

# Executive Summary

## Introduction

The Monterey Peninsula Water Management District (MPWMD) manages and regulates the use, reuse, reclamation, and conservation of water within its boundaries on the Monterey Peninsula. About 80% of the water collected, stored, and distributed within the MPWMD boundaries is done so by California American Water (Cal-Am), which serves approximately 95% of Monterey Peninsula residents and businesses. Approximately 70% of the water delivered by Cal-Am is diverted from the Carmel River Basin.

The MPWMD is proposing to construct and operate an aquifer storage and recovery (ASR) project that would benefit the natural resources of the Carmel River and improve the reliability of the local water supplies. A joint draft environmental impact report/environmental assessment (EIR/EA) has been prepared in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), respectively. The EIR/EA discloses the environmental impacts of the proposed ASR project, identifies ways to reduce or avoid adverse environmental impacts resulting from the project, identifies and assesses alternatives to the proposed project, and assesses cumulative impacts.

Cal-Am is also proposing to construct a temporary, aboveground water pipeline on former Fort Ord to connect the existing and new MPWMD ASR wells to the existing Cal-Am water delivery system. Although the City of Seaside has completed CEQA compliance for the temporary pipeline, there is no NEPA compliance documentation. Therefore, the U.S. Army at Fort Ord has requested that this EIR/EA also disclose the effects of the temporary pipeline so that it can consider issuing a right of entry for constructing and operating the new pipeline. This temporary pipeline is needed to improve the reliability of Cal-Am's distribution system in the Seaside area and will proceed whether or not the MPWMD ASR project is eventually constructed.

## Proposed Project

MPWMD is proposing to construct and operate an ASR project that would allow diversion of a limited amount of excess flow from the Carmel River for storage in, and later recovery from, the Seaside Groundwater Basin. The ASR project would divert up to 2,426 acre-feet per year from the Carmel River. Diversions would occur between December and May.

The ASR would utilize new and existing water collection and conveyance facilities. New facilities include an MPWMD-owned injection/extraction well located on land currently owned and managed by the U.S. Army on the former Fort Ord and an MPWMD-owned pipeline connecting the injection/extraction well with the Cal-Am temporary pipeline located west of General Jim Moore Boulevard. No other new facilities would be constructed because the project would utilize the existing Cal-Am wells, pipelines, and pumping facilities that currently divert and transport water from the Carmel River.

The objective of the Proposed Project is to allow for changes in water supply operations in the Carmel River and Seaside Groundwater Basins that will:

- benefit the natural resources of the Carmel River and the groundwater resources of the Seaside Groundwater Basin and
- improve the short-term reliability of the domestic water supply system in the Seaside area.

An element of the Proposed Project, the Seaside Groundwater Basin injection/extraction well and pipeline, will be constructed on a portion of the former Fort Ord that is currently under federal ownership. The purpose and need of the EA is to allow the U.S. Army to:

- grant an easement for the construction and operation of the injection/extraction well on property currently under federal ownership and
- ensure that the injection/extraction well is compatible with the planned reuse of the area in which the well will be sited.

## Alternatives to the Proposed Project

### Alternative 1—No Action/No Project

No change in Cal-Am's water supply management of the Carmel River and Seaside Groundwater Basins would occur. No new ASR facilities would be constructed. MPWMD operation of the existing ASR test well would continue until such time as the temporary authority to divert water from the Carmel River for testing purposes was ended by the State Water Resources Control Board. The trend in extractions from the Carmel River basin would continue to affect the

availability of surface and subsurface flows in the lower Camel River, especially in dry periods. Extractions from the Seaside Groundwater Basin may continue to cause a gradual decline in the basin's water levels. Future extractions from the Seaside Groundwater Basin will be monitored and managed by the Seaside Basin Watermaster, which will be comprised of nine entities including MPWMD and Cal-Am. The Watermaster governing body, which is in the process of being formed as a result of the Seaside Basin Adjudication, will regulate extractions from the basin to comply with "operating yield" limits specified in the adjudication decision of the Monterey County Superior Court. A Tentative Decision was issued in January 2006; a Final Decision is anticipated in March 2006.

## **Alternative 2—Non-Contiguous New Injection/Extraction Well**

Alternative 2 includes constructing and operating an ASR similar to the Proposed Project with the exception of the location of the Seaside Groundwater Basin injection/extraction well which would be constructed adjacent to Fitch Middle School on the west side of General Jim Moore Boulevard. The well would be constructed to the same depth as the existing Santa Margarita well. A new pipeline, approximately 500-feet long, would be constructed to connect the well to the existing water distribution system. New onsite facilities would include a backflush percolation pit and an enclosure for electrical equipment, chemical equipment, and chemical storage. The amount of water produced by Alternative 2 would be the same as the Proposed Project.

## **Alternative 3—Local Desalination Plant**

Alternative 3 would include construction and operation of a desalination plant located in Sand City. Seawater would be collected from wells drilled at Monterey State Beach and conveyed through underground pipes to the desalination plant for treatment. Brine would be disposed through wells on Fort Ord or through the Monterey Regional Water Pollution Control Agency outfall. Potable water would be distributed through the Cal-Am water supply system. The project would produce up to 8,400 AFA or 7.5 million-gallons/day.

## **Alternative 4—Wastewater Reclamation**

Alternative 4 includes three elements:

- (1) Monterey Regional Water Pollution Control Agency/Marina Coast Water District regional urban water augmentation project – This project would produce up to 3,000 AFA by expanding MCWD's existing desalination plant and recycling treated wastewater. Expanding MCWD's existing desalination

plant would produce approximately 1,500 AFA of potable water. Recycling treated wastewater for landscape irrigation would yield approximately 1,500 AFA.

- (2) Monterey Regional Water Pollution Control Agency groundwater replenishment project – The project would deliver recycled water to the Seaside groundwater basin for recharge and would increase the amount of water available from the basin for pumping. Water injected into the groundwater basin would be purified by the use of an advanced wastewater treatment plant. The project would produce up to 4,000 AFA.
- (3) Carmel Area Wastewater District/Pebble Beach Community Services District reclaimed wastewater system extension – This project would offset the use of potable water currently used to irrigate a golf course and cemetery in Pacific Grove by applying reclaimed wastewater. The project would require the construction of 15,000-foot pipeline. The project would produce approximately 95 AFA.

## **Alternative 5—Off-stream Storage**

Off-stream storage involves capturing and storing excess winter flows from the Carmel River. Water would be either stored in surface reservoirs or in groundwater basins. Potential off-stream surface water storage sites include Chupines Creek, Cachagua Creek, San Clemente Creek and on the former For Ord. The potential groundwater storage site is the Tularcitos aquifer in the Carmel River watershed. Both off-stream storage surface reservoirs and groundwater basins would require new pipelines and pumps. The water yield from off-stream storage is estimated to range from 400 to 1,000 AFA.

## **Alternative 6 - Stormwater Reuse**

Stormwater reuse is the collection, storage, and later use of water collected during storm events. Alternative 6 assumes stormwater would be collected in cisterns at individual residences. Water stored in cisterns would off set potable water used for irrigation. Alternative 6 is estimated to yield 10 to 120 AFA.

## **Temporary Pipeline**

The distribution of water from the MPWMD's existing Santa Margarita well, in addition to the proposed new ASR well, would be improved by transporting the water south to the distribution main on the eastern end of Hilby Avenue, where it can be pumped more efficiently to the Cal-Am transmission pipelines in the City

of Seaside. Therefore, separate from the Proposed Project, Cal-Am is proposing to construct a temporary aboveground pipeline that would connect the Santa Margarita well (and potentially the new ASR well) to the Hilby distribution main. This pipeline would be temporary (1 to 4 years) until a more permanent solution for water management and distribution in the eastern portion of Seaside is developed. When a permanent solution is developed, Cal-Am will remove the temporary pipeline.

The temporary pipeline would be installed parallel and to the west of the existing General Jim Moore Boulevard alignment, between the road and the fence line. Three segments of the pipeline, totaling 160 feet, would be placed underground where the line crosses the existing roadways (Hilby Avenue, Broadway Avenue, and San Pablo Street). An additional 60-foot segment would be underground where the line intersects with the City of Seaside well site, which is south and adjacent to San Pablo Street. The total line length would be approximately 6,700 feet.

The environmental effects of constructing, operating and removing this temporary pipeline are discussed in this EIR/EA separately from the effects of the MPWMD Proposed Project.

## Summary of Potential Environmental Impacts and Mitigation Measures for the Proposed Project

Environmental impacts of the Proposed Project and the mitigation measures required to reduce the significant impacts to a less-than-significant level are listed by issue area in Table ES-1 at the end of this Executive Summary. Following is a brief discussion of the impacts for each issue area (presented in the order they appear in the EIR/EA).

### Air Quality

Constructing the injection/extraction well and pipeline would result in short-term increases in PM10 and exposure of sensitive receptors to diesel particulate matter and acrolein. The impact on air quality resulting from the short-term increases in PM10 emissions was considered less-than-significant. The short-term impact of diesel particulate matter and acrolein emissions was considered significant because of the close proximity of sensitive receptors to the construction site. These impacts would be mitigated to a less-than-significant level by implementing emission-reducing construction practices.

## Vegetation and Wildlife

Constructing the proposed project could directly affect special-status plant and wildlife species and habitat. Special-status plant species that could be adversely affected include Monterey spineflower, sandmat manzanita, Eastwood's Goldenbush, and Kelloggs' horkelia. Special-status wildlife species that could be adversely affected include California tiger salamander, California horned lizard, black legless lizard, Monterey dusky-footed woodrat, and American badger. Impacts on maritime chaparral were considered less than significant. Construction-related impacts on black legless lizards and Monterey dusky-footed woodrats were considered potentially significant. However, ongoing implementation of mitigation actions contained in the Fort Ord Multispecies Habitat Management Plan (U.S. Army Corps of Engineers, Sacramento District 1997) and terms and conditions contained in more recent biological opinions issued by the U.S. Fish and Wildlife Service (1999, 2002a and 2005) is considered adequate to offset potential impacts to these species. Impacts on other wildlife species were considered less than significant. The project could also conflict with the portion of the Fort Ord Natural Resource Management Area (NRMA) located adjacent to the injection/extraction well site. Impacts on the NRMA would be avoided by implementing BMPs to avoid offsite movement of soil and invasive species and potential for wildfire.

## Aquatic Resources

Operating the project would change flows in the Carmel River during periods of steelhead upstream migration, spring, emigration, fall and winter downstream migration. The project is expected to result in an increase in river flows during these periods resulting in a beneficial impact on steelhead.

Changes in river flows could also affect other aquatic species, included California red-legged frog, Pacific tree frog, California newt, western toad, western pond turtle, and a variety of aquatic invertebrates. The change in river flow is expected to benefit these species as a result of the expected increase in flow below the Narrows during the dry portion of the year.

There would be no construction-related impacts on aquatic resources.

## Cultural Resources

During the construction phase, the project would result in the potential for discovery of buried cultural deposits and human remains. This impact would be mitigated by "stop work" orders if buried cultural deposits or human remains were encountered during construction activities and appropriate recovery or avoidance procedures were implemented.

There would be no operational impacts on cultural resources.

## Geology, Soils, and Seismicity

Construction of the project would disturb the ground and expose soil to rain and wind, potentially causing accelerated erosion and release of sediment into drainages. Development of a stormwater pollution prevention plan (SWPPP) and implementation of its recommendations would protect receiving waters and ensure this impact would be less than significant. Operation-related impacts include potential structural damage from seismic activity and rupture of pipelines from soil expansion, both of which could threaten public safety. These impacts are considered less than significant because all structures would be designed to meet the Uniform Building Code and California Building Standards.

## Groundwater Hydrology and Water Quality

Constructing the injection/extraction could result in short-term affects on groundwater quality and quantity as a result of discharge of drilling fluids and testing well production. These impacts are considered less than significant because non-toxic drilling fluids would be used and water pumped from the basin during well testing would be percolated back into the basin.

Operating the injection/extraction well could result in changes in the quantity and quality of groundwater stored in the Seaside Groundwater Basin, hydrofracturing, and change water levels in overlying units. Impacts on groundwater quantity, represented as groundwater storage, are considered less than significant because the project would not substantially change the current net storage in the basin. Operating the project is expected to beneficially change groundwater levels. The quality of water stored in the basin would be maintained because the project would comply with State Water Resources Control Board and California Department of Health Services standards regarding mixing surface water with groundwater.

Operating the Proposed Project is expected to have no significant effects on flows in the Carmel River, and benefit aquatic resources.

## Land Use

Construction activities occurring at the injection/extraction well site could disrupt adjacent land uses. These impacts would be less than significant because construction would be completed in approximately 8 months and measures would be taken to insure noise and air emissions are minimized. Constructing the project would not result in physical division or substantial disruption of an established community.

Operating the injection/extraction well is not expected to result in disruption of adjacent land uses because noise generated by above ground equipment would meet local noise standards. The injection/extraction well would be compatible with the designation of the site in the Fort Ord Reuse Plan as low density residential.

## Noise

Constructing the injection/extraction well and pipeline would expose adjacent sensitive land uses to noise and vibration in excess of applicable standards. These potentially significant impacts would occur as a result of using heavy equipment at the construction site and the necessity to drill at 24-hours-per-day until the well is completed. Noise and vibration impacts could be reduced to a less than significant level by limiting the use of equipment ancillary to the drilling rig to daylight hours and employing noise-reducing construction practices. Operating the injection/extraction well could result in a significant impact on adjacent noise-sensitive land uses. This impact would be reduced to a less than significant level by designing an enclosure that adequately attenuates noise to meet local standards.

## Hazardous Materials

Constructing the injection/extraction well could result in the exposure of workers to hazardous materials and the use of hazardous materials near a school. Workers could be exposed to lubricants and fuels used during construction. These potential impacts could be minimized by implementing the SWPPP. Workers could also be exposed to unexploded ordnance. Information provided by the Army BRAC Office at former Fort Ord (Fisbeck pers. comm.) indicates that the Proposed Project facilities would overlie portions of Army parcels E34 and E23.1. These parcels, which are scheduled for eventual transfer to the City of Seaside for residential development, are also considered munitions response sites (MRS) Seaside 2 and 3 (MRS-SEA.2 and MRS-SEA.3) in the Army's UXO cleanup plans. They are located within the former Fort Ord firing range/impact area. Surface and subsurface removal of munitions and explosives of concern (MEC) was recently conducted on the majority of the parcels; multiple MECs were removed. This impact is considered less than significant because the area has been subject to both surface and sub-surface ordnance clearance activities and additional clearance and coordination activities would be necessary with the Army prior to and during construction.

Operating the well would require the routine use of hazardous materials, including carbon dioxide, lime, and sodium hypochlorite. Compliance with regulations and requirements concerning the use and storage of hazardous materials would minimize the proposed project's potential to threaten public safety and the environment.



## Public Services and Utilities

Construction of the injection/extraction well and pipeline would result in the generation of solid waste and potentially disrupt utility service. The local landfill has the capacity to accept waste generated during project construction. Disruption of utility service would be minimized by notifying and coordinating with utility providers.

Operating the injection/extraction well would increase the regional use of electricity. This increase would be small compared to regional use and the capacity of the existing system will be able to meet the additional demand.

## Transportation and Circulation

Constructing the injection/extraction well and pipeline could temporarily increase traffic, conflict with public transit, and result in hazards to pedestrians and bicyclists. These impacts were considered less than significant because construction activities would only result in 10 additional round trips per day and the use of General Jim Moore Boulevard would not be restricted.

Operation and maintenance of the injection/extraction well would not affect traffic or circulation or parking capacity because worker trips to the site are not expected to exceed two trips per day and parking would be provided on site.

## Visual Resources

Constructing the injection/extraction well and pipeline could alter scenic views, degrade existing visual character of the site, and create light and glare. These impacts are considered less than significant because construction activities would be temporary and most construction would occur during daylight hours.

Operating the project could alter the visual character of the well site and create new light and glare. The impact on the existing visual character of the site is considered less than significant because the well would be located adjacent to the existing well. The creation of light and glare is considered a significant impact, but would be reduced to a less than significant level by incorporating light-reduction measures into the design of the well building.

## Cumulative Impacts

The project's construction-related impacts that could result in a considerable contribution to a cumulative impact include air emissions and noise. To minimize the cumulative impacts on air quality and noise, construction projects planned for the same timeframe should be phased so  $\text{NO}_x$  and  $\text{PM}_{10}$  emissions remain below

Monterey Bay Unified Air Pollution Control District (MBUAPCD) thresholds, dust control measures should be required of contractors, and noise reduction measures should be implemented for all projects. With implementation of these mitigation measures, the cumulative effects on air emissions and noise are considered less than significant. Constructing the project could also result in cumulative impacts on special-status plants and wildlife or their habitat and traffic and transportation. The cumulative impact on special-status plants and wildlife is considered less than significant because impacts were previously considered when developing the Fort Ord Multi-species Habitat Management Plan (U.S. Army Corps of Engineers, Sacramento District 1997), and subsequent terms and conditions have been placed on development by biological opinions issued by the U.S. Fish and Wildlife Service (1999, 2002b and 2005). Cumulative impacts on traffic and transportation were considered less than significant because of the small number of additional trips generated during construction and because construction would be completed in 8 weeks.

Operating the project would require additional use of electricity. The increased cumulative demand is considered less than significant because the Monterey Peninsula has an ample supply of energy.

## Impacts of Project Alternatives

Chapter 16, “Alternatives,” provides the results of the comparative evaluation of the environmental effects of Proposed Project with the alternatives, including the No Action/No Project (No Project) Alternative. The environmental impacts (both beneficial and adverse) associated with constructing and operating the action-oriented alternatives are generally greater than the Proposed Project. With the No Project Alternative, however, the adverse effects would be less than the Proposed Project, but the beneficial effects would also be less .

### Alternative 1 – No Action/No Project

The No Project Alternative would not result in construction-related effects because no new water supply facilities would be built. The trend in extractions from the Carmel River basin would continue to affect the availability of surface and subsurface flows in the lower Camel River, especially in dry periods. Extractions from the Seaside Groundwater Basin could continue to cause a gradual decline in the basin’s water levels. However, these extractions will be monitored and managed by the Seaside Basin Watermaster, which will regulate extractions to comply with the “operating yield” limits specified in the adjudication decision issued by the Monterey County Superior Court.

## **Alternative 2—Non-Contiguous New Injection/Extraction Well**

Many of the effects of Alternative 2 would be the same or nearly the same as the Proposed Project because each is composed of the same primary elements (e.g. injection/extraction wells and pipelines) and would be operated in the same manner. Similar impacts include air emissions, seismic risk, exposure to hazardous materials, public services, and transportation and circulation. Alternative 2 would lessen the potential loss of special-status vegetation and wildlife on the former Fort Ord and change in the visual character of the well site.

Construction-related impacts with the potential to be greater than the Proposed Project include cultural resources, land use, and noise. These impacts, with the exception of cultural resources, are expected to be greater because of the proximity of the school to the site of the injection/extraction well and pipeline. Cultural resource impacts may be greater because more ground disturbing activity would occur with the resulting greater potential to unearth buried resources.

Operations would also be the same resulting in identical impacts on the aquatic resources found in and along the Carmel River.

## **Alternative 3—Local Desalination Plant**

Nearly all of the construction-related effects of Alternative 3 would be greater when compared to the Proposed Project because a much larger area would be disturbed and construction would last much longer. These impacts include air quality, noise, traffic and circulation, land use compatibility, cultural resources, soils, hazardous materials, public services, visual resources, vegetation, and wildlife. Construction-related impacts would be much greater because elements of the project would be constructed over a wider geographic area including the coastal zone, urban areas, and the portions of the former Fort Ord.

Operation of Alternative 3 is expected to have a greater beneficial effect on Carmel River aquatic resources, including steelhead and riparian vegetation, because the potable water produced by the desalination plant would offset reduced diversions from the Carmel River basin because much less water would be diverted from the basin. Other operation-related effects expected to occur under Alternative 3, including noise, release of hazardous materials, transportation, and energy use would be greater than the Proposed Project because facilities would be larger.

## **Alternative 4—Wastewater Reclamation**

Nearly all of the construction-related effects of Alternative 4 would be greater when compared to the Proposed Project because a much larger area would be disturbed and construction is expected to last over a longer period. These adverse impacts include air quality, noise, traffic and circulation, land use compatibility, cultural resources, soils, hazardous materials, public services, visual resources, vegetation, and wildlife.

Operating Alternative 4 is expected to have a greater benefit on Carmel River aquatic resources compared to the Proposed Project because much less water would be diverted from the basin. Other operation-related effects expected to occur under Alternative 4, including noise, release of hazardous materials, transportation, and energy use would be greater than the Proposed Project because facilities would be larger.

## **Alternative 5—Off-stream Storage**

Most of the construction-related effects of Alternative 5 would be greater when compared to the Proposed Project because a larger area would be disturbed during construction of the storage facilities, pipelines, and pumps. These impacts include air quality, noise, traffic and circulation, cultural resources, soils, hazardous materials, public services, visual resources, vegetation, and wildlife.

Operating Alternative 5 is expected to result in a smaller beneficial impact on Carmel River aquatic resources compared to the Proposed Project because less water would be diverted during times of high flow. Other operation-related effects expected to occur under Alternative 5, including damage to cultural resources, noise, release of hazardous materials, transportation, and energy use would be greater than the Proposed Project.

## **Alternative 6 - Stormwater Reuse**

All of the construction-related effects of the Proposed Project would be avoided or reduced under Alternative 6. These impacts would be avoided or reduced because the stormwater collection and storage systems would be located adjacent to existing structures and would utilize roofs or other surfaces already constructed as a means to collect water. Construction of the storage systems would be of short-duration and is not expected to adversely affect native vegetation or wildlife and would avoid affects on special-status species.

Operation of Alternative 6 would benefit Carmel River aquatic resources, because water collected reused would offset diversions made from the Carmel River. However, these benefits would be less than the Proposed Project because when combined, the systems are only expected to provide from 10 to 120 AFA.

# Summary of Potential Environmental Impacts and Mitigation Measures for the Proposed Temporary Pipeline

Cal-Am's proposed temporary aboveground pipeline would not result in significant short-term, long-term or cumulative effects on the environment. Construction and removal of the pipeline would result in short-term effects on local air quality, noise and traffic, but the short construction period and the small number of vehicles and equipment involved would not create substantial effects. Mitigation measures are available to minimize the impacts. Construction and removal would also have a small effect on vegetation and wildlife resources between the General Jim Moore Boulevard corridor and the developed eastern edge of the City of Seaside. However, mitigation measures identified in the Army's Multi-species Habitat Management Plan and three biological opinions issued by the U.S. Fish and Wildlife Service will be implemented as part of the proposed project to reduce and minimize impacts to sensitive plant and animal species, including the California tiger salamander.

## Identification of the Environmentally Superior Alternative

The State CEQA Guidelines require identification of an environmentally superior alternative that would minimize adverse impacts on the project site and surrounding environment, while achieving the project's basic objectives. The goal of identifying the environmentally superior alternative is to assist decision makers in considering project approval, although an agency is not required to select the environmentally superior alternative (*Laurel Hills Homeowners Association v. City Council [1978] Cal. App. 3d 515, State CEQA Guidelines Sec. 15042-15043*). A discussion of the comparative environmental impacts of the Proposed Project and the alternatives is included in Chapter 16, "Alternatives." The MPWMD has identified the Proposed Project as the environmentally superior alternative. The Proposed Project includes an injection/extraction well located on the former Fort Ord approximately 250 feet from the existing Santa Margarita test ASR well.

Compared to the Proposed Project, Alternative 2 would result in greater construction-related and operation-related environmental impacts. Noise and vibration impacts are expected to be greater because of the close proximity of a public school. Constructing and operating Alternative 2 would be less compatible with existing or proposed land uses also because of the closer proximity of the school. The Proposed Project's impacts on biological resources would be greater; however, these impacts would eventually occur as part of the proposed reuse for the portion of the former Fort Ord on which the well would be located. The beneficial impacts on Carmel River aquatic resources would be the same because operation of the ASR element of the project would be identical.

Other alternatives evaluated include Alternative 3 - Local Desalination Plant, Alternative 4 - Wastewater Reclamation, Alternative 5 - Offstream Storage, and Alternative 6 - Stormwater Reuse. Alternatives 3, 4, and 5 would result in greater environmental impacts because they would take longer to construct and would result in greater land disturbance with the potential to adversely affect a greater number of sensitive resources.

## Areas of Known Controversy

During the scoping process for the EIR/EA, the major areas of environmental concern identified included:

- impacts on the quality of groundwater in the Seaside Groundwater Basin as a result of injection and extraction of Carmel River water;
- hydrologic impacts on the Seaside Groundwater Basin; and
- changes in Carmel River flow and resulting effects on the aquatic resources and watershed ecosystem of the river.

**Table ES-1.** Summary of Impacts and Mitigation Measures for the Proposed Project<sup>1</sup>

Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
<b>Air Quality</b>	AQ-1: Short-Term Increase in PM10 Emissions from Well Drilling	Less than Significant	None required	Less than Significant
	AQ-2: Short-Term Increase in PM10 Emissions from Pipeline Construction	Less than Significant	None required	Less than Significant
	AQ-3: Short-Term Increase in PM10 Emissions from Building Construction	Less than Significant	None required	Less than Significant
	AQ-4: Exposure of Sensitive Receptors to Elevated Health Risks from Exposure to Diesel Particulate Matter from Construction Activities	Less than Significant	Mitigation Measure AQ-1. Use Newer, Cleaner-Burning Engines. Mitigation Measure AQ-2. Limit Construction Duration.	Less than Significant
	AQ-5: Exposure of Sensitive Receptors to Elevated Health Risks from Exposure to Acrolein Emissions from Diesel Exhaust from Construction Activities	Significant	Mitigation Measure AQ-1. Use Newer, Cleaner-Burning Engines. Mitigation Measure AQ-2. Limit Construction Duration.	Less than Significant
<b>Vegetation and Wildlife</b>	BIO-1: Removal of Maritime Chaparral	Less than significant	None required	Less than significant
	BIO-2: Disturbance of the Fort Ord NRMA	Significant	Mitigation Measure BIO-1: Minimize or Prevent Disturbance to Adjacent NRMA	Less than significant
	BIO-3: Destruction of Monterey Spineflower, Sandmat Manzanita, Eastwood's Goldenbush, and Kellogg's Horkelia	Less than significant	None required	Less than significant
	BIO-4: Potential Direct Mortality or Disturbance of California Horned Lizards and Potential Permanent and Temporary Loss of California Horned Lizard Habitat	Less than significant	None required	Less than significant

<sup>1</sup> This table summarizes impacts of the ASR well project and not the effects of the temporary pipeline project.

Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
	BIO-5: Potential Direct Mortality or Disturbance of Black Legless Lizards and Potential Permanent and Temporary Loss of Black Legless Lizard Habitat	Significant	None required; mitigation is included in the Fort Ord Multispecies Habitat Management Plan	Less than significant
	BIO-6: Potential Direct Mortality or Disturbance of Monterey Dusky-Footed Woodrat and Potential Permanent and Temporary Loss of Monterey Dusky-Footed Woodrat Habitat	Significant	None required; mitigation is included in the Fort Ord Multispecies Habitat Management Plan	Less than significant
	BIO-7: Potential Direct Mortality or Disturbance of American Badger and Potential Permanent and Temporary Loss of American Badger Habitat	Less than significant	None required	Less than significant
	BIO-8: Potential Loss of Nest Trees and Disturbance or Mortality of Migratory Birds	Less than significant	Mitigation Measure BIO-4: Remove Trees and Shrubs during the Nonbreeding Season for Most Birds (September 1 To February 15).	Less than significant
<b>Aquatic Resources</b>	AR-1: Change in Flows for Adult Steelhead Upstream Migration	Beneficial	None required	Beneficial
	AR-2: Change in Juvenile Steelhead Rearing Habitat	Beneficial	Mitigation Measure AR 5-2: Cooperate to help develop a Project to Maintain, Recover, or Increase Storage in Los Padres Reservoir and If Needed, Continue Funding Program to Rescue and Rear Isolated Juveniles	Beneficial
	AR-3: Improved Flows for Fall/Winter Downstream Migration	Beneficial	None required	Beneficial
	AR-4: Maintenance of Flows for Spring Emigration	Beneficial	None required	Beneficial
	AR-5: Changes in California Red-legged Frog Habitat Due to Changes in River Flows	Beneficial	None required	Beneficial
	AR-6: Changes in Habitat for Other Aquatic Species Due to Changes in River Flows	Beneficial	None required	Beneficial



Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
<b>Cultural Resources</b>	CR-1: Potential for Discovery of Buried Cultural Deposits and Human Remains during Construction of the Well and Pipelines	Significant	Mitigation Measure CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction Activities.  Mitigation Measure CR-2: Stop Work If Human Remains Are Encountered during Construction Activities.	Less than significant
<b>Geology, Soils, and Seismicity</b>	GS-1: Potential Short-Term Increase in Erosion Resulting from Project Construction	Less than significant	None required	Less than significant
	GS-2: Potential Structural Damage and Threat to Public Safety from Fault Displacement and Ground Shaking during a Seismic Event	Less than significant	None required	Less than significant
	GS-3: Potential Structural Damage and Threat to Public Safety from Earthquake-Induced Liquefaction and Lateral Spread	Less than significant	None required	Less than significant
	GS-4: Potential Rupture of Pipelines and Threat to Public Safety Caused by Expansive Soils and Pipeline Corrosion	Less than significant	None required	Less than significant
<b>Surface and Groundwater Hydrology and Water Quality</b>	GWH-1: Changes in Seaside Basin Groundwater Storage	Beneficial	None required	Beneficial
	GWH-2: Short-Term Changes in Seaside Basin Groundwater Quantity	Less than significant	None required	Less than significant
	GWH-3: Long-Term Changes in Seaside Basin Groundwater Levels	Beneficial	None required	Beneficial
	GWH-4: Changes in Seaside Basin Groundwater Levels in Overlying Units	Less than significant	None required	Less than significant
	GWH-5: Potential for Seaside Basin Hydrofracturing	Less than significant	None required	Less than significant
	GWH-6: Short-Term Change in Seaside Basin Groundwater Quality	Less than significant	Mitigation Measure GWH-1: Comply with Performance Standards in NPDES Permits	Less than significant

Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
	GWH-7: Long-Term Change in Seaside Basin Groundwater Quality From Mixing Groundwater with Injected Water	Less than significant	Mitigation Measure GWH-2: Operate Project in Compliance with SWRCB and DHS Policies  Mitigation Measure GWH-3: Modify Project Operations as Required by Results of Monitoring	Less than significant
	GWH-8: Changes in Seaside Basin Groundwater Quality Caused by ASR Well Operation Discharges	Less than significant	None required	Less than significant
	GWH-9: Changes in Seaside Basin Recovered Water Quality	Less than significant	None required	Less than significant
	GWH-10: Effects on Other Seaside Basin Groundwater Users	Beneficial	None required	Beneficial
	GWH-11: Changes in Carmel River Streamflow During High Flow Periods	Less than significant	Mitigation Measure GWH-4: Operate Project in Compliance with NOAA Fisheries Recommendations, and Reduce Unlawful Diversions	Less than significant
	GWH-12: Changes in Carmel Valley Alluvial Aquifer Storage During High Flow Periods	Beneficial	None required	Beneficial
	GWH-13: Changes in Carmel River Streamflow During Low Flow Periods	Less than significant	Mitigation Measure GWH-4: Operate Project in Compliance with NOAA Fisheries Recommendations, and Reduce Unlawful Diversions	Less than significant
	GWH-14: Changes in Carmel Valley Alluvial Aquifer Storage During Low Flow Periods	Beneficial	None required	Beneficial
<b>Land Use</b>	LU-1: Disruption of Existing Land Uses or Neighborhoods during Construction of the Well Site	Less than significant	None required	Less than significant

Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
	LU-2: Disruption of Existing Land Uses or Neighborhoods during Construction of the Santa Margarita Well Pipeline and New Well Pipeline	Less than significant	None required	Less than significant
	LU-3: Incompatibility with Existing Adjacent Land Uses from Operation of the Proposed Pipelines and Well	Less than significant	None required	Less than significant
	LU-4: Potential Inconsistencies with Relevant Land Use Plans and Policies from Operation of the Proposed Well and Pipelines	Less than significant	None required	Less than significant
<b>Noise</b>	NZ-1: Exposure of Noise-Sensitive Land Uses to Construction Noise in Excess of Applicable Standards	Significant	<p>Mitigation Measure NZ-1a: Prohibit Ancillary and Unnecessary Equipment During Nighttime Well Drilling Activities.</p> <p>Mitigation Measure NZ-1b: Employ Noise-Reducing Construction Practices to Meet Nighttime Standards.</p> <p>Mitigation Measure NZ-1c: Prepare a Noise Control Plan.</p> <p>Mitigation Measure NZ-1d: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program.</p>	Less than significant
	NZ-2: Exposure of Sensitive Land Uses to Construction-Related Vibration Levels in Excess of Applicable Standards	Significant	<p>Mitigation Measure NZ-1a</p> <p>Mitigation Measure NZ-1b</p> <p>Mitigation Measure NZ-1c</p> <p>Mitigation Measure NZ-1d</p>	Less than significant
	NZ-3: Exposure of Sensitive Land Uses to Operational Noise in Excess of City Standards	Significant	Mitigation Measure NZ-2: Design Pump Stations to Meet Local Noise Standards.	Less than significant

Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
<b>Hazardous Materials</b>	HAZ-1: Exposure of Employees and Public to Hazardous Materials during Construction of a Well and Pipelines at the Former Fort Ord	Significant	Mitigation Measure HAZ-1: Implement UXO Safety Precautions during Grading and Construction Activities at the Project Site.	Less than significant
	HAZ-2: Handling and Use of Hazardous Materials during construction within 0.25 Mile of a School	Less than significant	None required	Less than significant
	HAZ-3: Potential Creation of a Hazard to the Public and Environment from Routine Use of Hazardous Materials or Accidental Release of Hazardous Materials during Operation of the Well Site	Less than significant	None required	Less than significant
	HAZ-4: Handling of Hazardous Materials during operation within 0.25 Mile of a School	Less than significant	None required	Less than significant
	HAZ-5: Public Exposure to Contaminated Drinking Water	Less than significant	None required	Less than significant
<b>Public Services and Utilities</b>	PS-1: Increase in Solid Waste Generation and Construction Debris during Construction of Well and Pipelines	Less than significant	None required	Less than significant
	PS-2: Temporary Disruption of Existing Underground Utilities and Utility Service during Construction of Well and Pipelines	Significant	Mitigation Measure PS-2: Coordinate Relocation and Interruptions of Service with Utility Providers during Construction  Mitigation Measure PS-3: Protect All Existing Utilities Slated to Remain	Less than significant
	PS-3: Increased Demand for Electricity from Operation of ASR Facilities	Less than significant	None required	Less than significant
<b>Transportation and Circulation</b>	TR-1: Temporary Traffic Increase and Potential for Level of Service Degradation during Construction of Wells and Pipelines	Less than significant	None required	Less than significant
	TR-2: Potential Conflict with Fixed-Route Monterey-Salinas Transit Service during Construction of Wells and Pipelines	Less than significant	None required	Less than significant

Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
	TR-3: Potential Pedestrian and Bicycle Hazards from Pathway and Bikeway Closures or Disruption during Construction of Well and Pipelines	Less than significant	None required	Less than significant
	TR-4: Potential for Increased Traffic and Level of Service Degradation from Operation and Maintenance of the Well Site	Less than significant	None required	Less than significant
	TR-5: Increased Parking Demand Attributable to Operations and Maintenance of the Well	Less than significant	None required	Less than significant
<b>Visual Resources</b>	VIS-1: Temporary Alteration of Scenic Views during Construction of Well and Pipelines	Less than significant	None required	Less than significant
	VIS-2: Degrade Existing Visual Character during Construction of Well and Pipelines	Less than significant	None required	Less than significant
	VIS-3: Creation of Light and Glare during Construction of Well and Pipelines	Less than significant	None required	Less than significant
	VIS-4: Alteration of Existing Visual Character at Well Site	Less than significant	None required	Less than significant
	VIS-5: Creation of New Light and Glare at Well Site	Significant	Mitigation Measure VIS-3: Incorporate Light-Reduction Measures into the Plan and Design of Exterior Lighting at Well Site.	Less than significant
<b>Cumulative Impacts</b>	The Proposed Project could result in cumulative impacts on traffic and transportation	Less than significant	None required	Less than significant
	The Proposed Project could result in a considerable contribution to NOx and PM10 emissions when considered together with other projects that could be constructed in the same timeframe.	Significant	Mitigation Measure Cume-1: Coordinate with Relevant Local Agencies to Develop and Implement a Phased Construction Plan to Reduce Cumulative Traffic, Air Quality, and Noise Impacts	Less than significant

Issue Area	Potential Impact	Significance Determination without Mitigation	Mitigation	Significance Determination with Mitigation
	The Proposed Project could contribute considerably to construction noise and vibration, affecting sensitive receptors when considered together with other projects that could be constructed in the same timeframe in the same area and affecting the same sensitive noise receptors.	Significant	Mitigation Measure Cume-1	Less than significant
	Construction of the well and associated pipelines could result in the loss or disturbance to special-status plant and wildlife species or their habitat.	Less than significant	None required	Less than significant
	There would be a cumulative energy effect from the Proposed Project because operation of the new ASR well would require 10,000 kilowatt hours of electricity daily.	Less than significant	None required	Less than significant