and Monterey Harbor Land Use Plan Policy 3.K. Implementation of **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)** includes several provisions for addressing the potential adverse effects on these resources and facilities during project construction. With this measure implemented, the MPWSP would be consistent with the above-noted policy and ordinances.

Mitigation Measures

Mitigation Measure 4.9-1 has been developed for the project as a whole (to comply with road encroachment requirements for applicable jurisdictions). However, with respect to disruptions to public transportation and bicycle/pedestrian facilities, only construction of the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, and Castroville Pipeline would require implementation of this measure to reduce impacts to a less-than-significant level.

Mitigation Measure 4.9-1: Traffic Control and Safety Assurance Plan.

(See Impact 4.9-1, above, for description.)

Impact 4.9-6: Increased wear-and-tear on the designated haul routes used by construction vehicles. (Less than Significant with Mitigation)

All Project Components

The use of trucks to transport equipment and material to and from the construction work areas could affect road conditions on the designated haul routes by increasing the rate of road wear. The degree to which this impact would occur depends on the roadway design (pavement type and thickness) and the existing condition of the road. Freeways and major arterials (e.g., Highways 1, 68, 101, 156, 183, and 218, Del Monte Boulevard, and Fremont Boulevard / Fremont Street) are designed to handle a mix of vehicle types, including heavy trucks; therefore, the impacts of project-related construction traffic are expected to be negligible on those roads. However, some of the smaller roadways and residential streets may not have been constructed to support use by heavy construction trucks and vehicles, and project-related increases in construction truck trips could cause excessive wear-and-tear on these roadways, a potentially significant impact. However, implementation of **Mitigation Measure 4.9-6 (Roadway Rehabilitation Program)**, which requires rehabilitation of any roadways damaged following construction, would reduce this impact to a less-than-significant level.

Mitigation Measures

Mitigation Measure 4.9-6 applies to all proposed facilities and associated construction activities.

Mitigation Measure 4.9-6: Roadway Rehabilitation Program.

Prior to commencing project construction, CalAm and the affected jurisdiction(s) shall enter into an agreement detailing the preconstruction condition of all major project-related construction access and haul routes, in addition to any appropriate post-construction roadway rehabilitation requirements (e.g., who would make the roadway repair, and by when). Temporary detour routes may also be included in the inventory of preconstruction road conditions, if appropriate. The construction routes identified in the rehabilitation program must be consistent with those identified in the construction traffic control and safety assurance plan developed under Mitigation Measure 4.9-1. Roads damaged by project-related construction vehicles shall be repaired to a structural condition equal to that which existed prior to construction activities. CalAm shall be responsible for paying for all repairs needed to fix the damage caused by project-related construction vehicles.

Impact 4.9-7: Parking interference during construction. (*Less than Significant with Mitigation*)

Assuming construction workers would drive to construction work areas alone in their own vehicles (i.e., they would not carpool), project-related construction activities would increase parking demand at certain locations in the project area. Worker parking demand would vary among the individual project components and would also depend on the construction phase and the nature of construction activities taking place. In addition, depending on the final pipeline alignments and the width of the vehicle travel lanes or adjacent road shoulders where construction would occur, construction activities could displace parking spots and adversely affect parking conditions. **Table 4.9-1** shows roadways that could be directly affected by project construction activities and indicates whether these roads have on-street parking spaces. Where feasible and appropriate, construction contractors would install pipelines so as to avoid construction within vehicle travel lanes and minimize parking displacement. Detailed information regarding pipeline alignments (i.e., whether the pipelines would require construction in road rights-of-way) and associated construction activities would be developed during project design. This analysis assumes that pipeline installation activities could require construction within or adjacent to vehicle travel lanes and could require temporary displacement of parking spaces.

All Proposed Pipelines

Installation of the proposed pipelines in unincorporated Monterey County and in the cities of Marina and Seaside, could temporarily displace parking spaces along the affected roadways that have on-street parking. However, field observations show that, in general, the roadways along these other pipeline alignments have less-than-substantial demand for the available on-street parking spaces, and/or alternative parking spaces are present nearby. Therefore, impacts associated with temporary displacement of on-street parking during installation of these other pipelines would be less than significant, and no mitigation is necessary.

Subsurface Slant Wells

Construction of subsurface slant wells and support facilities would occur entirely within the CEMEX sand mining facility and would have no effect on parking availability in public areas. Further, construction worker parking demand for the subsurface slant wells could be accommodated within the construction work areas and in other previously disturbed areas of the CEMEX sand mining facility. Thus, no impact would result.

MPWSP Desalination Plant

Construction worker parking demand for the MPWSP Desalination Plant could easily be accommodated within the 46-acre parcel, which is currently vacant. Construction activities at the MPWSP Desalination Plant site would have no effect on parking availability in public areas. Thus, no impact would result.

ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline and ASR Recirculation Pipeline

Construction of the ASR-5 and ASR-6 Wells, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline could increase parking demand in the vicinity of General Jim Moore Boulevard in the former Fort Ord area. However, field observations show that there is ample on-street parking available in the former Fort Ord area to accommodate this increase. Thus, this impact would be less than significant.

Carmel Valley Pump Station, Main System-Hidden Hills Interconnection Improvements, and Ryan Ranch-Bishop Interconnection Improvements

The Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements are located in low-density areas with ample parking available to accommodate construction worker vehicles. Any on-street parking displaced during installation of proposed improvements in roadways could also be accommodated on adjacent roadways. This impact would be less than significant.

Staging Areas

Many of the proposed staging areas (see Table 3-4 in Chapter 3, Project Description) would occupy portions of parking lots (e.g., a lot that serves Cal State Monterey, and a Walmart parking lot). The temporary displacement of parking spaces would be potentially significant. However, implementation of **Mitigation Measure 4.9-7 (Construction Parking Requirements)** would reduce this impact to a less-than-significant level. **Mitigation Measure 4.9-7** requires that the construction contractor coordinate with the affected jurisdictions (i.e., Cal State Monterey, and the cities of Marina and Seaside) to design the staging areas to avoid or minimize parking impacts in the publicly used parking lots.

Impact Conclusion

Provision of staging areas in publicly used parking lots would result in potentially significant parking impacts due to temporary increases in parking demand associated with construction

worker vehicles and/or temporary displacement of parking spaces in publicly used parking lots for staging areas (off-street). However, implementation of **Mitigation Measure 4.9-7 (Construction Parking Requirements)** would reduce this impact to a less-than-significant level. Construction activities for the subsurface slant wells and MPWSP Desalination Plant would have no effect on parking. Parking displacement impacts resulting from construction of the proposed ASR-5 and ASR-6 Wells, Carmel Valley Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and all other proposed pipelines would be less than significant.

Mitigation Measures

Mitigation Measure 4.9-7 applies only to staging areas in publicly used parking lots.

Mitigation Measure 4.9-7: Construction Parking Requirements.

Prior to commencing project construction, the construction contractor(s) shall coordinate with the affected jurisdictions (i.e., Monterey County, Cal State Monterey, and the cities of Marina and Seaside), and affected parties (i.e., the Walmart Superstore at 150 Beach Road), to design the staging areas to avoid or minimize parking impacts in the publicly used parking lots.

4.9.5.2 Operational and Facility Siting Impacts

Impact 4.9-8: Long-term traffic increases on regional and local roadways during project operations and maintenance. (*Less than Significant*)

Operation- and maintenance-related vehicle traffic could result in increased congestion and delays for vehicles, which could cause conflicts with local jurisdictions' measures of effectiveness for the performance of the circulation system.

MPWSP Desalination Plant

The MPWSP Desalination Plant would be operated 24 hours per day, 365 days per year, and is estimated to require approximately 25 to 30 full-time workers (facility operators and support personnel) to operate, monitor, and maintain the desalination facilities. There would be up to 10 workers for each of the following three shifts: 9:00 a.m. to 5:00 p.m., 4:00 p.m. to 1:00 a.m., and 12:00 a.m. to 9:00 a.m., and based on that assumption, approximately 66 one-way trips (33 round trips) would occur throughout each day (30 commute trips and 3 midday trips) during long-term operations and maintenance of the MPWSP Desalination Plant.

The greatest long-term increase in vehicle trips from MPWSP Desalination Plant operations would occur on Charles Benson Road, and based on existing traffic conditions and the industrial nature of the surrounding land uses on Charles Benson Road, the projected increase is well within the roadway carrying capacity of this two-lane road and would not adversely affect traffic conditions. Given that the minimal number of daily vehicle trips associated with worker

commutes and deliveries would be dispersed onto different roads farther removed from Charles Benson Road, long-term operations and maintenance of the MPWSP Desalination Plant would not adversely affect traffic conditions on the overall existing circulation system over the long term. Therefore, the impact would be less than significant.

All Other Proposed Facilities

All other proposed facilities (i.e., the subsurface slant wells, Brine Mixing Box, ASR-5 and ASR-6 Wells, Carmel Valley Pump Station, and all pipelines) would be operated remotely using Supervisory Control and Data Acquisition systems, with periodic visits by CalAm personnel for operations review and maintenance. Maintenance activities include such tasks as landscape maintenance, visual inspections of facilities, performance monitoring, servicing of pumps, testing and servicing of valves, backflushing the ASR-5 and ASR-6 Wells, and minor pipeline repairs. The vehicle trips generated by these routine and periodic site visits would be similar in number to those required for existing CalAm operations in the Monterey District service area and would not constitute a significant increase in new vehicle trips on area roadways. Overall, any increases in traffic generated by facility operations and maintenance would be negligible compared to existing conditions and would not result in a noticeable increase in traffic on adjacent streets. Therefore, the long-term traffic impact for all other proposed facilities would be less than significant.

Impact Conclusion

The impact related to long-term increases in vehicle trips during project operations and maintenance is less than significant for all project facilities.

Mitigation Measures

None proposed.

4.9.6 Cumulative Effects of the Proposed Project

The cumulative scenario and cumulative impacts methodology are described in Section 4.1.7. Table 4.1-2 lists potential cumulative projects.

Impact 4.9-C: Cumulative impacts related to traffic and transportation. (Significant and Unavoidable, even with implementation of feasible mitigation)

The MPWSP would result in no impact with respect to conflicts with an applicable congestion management plan, changes in air traffic patterns, permanent increases in traffic safety hazards due to a design feature or incompatible uses, or conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Therefore, it could not cause or contribute to any cumulative effects related to these traffic and transportation topics, and these topics are not discussed further.

The geographic scope for the cumulative traffic impact analysis encompasses the local and regional roadways and highways that would be used for project-related construction and operational activities and for access by construction worker and operational employee vehicles. A significant cumulative effect on transportation and traffic could occur if the incremental impacts of the MPWSP combined with those of one or more of the projects listed in **Table 4.1-2** that would use the same transportation network as the MPWSP during the life of the project to substantially and adversely affect the effectiveness of the circulation system or to result in inadequate emergency access.

Cumulative Impacts during Project Construction

As discussed above in Sections 4.9.4 and 4.9.5, the MPWSP's significant impact related to increased congestion from construction traffic would be reduced with the implementation of **Mitigation Measures 4.9-1 (Traffic Control and Safety Assurance Plan)**, **4.9-6 (Roadway Rehabilitation Program)**, and **4.9-7 (Construction Worker Parking Requirements)**. However, the residual impacts after implementation of these mitigation measures are discussed below. Due to increased traffic and transportation network disruptions, concurrent construction of the MPWSP and the projects listed in **Table 4.1-2** would result in potentially significant cumulative impacts on traffic and transportation access and facilities. Such impacts would include a short-term increase in vehicle traffic, reductions in the number or the available width of travel lanes on roads where construction would occur, increased wear-and-tear on the designated haul routes used by construction vehicles, and increases in demand for parking spaces to accommodate construction worker vehicles, among others. In addition, concurrent construction of these projects could create traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways. Access to adjacent land uses and streets for both general traffic and emergency vehicles could be disrupted. The MPWSP's contributions to these impacts would occur along routes adjacent to most pipeline alignments and above-ground project components south of Reservation Road.

Although the construction schedule for many of the projects listed in **Table 4.1-2** is unknown, the construction schedule for several future cumulative projects could overlap with the anticipated MPWSP construction schedule, thereby causing the types of regional and local traffic and transportation impacts described above. These projects include projects in Monterey County (Nos. 1, 2, 4, and 54), Marina (Nos. 7, 9, 47, and 63), Seaside (Nos. 14 and 17), Beach Junction Structure (No. 61), and Pacific Grove (No. 45). The other projects identified in **Table 4.1-2** are in various stages of planning or entitlement processes and also could occur during the MPWSP's anticipated construction timeframe of summer 2018 through summer 2020.

Potentially significant cumulative traffic and transportation access and facility impacts of the types described above could occur along regional transportation corridors, including Highways 1, 68, and 218, in the vicinity of proposed MPWSP components. Such impacts also would be expected along local arterial and neighborhood roadways connecting regional thoroughfares with specific project construction sites. Based upon the anticipated MPWSP and cumulative project construction schedules (**Table 4.1-2**), potentially significant cumulative impacts on local roadways would likely be concentrated in the cities of Marina, Seaside, and Sand City. However, as discussed, several other projects whose construction timelines remain unknown also could be

constructed within the anticipated MPWSP construction window and have similar transportation effects. Accordingly, this analysis conservatively assumes that at least some of the cumulative projects whose construction schedules remain unknown would be constructed concurrent with the MPWSP. Therefore, the possibility for potential significant cumulative impacts in the cities of Monterey and Pacific Grove as well as in Monterey County cannot be ruled out. The Monterey Pipeline and Pump Station project (No. 60), recently approved and currently under construction, will adversely affect traffic in Seaside and Pacific Grove, but is expected to be completed prior to the start of MPWSP construction.

As discussed above in Sections 4.9.4 and 4.9.5, CalAm would be required to implement **Mitigation Measures 4.9-1 (Traffic Control and Safety Assurance Plan), 4.9-6 (Roadway Rehabilitation Program), and 4.9-7 (Construction Parking Requirements)**, each of which would lessen the MPWSP's contribution to cumulative construction-related traffic and transportation impacts. Specifically, these measures would reduce MPWSP's incremental contribution to congestion and traffic delays on area roadways, safety hazards, emergency access, alternative transportation facilities, wear and tear, and parking impacts. However, given the size of the MPWSP, along with the number of cumulative projects and uncertainty regarding cumulative project construction timing, the residual MPWSP transportation impacts could still contribute substantially to cumulative local and regional traffic and roadway capacity disruptions, a cumulatively significant impact.

Mitigation Measure 4.9-C, presented below, is designed to further reduce the MPWSP's incremental contribution to address the potential cumulative impact. However, there is no guarantee that local agencies would participate in such coordination efforts. Therefore, even though this mitigation measure could reduce MPWSP's cumulative contribution to a less-than-significant level, the conclusion remains that the proposed project's incremental contribution to potential significant cumulative effects would be significant and unavoidable.

Mitigation Measure 4.9-C: Construction Traffic Coordination Plan.

CalAm shall coordinate with the appropriate planning agency within each affected jurisdiction to develop and implement a Construction Traffic Coordination Plan. The purpose of the plan shall be to lessen the cumulative effects of MPWSP and local development project construction-related traffic delays and congestion. The plan shall address construction-related traffic associated with all project sites in the vicinity of MPWSP project components (i.e., within 1 mile or would use the same roads) and whose construction schedules overlap that of the MPWSP. The construction traffic coordination plan shall, at a minimum, include the following components:

- Identification of all projects located in the vicinity of MPWSP project components (within 1 mile or would use the same roads) and whose construction schedules overlap that of the MPWSP.
- Consideration for the types of construction-related vehicles and corresponding numbers and timing of trips associated with each said project.
- An evaluation of roadways affected by construction activities and measures to minimize roadway and traffic disturbances (e.g., lane closures and detours). Impact

minimization measures shall include, but not necessarily be limited to, elements that are part of the MPWSP's Traffic Control and Safety Assurance Plan (Mitigation Measure 4.9-1).

- Phasing of construction activities, as necessary to prevent degradation of levels of service on affected roadways.
- A program that provides for continual coordination with the affected agencies to allow for adjustments and refinements to the plan once construction is underway.

The construction traffic plan may be modeled after or included within the plan described in **Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan)**. If necessary, separate construction traffic coordination plans (i.e., one for each affected jurisdiction) may be prepared, provided each is compatible.

Cumulative Impacts during Project Operations

A significant cumulative impact associated with long-term traffic increases would occur if the traffic or transportation-related effects of MPWSP operations, combined with those of one or more cumulative projects identified in **Table 4.1-2**, were to cause traffic on local and regional roadways to exceed established level of service standards. The number of new vehicle trips that would occur in association with operation of the projects in **Table 4.1-2** remains unknown. Given the large number and nature of these projects, the cumulative operations-related traffic is expected to be substantial.

As described in Section 4.9.5, above, the MPWSP would have less-than-significant long-term traffic increases on regional and local roadways during project operations and maintenance. As discussed under Impact 4.9-8, the MPWSP would require approximately 25 to 30 full-time workers (project facility operators and support personnel) to operate, monitor, and maintain the desalination facilities (all other facilities would be operated remotely by computer and require infrequent maintenance visits). MPWSP Desalination Plant workers would add up to an estimated 66 daily one-way trips to the local and regional road network. The anticipated increase in traffic associated with these vehicle trips would not be noticeable to other motorists and would not affect the users of alternative travel modes (e.g., pedestrians and bicyclists).

The combined effects of operations-related traffic from the projects identified in Table 4.1-2 could have a potentially significant cumulative impact on local and regional traffic. However, the addition of traffic associated with MPWSP operation and maintenance would not contribute substantially to those impacts; they would be mostly limited to Charles Benson Road and Highway 1. The only cumulative projects identified on Table 4.1-2 expected to affect Charles Benson Road are the RUWAP elements (Nos. 31 and 35), whose operational traffic would be between zero and four one-way trips daily (Denise Duffy & Associates, 2004). As a result, the MPWSP's incremental contribution to cumulative operations-related traffic impacts would be less than significant.

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