

City of Pacific Grove

Monterey-Pacific Grove ASBS Stormwater Management Project

Final **Environmental Impact Report**

SCH#: 2013101005



April 2014

Monterey-Pacific Grove ASBS Stormwater Management Project

Final Environmental Impact Report

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Monterey-Pacific Grove ASBS Stormwater Management Project

Final Environmental Impact Report

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EXECUTIVE SUMMARY

This section summarizes the characteristics of the proposed project as well as the environmental impacts, mitigation measures, and residual impacts associated with implementation of the proposed project.

PROJECT SYNOPSIS

Project Proponent and Lead Agency

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Public Works Department
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Co-Sponsor and Responsible Agency

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Contact: Jeff Krebs, Senior Engineer

Project Description

The proposed project is the Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project (project). The primary purpose of the project is to improve stormwater quality prior to being discharged into the ASBS, in accordance with State Water Resources Control Board (SWRCB) standards. A secondary project purpose is to provide stormwater as a source of non-potable recycled water supply for local irrigation and regional groundwater replenishment.

The proposed project area is comprised of five associated components located primarily in the City of Pacific Grove, with a portion of one component located in the City of Monterey, California. The five components include:

- 1) *The former David Avenue Reservoir and adjacent inlet infrastructure improvements near the intersection of David Avenue, Terry Street, and Carmel Avenue (a portion of this project component is within the City of Monterey);*
- 2) *The Pine Avenue right-of-way between 7th Street and 18th Street;*
- 3) *The Ocean View Boulevard right-of-way from Forest Avenue west to the retired Pacific Grove Wastewater Treatment Plant (PGWTP) at the Point Pinos Lighthouse Reservation;*
- 4) *The retired PGWTP and adjacent Crespi Pond, located on the Pacific Grove Golf Links; and*
- 5) *The Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue (existing runoff diversion system to the Monterey Regional Water Pollution Control Agency [MRWPCA] Regional Wastewater Treatment Plant in Marina).*



Project Objectives. The primary goal of the project is to improve stormwater quality discharged into the Pacific Grove ASBS. In addition, key objectives of the project are:

1. *To meet the ASBS Special Protection requirements to implement structural best management practices (BMPs) to achieve up to a 90 percent reduction in pollutant loading during storm events, if the wet weather discharges are impacting natural water quality to comply with the ASBS water quality standards set by the SWRCB;*
2. *To conserve potable water by developing dry and wet weather storm system flows as a source of non-potable water for irrigation at the Pacific Grove Golf Links, El Carmelo Cemetery, and other feasible non-potable water demands;*
3. *To restore the David Avenue Reservoir to a year-round continuous reservoir;*
4. *To install necessary stormwater infrastructure and structural BMPs to comply with the Special Protections and National Pollutant Discharge Elimination System (NPDES) permit requirements, including: new stormdrain pipelines, stormwater treatment units, equalization basins, and lift stations so that runoff can be managed in an effective manner to protect water quality, and to allow the reuse of runoff either locally from David Avenue Reservoir, the proposed equalization systems, the planned Point Pinos Stormwater Treatment System and/or at MRWPCA future groundwater replenishment project;*
5. *To construct improvements in such a way as to allow the future addition of stormwater BMPs into the system to further enhance water quality and local reuse activities;*
6. *To expand the existing dry weather diversion system to collect runoff west of Lovers Point for discharge to the Point Pinos Stormwater Treatment Facility or the MRWPCA system for reuse in North Monterey County or the proposed groundwater replenishment project in Seaside.*
7. *To reduce regulatory uncertainty by addressing the requirements of the ASBS Special Protections that may impact the cities of Monterey and/or Pacific Grove if they do not participate in the project;*
8. *To construct a project that is both financially and technically feasible;*
9. *To construct a project that does not exceed MRWPCA Regional Treatment Plant (RTP) capacity; and*
10. *To construct a project that can be eligible for multiple funding opportunities.*

The project components are bordered by a range of low-density urban land uses. The following describes the surrounding land use pattern by component.

- 1) David Avenue Reservoir. The David Avenue Reservoir and adjacent inlet infrastructure would be improved to capture runoff from the portion of the ASBS watershed within the City of Monterey and release it from the reservoir into the existing City of Pacific Grove storm drain system for conveyance downhill (northward) to Pine Avenue. The reservoir site is bordered by single family residences to the east and west, Hillcrest Avenue and Pacific Grove Middle School to north, and David Avenue and single and multi-family residences to the south. This component comprises lands within the City of Pacific Grove and the City of Monterey.
- 2) Pine Avenue Conveyance. The Pine Avenue stormwater conveyance improvements would be located primarily within the Pine Avenue right-of-way, which is bordered to the northeast by single family residences, commercial uses, multi-family residences, professional offices, and City Hall and to the southwest by single family residences, Robert Down Elementary School, multi-family residences, and professional offices. This project component also includes installation of an underground stormwater



equalization/storage facility in the vicinity of Robert Down Elementary School, which is bounded by Pine Avenue and single family residences to the north, multi-family residences to the west, 12th Street and single family residences to the east, and Junipero Avenue and the Pacific Grove Community Center to the south.

- 3) Ocean View Boulevard Conveyance. The Ocean View Boulevard conveyance improvements would be located primarily within the Ocean View Boulevard right-of-way, which is surrounded by open space, pedestrian trails, and Monterey Bay to the north and east, and by single family residences and commercial uses to the south. At the western edge of this project component, Ocean View Boulevard is bounded to the south by Pacific Grove Golf Links, Crespi Pond, and the retired PGWTP. In addition to conveyance improvements within the right-of-way, this project component includes three new pump stations: at the Lovers Point parking lot; north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. The Lovers Point pump station would be surrounded by a parking lot to the east, south, and west and by the Monterey Bay Coastal Recreation Trail to the north. The Sea Palm pump station would be located primarily within a landscaped median, and bordered by a parking area and Monterey Bay to the north and Ocean View Boulevard to the south. The Coral Street pump station would be primarily within the Ocean View Boulevard right-of-way, bordered by single family residences to the south and open space and the Monterey Bay to the north.
- 4) Point Pinos Stormwater Treatment Facility and Crespi Pond. The retired PGWTP (referred to here as the Point Pinos Stormwater Treatment Facility) and Crespi Pond are surrounded by open space, pedestrian trails, and the Monterey Bay to the north, dune habitat restoration to the west, and the Pacific Grove Golf Links to the south and east.
- 5) Diversions to MRWPCA. This component would be primarily within or adjacent to the Ocean View Boulevard right-of-way east of Forest Avenue, which is bordered by open space, pedestrian trails, Hopkins Marine Station, and the Monterey Bay to the north and east, single family residences and commercial uses to the south and west.

ALTERNATIVES

Three alternatives to the proposed project were chosen for analysis as follows:

- *Alternative 1: No Project*
- *Alternative 2: Treatment at the MRWPCA WTP*
- *Alternative 3: Treatment at the Retired PGWTP*

The No Project alternative assumes that the proposed ASBS Stormwater Management Project is not constructed and the current uses of the five component sites would continue. However, the proposed Pacific Grove Local Water Project (PGLWP) may still move forward under this alternative, and thus, some improvements to the PGWTP site, outside of those proposed as part of this project, may still occur. Stormwater runoff under this alternative would continue to flow to the Monterey Bay as under current conditions.



The Treatment at the MRWPCA WTP alternative would divert both dry and wet-weather runoff from both Pacific Grove and New Monterey to the MRWPCA WTP in Marina.

The Treatment at the Retired PGWTP alternative would divert 100 percent of runoff to the retired PGWTP for treatment, rather than diverting a portion of the drainage area to the MRWPCA WTP, as in the proposed project.

Refer to Section 6.0, *Alternatives*, for complete descriptions of the three alternatives and the associated analysis.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1 includes a brief description of the environmental issues relative to the proposed project, the identified environmental impacts, proposed mitigation measures, and residual impacts. Impacts are categorized by significance. *Significant and unavoidable* adverse impacts (Class I) require a statement of overriding considerations to be issued per Section 15093 of the *State CEQA Guidelines* if the project is approved. *Significant but mitigable* impacts (Class II) are adverse impacts that can be feasibly mitigated to less than significant levels and which require findings to be made under Section 15091 of the *State CEQA Guidelines*. *Less than significant* impacts (Class III) would not exceed significance thresholds and therefore would not require mitigation.



**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measure	Residual Impact
AESTHETICS		
Impact AES-1 Several of the project component sites are located in visually-sensitive locations. However, given the nature of the proposed improvements, construction and operation of the project would not have a substantial adverse effect on a scenic vista. Impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact AES-2 Construction and operation of the proposed project would visually transform the existing character of the component sites. Considering the existing and historical uses of these sites, project features would not substantially degrade the existing character or quality of the sites. Impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact AES-3 The proposed project would introduce new sources of lighting at the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility. All new site lighting would be down-lit and directional in nature, consistent with City of Pacific Grove standards. Impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact AES-4 The proposed project would introduce glare at the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility sites. Impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
AIR QUALITY		
Impact AQ-1 The proposed project would not contribute to population growth, and would therefore be consistent with the growth assumptions in the Air Quality Management Plan (AQMP). This impact would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact AQ-2 Construction of the proposed project would result in the temporary generation of air pollutants, which would affect local air quality. Short-term emissions of PM ₁₀ during the	None required	Less than significant



**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

<p>construction period would not exceed MBUAPCD thresholds. Impacts would be Class III, <i>less than significant</i>.</p>		
<p>Impact AQ-3 The project does not have the potential to create objectionable odors that could affect neighboring properties. The construction of the Point Pinos Stormwater Treatment Facility would not emit compounds that would result in substantial objectionable odors. Therefore, impacts related to odors would be Class III, <i>less than significant</i>.</p>	<p>None required</p>	<p>Less than significant</p>
<p><i>BIOLOGICAL RESOURCES</i></p>		
<p>Impact B-1 Implementation of the proposed project could result in impacts to CRLF. This impact is Class II, <i>significant but mitigable</i>.</p>	<p>B-1(a) CRLF Consultation and Protocol Surveys. Prior to construction of the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project, a qualified biologist shall prepare a CRLF site assessment of the David Avenue Reservoir and Crespi Pond following the guidelines included in the USFWS <i>Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog</i> (USFWS, 2005). The site assessment shall be submitted to the USFWS for review and determination if a protocol survey is recommended for the project. If USFWS recommends completion of CRLF protocol surveys, a qualified biologist shall conduct protocol surveys prior to initiation of construction activity at the David Avenue Reservoir and prior to construction of the water conveyance structure between the Point Pinos Stormwater Treatment Facility and Crespi Pond and any associated work within Crespi Pond. Protocol surveys shall be conducted in accordance with the USFWS guidelines (USFWS, 2005). If preconstruction surveys are negative for CRLF, then no further action is required.</p> <p>B-1(b) Worker Environmental Awareness Program (WEAP) Training. WEAP training shall be provided to all construction personnel prior to onset of construction at the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project. Training shall include how to recognize CRLF and review of applicable avoidance measures to protect the species. Construction personnel shall also be informed that if a CRLF is encountered in the work area, a qualified biologist shall be contacted and construction shall stop</p>	<p>Less than significant</p>



**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<p>until the animal leaves the area of its own volition.</p> <p>B-1(c) Pre-construction Surveys for CRLF. A qualified biologist shall conduct a pre-construction CRLF survey immediately prior to any ground disturbing activities at the David Avenue Reservoir and Crespi Pond and shall be on-site during all vegetation clearing and ground disturbing activities. If a CRLF is encountered in the work area, construction shall not begin until the animal leaves the area of its own volition.</p> <p>B-1(d) Submission of Biologist Qualifications. At least 15 days prior to the onset of construction activities for the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project, the project proponent shall submit the name(s) and credentials of biologist(s) who would conduct activities specified in these measures to the City of Pacific Grove and/or USFWS. No project activities shall begin until the project proponent has received written approval from the City of Pacific Grove that the biologists are qualified to conduct the work.</p> <p>B-1(e) Construction Fencing. A temporary silt fence or other wildlife exclusion fencing suitable for amphibians shall be erected along the perimeter of the construction areas at the David Avenue Reservoir and at the site of construction for the water conveyance structure between the Point Pinos Stormwater Treatment Facility and Crespi Pond to prevent entry of CRLF into the construction area and to deter construction personnel from accessing adjacent habitat. The qualified biologist shall verify appropriate placement of the construction fencing prior to the start of construction. The fence shall be inspected on a daily basis to ensure that it remains in place without any breaks or openings. No construction activity shall be allowed until this condition is satisfied. No grading, clearing, storage of equipment or machinery, or other disturbance or activity may occur until the qualified biologist has inspected and approved all temporary construction fencing.</p> <p>B-1(f) CRLF Entrapment Avoidance. To avoid entrapment of CRLF, all excavated steep-walled holes or trenches more than 12 inches deep shall be provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work</p>	
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**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<p>day. If escape ramps cannot be provided, then holes or trenches shall be covered with plywood or similar materials. Providing escape ramps or covering open trenches is anticipated to prevent injury or mortality of individuals resulting from falling into trenches and becoming trapped. The trenches shall be thoroughly inspected for the presence of CRLF prior to covering and at the beginning of each workday by a designated person trained by the qualified biologist. This person shall report daily during construction to the qualified biologist on the findings of these inspections.</p> <p>B-1(g) Trash Disposal. All food-related garbage shall be placed in tightly sealed containers at the end of each workday to avoid attracting predators. Containers shall be emptied and garbage removed from the construction site at the end of each work week. If sealed containers are not available, garbage shall be removed from the construction site upon completion of daily activities. All garbage removed from the construction site shall be disposed of at an appropriate off-site refuse location.</p> <p>B-1(h) Construction Timing. All construction activities shall be performed during daylight hours or with suitable lighting so that frogs can be seen.</p> <p>B-1(i) Work Restrictions During Precipitation. No ground disturbing work shall occur during rain events of more than 0.5 inches in 24 hours.</p>	
<p>Impact B-2 Implementation of the proposed project could result in impacts to western pond turtle. This impact is Class II, <i>significant but mitigable</i>.</p>	<p>B-2 Pre-construction Surveys for Western Pond Turtle. A qualified biologist shall conduct a pre-construction survey immediately prior to any ground disturbing activities at the David Avenue Reservoir and at the site of construction for the water conveyance and dissipation structures between the Point Pinos Wastewater Treatment Facility and Crespi Pond, and shall be on-site during all vegetation clearing and ground disturbing activities at these locations. If a western pond turtle is encountered in the work area, the qualified biologist shall relocate individuals to a part of Crespi Pond where no construction activity would occur.</p>	<p>Less than significant</p>
<p>Impact B-3 Implementation of the proposed project could result in impacts to white-tailed kite and other nesting bird species. This impact is Class II, <i>significant but mitigable</i>.</p>	<p>B-3(a) Tree Removal Conducted Outside of Nesting Season. Every effort shall be made to conduct all, or the majority, of tree removal activity at the David Avenue Reservoir during the non-nesting season (September 16 to January 31). No trees shall be removed from the David Avenue Reservoir site during the nesting</p>	<p>Less than significant</p>



**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<p>season (February 1 through September 15) unless there is no reasonable alternative, and removal during the non-nesting season is not possible.</p> <p>B-3(b) Preconstruction Surveys for Nesting Birds. For construction activities occurring during the nesting season (February 1 to September 15) and for any tree removal that would occur during the nesting season at any project component, surveys for nesting birds covered by the CFGC and the MBTA (including, but not limited to, white-tailed kite, red-tailed hawk and red-shouldered hawk) shall be conducted by a qualified biologist no more than 14 days prior to initiation of construction activities for each component project site where construction staging and tree or other vegetation removal would occur. The surveys shall include the entire disturbance area plus a 200 foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The biologist shall have full discretion for establishing a suitable buffer. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.</p>	
<p>Impact B-4 The proposed project would involve removal of established wetland habitat on-site and discharge of non-potable water into the Pacific Ocean, thus impacting waters of the state and waters of U.S. These impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>B-4 Jurisdictional Delineation. Once final design has been developed, but prior to the start of construction, a qualified biologist shall conduct a jurisdictional delineation of the David Avenue Reservoir and Crespi Pond disturbance areas where construction activity could affect jurisdictional waters. The jurisdictional delineation shall determine if features are under the jurisdiction of CDFW, USACE, RWQCB, and/or other regulatory agencies. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the implementing entity, CDFW, USACE, RWQCB (and other agencies if necessary), as appropriate for review and approval. Prior to construction, all necessary permits shall be obtained from each agency where applicable. If it is determined that no jurisdictional waters would be impacted by project development, no further</p>	<p>Less than significant</p>



**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	action is required. If the project would impact waters of the State and/or waters of the US, consultation with CDFW, RWQCB, and/or USACE shall be initiated, and applications for any required permits (SAA, 404, 401, and/or WDR) shall be prepared and submitted to the requisite agencies.	
Impact B-5 Implementation of the proposed project could result in impacts to trees protected under the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance. This impact is Class III, <i>less than significant</i> .	None required	Less than significant
Impact B-6 Implementation of the proposed project could result in impacts to hoary bat. However, the project would not modify the quality of foraging habitat, nor impact foraging behavior. This impact is Class III, <i>less than significant</i> .	None required	Less than significant
CULTURAL RESOURCES		
Impact CR-1 Construction of the proposed project would involve surface excavation, which has the potential to unearth or adversely impact prehistoric or archaeological resources. Impacts would be Class II, <i>significant but mitigable</i> .	<p>CR-1(a) Phase II Archaeological Assessment. Prior to the issuance of any building or grading permits for the Ocean View Boulevard Conveyance component, a Phase II Archaeological Assessment shall be completed for that portion of the project by a licensed archaeologist. This assessment shall be submitted for review and approval by the City of Pacific Grove. Any recommendations given in the Assessment shall be included as notes on any grading or building permit issued for the project site. Such recommendations may include, but would not be limited to: site avoidance and cataloging of any finds.</p> <p>CR-1(b) Archaeological Monitor. The following notes shall appear on all grading permits issued for the Ocean View Boulevard Conveyance improvements:</p> <ul style="list-style-type: none"> A qualified archaeological monitor shall be present during all project excavations for the pump stations within the boundaries of the archaeological sites at Lovers Point, the foot of Sea Palm Avenue, and the Coral Street Pump Station. The monitor shall document and recover any potentially significant cultural materials that may be found in the excavated soil. Excavated soil may be screened to assist in such data recovery. 	Less than significant



**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<ul style="list-style-type: none"> If, at any time, intact midden containing potentially significant cultural materials or features is encountered, work shall be halted until the monitor and/or the principal archaeologist has evaluated the discovery. If the find is determined to be significant, appropriate data recovery mitigation shall be developed, with the concurrence of the City of Pacific Grove, and implemented. 	
<p>Impact CR-2 Construction of the proposed project would involve surface excavation. Although unlikely, construction activities have the potential to unearth or impact previously unidentified prehistoric or archaeological cultural resources. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>CR-2(a) Archaeological Resource Construction Monitoring. Prior to the commencement of construction activities for each component of the project, an orientation meeting shall be conducted by an archaeologist, general contractor, subcontractor, and construction workers associated with earth disturbing activities. The orientation meeting shall describe the potential of exposing archaeological resources, the types of cultural materials may be encountered, and directions on the steps that shall be taken if such a find is encountered.</p> <p>A qualified archaeologist shall be present during all initial earth moving activities for each component. In the event that unearthed prehistoric or archaeological cultural resources or human remains are encountered during project construction, mitigation measure CR-2(b) shall take effect.</p> <p>CR-2(b) Unearthed Prehistoric or Archaeological Cultural Remains. If prehistoric or archaeological cultural resource remains are encountered during construction or land modification activities, work shall stop and the City of Pacific Grove shall be notified at once to assess the nature, extent, and potential significance of any prehistoric or archaeological cultural remains. The City shall implement a Phase II subsurface testing program to determine the resource boundaries within the project component/impact area, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts.</p> <p>If the site is determined significant, the City may choose to cap the resource area using culturally sterile and chemically neutral fill material. A qualified archaeologist shall be retained to monitor the placement of fill upon the site. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant prehistoric or</p>	<p>Less than significant</p>



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	archaeological cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping and or further archaeological investigation shall be required. The results and recommendations of the Phase II study shall determine the need for construction monitoring.	
Impact CR-3 Construction of the proposed project would involve surface excavation, which has the potential to unearh or adversely impact previously unidentified human remains. Pursuant to compliance with California Health and Safety Code Section 7050.5 requirements, impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact CR-4 Construction of the proposed project would involve surface excavation. Although unlikely, these activities have the potential to unearh and/or impact paleontological resources. Impacts would be Class II, <i>significant but mitigable</i> .	CR-4 Paleontological Resource Construction Monitoring. Any excavations exceeding three feet in depth at the David Avenue Reservoir or Pine Avenue Conveyance components of the project shall be monitored on a full-time basis by a qualified paleontological monitor. Ground disturbing activity that does not exceed three feet in depth shall not require paleontological monitoring. If no fossils are observed during the first 50 percent of excavations exceeding three feet in depth, paleontological monitoring shall be reduced to weekly spot-checking under the discretion of the qualified paleontologist. If fossils are discovered, the qualified paleontologist (or paleontological monitor) shall recover them. Typically fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection, along with all pertinent field notes, photos, data, and maps.	Less than significant
GEOLOGY/SOILS		
Impact GEO-1. The project could expose people or structures to substantial adverse effects involving strong seismic shaking or seismic-related ground failure, including liquefaction,	GEO-1(a) DSOD Oversight. The City of Pacific Grove shall designate the DSOD the applicable oversight agency with respect to design, construction, maintenance, operation, emergency response and eventual in operation and/or removal. The DSOD	Less than significant



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<p>landslides, subsidence, lurch cracking, and lateral spreading. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>shall accept oversight pursuant to <i>Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs</i> (DSOD, n.d.). Compliance shall be verified by the City Engineer. If the DSOD declines to regulate the reservoir, mitigation measures GEO-1(c) through GEO-1(e) shall be implemented.</p> <p>GEO-1(b) Emergency Action Plan (EAP). An EAP shall be developed to address site specific scenarios following the Department of Water Resources DSOD Sample EAP (Pacific Geotechnical, November 25, 2013) contained in Appendix F. The EAP shall be distributed to emergency managers and law enforcement as well as dam operators and oversight agencies. The EAP shall be designed to facilitate and organize actions during emergencies. The EAP shall include notification requirements and actions for different types and levels of emergencies specific to the proposed David Avenue Reservoir design and operation. The EAP shall also contain dam operator staff training guidance, EAP annual review guidance, and a process for incorporating revisions as necessary to ensure the EAP covers applicable emergency scenarios. EAP preparation and consistency with the Sample EAP shall be verified by the City Engineer.</p> <p>GEO-1(c) Preliminary Geotechnical Study. Prior to finalizing the preliminary design of the David Avenue Reservoir, the initial phase of geotechnical investigation shall consist of a sufficient number of exploratory borings and cone penetration tests to adequately characterize the extent of past grading and depth of fill as well as the underlying native materials. Secondly, the preliminary seismic analysis to determine seismic loading shall be conducted based on current seismic parameters for the site and current code standards. Liquefaction potential of the foundation materials shall be re-analyzed using current seismic parameters. The preliminary investigation shall include but not be limited to:</p> <ul style="list-style-type: none"> • <i>Geologic mapping.</i> • <i>Analysis and subsurface mapping to define the extent of past grading at the site.</i> • <i>Areal extent and depth of fill currently at the site.</i> • <i>Hydrologic characteristics of the bedrock and alluvial materials to better understand the groundwater flow regime and how it would affect the proposed design.</i> 	
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**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<p>The results of this investigation shall be utilized to determine the critical design considerations and shall be followed in the design process. Compliance shall be verified by the City Engineer.</p> <p>GEO-1(d) Design-Level Geotechnical Study and Oversight. After an initial investigation has addressed the liquefaction hazard and seismic setting of the David Avenue Reservoir site, subsequent phases of investigation shall be geared towards final design. The City of Pacific Grove Public Works Division shall be consulted when determining the scope and requirements for the Design-Level Geotechnical Investigation. At a minimum, the Design-Level Geotechnical Investigation shall include:</p> <ul style="list-style-type: none"> • <i>Liquefaction and subsidence potential</i> • <i>Seismic stability</i> • <i>Static Stability</i> <p>The results of the Design-Level Geotechnical Investigation shall be utilized to refine the final design such that the proposed design would be stable under static and seismic conditions pursuant to current code standards and applicable standards of the DSOD. All earthwork operations, including site preparation and grading, shall be performed in accordance with the recommendations and the project specifications set forth in the design-level geotechnical report. Earthwork recommendations may include, but would not be limited to, the following:</p> <ul style="list-style-type: none"> • <i>Removal of unsuitable soil materials</i> • <i>Recommendations for compaction</i> • <i>Recommendations for outflow and drainage</i> • <i>Recommendations for installation of the liner</i> • <i>Recommendations for key-ins</i> <p>All earthwork operations shall be performed under the observation of a Professional Geologist to ensure that the site is properly prepared, the selected fill materials (if used) are satisfactory, and placement and compaction of the fill has been performed in accordance with the report recommendations and project specifications. Sufficient notification prior to earthwork shall be given. Compliance shall be verified by the City Engineer.</p>	
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**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<p>GEO-1(e) Safety Measures. Safety measures applicable to the David Avenue Reservoir shall be incorporated into the design components, operational directives, and maintenance directives as indicated below to protect life and property. These design components, operational directives and maintenance directives shall be consistent with applicable standards of the Division of Safety of Dams under the oversight of a Professional Geologist and Registered Civil Engineer specializing in the design and maintenance of dams and reservoirs. Compliance shall be verified by the City Engineer. Design components, operational directives and maintenance directives consistent with the proposed double lined pond system could include but would not be limited to the following:</p> <ul style="list-style-type: none"> • <i>Design Components</i> <ul style="list-style-type: none"> ○ <i>Settlement monuments mounted within the embankment to monitor stability.</i> ○ <i>Vibrating wire piezometers beneath the liner and standpipe piezometers along the crest of the embankment to monitor pore water pressure.</i> ○ <i>Pumping system with automated level controls to prevent build-up of water on the lower liner.</i> ○ <i>A strobe light and alarm on the control system panel to indicate if the water within the sump is too high, providing an indication that the pumping system is not working properly, or if a significant breach of the primary liner has occurred.</i> ○ <i>Flow meter with a totalizing function to indicate the amount of solution that has been pumped.</i> ○ <i>Continuous monitoring at specific intervals with real time monitoring from a remote location if desired.</i> • <i>Operational Directives</i> <ul style="list-style-type: none"> ○ <i>First Month of Initial Operation</i> <ul style="list-style-type: none"> ▪ <i>Monitoring of the settlement monuments and piezometers (if installed) on a weekly basis during the initial filling or whenever the reservoir is filled quickly.</i> ▪ <i>Upon initial filling, check the sump daily for proper operation and to determine if there is any leakage.</i> 	
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 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<ul style="list-style-type: none"> ○ Quarterly <ul style="list-style-type: none"> ▪ Settlement monuments and piezometers (if installed) and the sump system should be monitored quarterly and immediately after each significant seismic event (site acceleration over 0.1g). ▪ Visual inspection of the embankment and lined area. • Maintenance Directives ○ Precautionary Maintenance <ul style="list-style-type: none"> ▪ If there are any indications of the embankment and liner system being compromised, the reservoir shall be drained and examined for deficiencies. ▪ Leakage through the primary liner that does not exceed 1,000 gallons per acre of reservoir area shall be pumped out via sump. ▪ If leakage through the primary liner exceeds 1,000 gallons per acre of reservoir area, or the sump is not able to pump as much as is leaking, the reservoir shall be drained as soon as practical during a dry part of the year, the leaks located, and the primary liner repaired. ○ Deficiency Response <ul style="list-style-type: none"> ▪ Each deficiency shall be examined for the potential cause and risk level. For high hazards such as slope failure or liner breach, the municipality shall be notified immediately and emergency actions shall be taken. ▪ For lesser hazards, the municipality shall be notified verbally immediately upon completion of the inspection and a formal report filed with recommended actions provided within one week. ▪ The EAP shall be implemented and followed in response to any deficiencies identified during operation and maintenance of the reservoir (refer to Mitigation Measure GEO-1[b]). 	
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**Table ES-1
 Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts**

	<p>GEO-1(f) Compliance with Geotechnical Recommendations. Geotechnical recommendations shall be utilized to finalize the design of the Point Pinos Stormwater Treatment Facility and Crespi Pond. All earthwork operations at the Point Pinos Stormwater Treatment Facility and Crespi Pond site, including clearing and grubbing , excavations and shoring, subgrade preparation, engineered fill, utility trench excavation, cut and fill slopes, wet weather construction and foundations, shall be performed in accordance with the recommendations set forth in the geotechnical report (Pacific Geotechnical Engineering, August 2013). Compliance shall be verified by the City Engineer.</p>	
<p>Impact GEO-2. Project construction and development could result in soil erosion or loss of topsoil, and project components located along Ocean View Boulevard may be susceptible to coastal erosion. However, compliance with existing regulations would reduce impacts to a Class III, <i>less than significant</i>, level.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact GEO 3. Some of the project components would be located on soils with moderate or high shrink-swell potential. The impact would be Class II, <i>significant but mitigable</i>.</p>	<p>GEO-3(a) Robert Down Elementary School Geotechnical Study and Geotechnical Oversight. A Geotechnical Study shall be performed by a licensed Professional Geologist to characterize the on-site soils and provide engineering recommendations that would facilitate construction of the equalization and storage facility proposed in the athletic field south of Robert Down Elementary School. The Geotechnical Study shall include recommendations that reduce the potential for adverse effects from expansive soils. Earthwork recommendations related to expansive soil conditions may include, but would not be limited to, the following:</p> <ul style="list-style-type: none"> • <i>Selective grading to avoid expansive soil;</i> • <i>Use of non-expansive fill material;</i> • <i>Treating expansive areas with additives to lower the expansion index; and/or</i> • <i>Specifying a flexible containment system for the equalization facility.</i> <p>All earthwork operations shall be performed under the observation of a Professional Geologist to ensure that the site is properly prepared, the selected fill materials (if used) are satisfactory, and placement and compaction of the fill has been performed in accordance with the report recommendations and project specifications. Sufficient notification prior to earthwork shall be given.</p>	<p>Less than significant</p>



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GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE		
Impact GHG-1 The proposed project would generate GHG emissions during construction and operation. However, GHG emissions generated by the project would not exceed the significance threshold of 1,150 MT CO2 per year. Impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact GHG-2 The proposed project would not conflict with California GHG reduction goals, or any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be Class III, <i>less than significant</i> .	None required	Less than significant
HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1 Construction and operation of the proposed project may include the use, storage, and/or transport of hazardous materials. Compliance with existing laws and regulations governing the use, transport and/or storage of hazardous materials would reduce impacts to Class III, <i>less than significant</i> .	None required	Less than significant
Impact HAZ-2 Underground utilities lines may be located beneath the project component areas. Construction of the proposed project would be affected by the presence of these lines. Impacts would be Class II, <i>significant but mitigable</i> .	HAZ-2 Utility Line Location and Consultation. Prior to construction of each project component, the contractor shall determine the presence and exact location of any underground utility lines that correspond to the project area. In addition, the presence of any above-ground utility lines in close proximity to the project area shall be determined. If any utility lines are found to be in proximity to a project component, the contractor shall contact the utility line operator regarding any regulations for grading and construction activities near the lines. The project component shall be constructed and designed in compliance with all regulations and policies set forth by the City of Pacific Grove.	Less than significant
Impact HAZ-3 The proposed project has components that are within ¼ mile of a school. However, the proposed project would not include the handling or emitting of acutely hazardous materials; therefore, impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact HAZ-4 Some project components would be located on a or near site which is included on	HAZ-4 Soil and Groundwater Sampling and Remediation. Prior to issuance of grading permits for the Ocean View Boulevard	Less than significant



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<p>a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Grading associated with construction could expose construction workers to health hazards by releasing contaminants that could be present in the soil or groundwater. This construction-related hazard is a Class II, <i>significant but mitigable</i>, impact.</p>	<p>Conveyance, a soil and groundwater assessment shall be completed for that component under the supervision of a professional geologist, hydrologist or professional civil engineer to determine the presence or absence of contaminated soil and groundwater. If soil or groundwater sampling indicates the presence of any contaminant in quantities not in compliance with applicable laws or regulations, the project proponent shall coordinate with City of Pacific Grove Environmental Health Services to develop and implement a program to remediate or manage the contaminated soil during construction. Disposal shall occur at an appropriate facility licensed to handle such contaminants and remedial excavation shall proceed under the supervision of an environmental consultant licensed to oversee such remediation. The remediation/disposal program shall be approved by City of Pacific Grove Environmental Health Services. The project proponent shall submit all correspondence to City of Pacific Grove Environmental Health Services prior to issuance of grading permits. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation/disposal, a qualified environmental consultant shall prepare a report summarizing the project, the remediation/disposal approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.</p>	
<p>HYDROLOGY AND WATER QUALITY</p>		
<p>Impact HYD-1 Site preparation, grading and construction activities could degrade water quality due to the potential for erosion and sedimentation. However, compliance with existing federal, state, and local requirements would ensure that impacts remain Class III, <i>less than significant</i>.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact HYD-2 The proposed project would serve to improve water quality by diverting stormwater, providing treatment, and allowing for re-use as irrigation water. This is a Class IV, <i>beneficial</i>, impact.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact HYD-3 The proposed project involves upgrades and redevelopment of existing infrastructure at five different stormwater conveyance sites within the City of Pacific Grove,</p>	<p>None required</p>	<p>Less than significant</p>



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<p>as well as infrastructure improvements in the City of Monterey. The project would not introduce substantial additional impervious surfaces, and would not, therefore, increase the potential for downstream flooding or increased erosion. Impacts would be Class III, <i>less than significant</i>.</p>		
<p>Impact HYD-4 The proposed project would involve construction of drainage facilities in an area that is subject to inundation by a tsunami and may be subject to shoreline retreat associated with sea level rise. Impacts would be Class III, <i>less than significant</i>.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact HYD-5 The proposed project would rehabilitate an existing reservoir, which would include improvements to enable water storage behind an existing dam. The potential for dam failure as a result of the proposed improvements is a Class II, <i>significant but mitigable</i>, impact.</p>	<p>Mitigation measures GEO-1(a) through GEO-1(e) in Section 4.5, Geology/Soils, would provide the necessary geotechnical oversight and design specifications to ensure that the proposed David Avenue Reservoir project component is constructed, maintained, and operated in a manner that reduces the potential adverse effects relating to dam failure to a level that is less than significant. The remaining project components do not require mitigation for dam failure.</p>	<p>Less than significant</p>
<p>LAND USE AND PLANNING</p>		
<p>Impact LU-1 Based on the design of project components and following implementation of the mitigation measures identified throughout this EIR, the proposed project would be consistent with applicable policies of the City of Pacific Grove's General Plan, including its Local Coastal Program. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>Mitigation measures outlined in Sections 4.1 to 4.12 would achieve consistency with applicable policies included in the adopted General Plan, including the Local Coastal Program. No further mitigation measures would be required.</p>	<p>Less than significant</p>
<p>NOISE</p>		
<p>Impact N-1 Operation of heavy equipment during construction of all components of the proposed project would result in a temporary noise level increase that could disturb nearby sensitive receptors. Impacts would be Class II, <i>significant but mitigable</i>.</p>	<p>N-1(a) Construction Hours. Hours of construction for the David Avenue Reservoir, Pine Avenue Conveyance, Ocean View Boulevard Conveyance, and Diversions to MRWPCA components of the project shall be limited to the hours between 8:00 AM and 7:00 PM on weekdays and 9:00 AM to 4:00 PM on Saturdays. No construction work shall be allowed to occur on Sundays or other federal, state or local holidays. The portions of the David Avenue Reservoir and Diversions to MRWPCA which are in the City of Monterey would be subject to less restrictive construction hours based on the MCC; however, since portions of the component are also in the City of Pacific Grove, the more restrictive hours shall be applied.</p>	<p>Less than significant</p>



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	<p>N-1(b) Construction Equipment. Stationary construction equipment that generates noise that exceeds 70 dB at the boundaries of adjacent sensitive receptors shall be baffled to reduce noise and vibration levels. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines shall be prohibited.</p> <p>N-1(c) Noise Mitigation and Monitoring Program. For the David Avenue Reservoir and Diversions to MRWPCA, the construction contractor shall provide, to the satisfaction of the City of Monterey Planning Office, a Noise Mitigation and Monitoring Program, as described below. For all components of the project, the construction contractor shall provide, to the satisfaction of the City of Pacific Grove Planning Division, a Noise Mitigation and Monitoring Program that requires all of the following:</p> <ul style="list-style-type: none"> • Construction contracts that specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices. • That all property owners and occupants located within 300 feet of project components shall be sent a notice, at least 15 days prior to commencement of construction, regarding the construction schedule of the project. All notices shall be reviewed and approved by the appropriate City Planning Office/Division prior to the mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and telephone number where residents can inquire about the construction process and register complaints. Notices shall be sent to affected property owners within both the City of Pacific Grove and City of Monterey where applicable. • That prior to issuance of any grading or building permit, the construction contractor shall demonstrate to the satisfaction of the appropriate City Planning Office/Division how construction noise reduction methods such as shutting off idling equipment and vehicles, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance 	
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**Table ES-1
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	<p>between construction equipment staging and parking areas and occupied residential areas, and electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.</p> <ul style="list-style-type: none"> • That during construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers. • For all noise-generating construction activity on each component site, additional noise attenuation techniques shall be employed to reduce noise levels to the maximum extent feasible. Such techniques may include, but are not limited to: the use of sound blankets on noise generating equipment and the construction of temporary sound barriers between the construction site and nearby sensitive receptors. <p>N-1(d) Staging Areas. The construction contractor shall provide staging areas on-site to minimize off-site transportation of heavy construction equipment. These areas shall be located to maximize the distance between activity and sensitive receptors (neighboring residences). This would reduce noise levels associated with most types of idling construction equipment.</p> <p>N 1(e) Electrically-Powered Tools and Facilities. Electrical power shall be used to run air compressors and similar power tools and to power any temporary structures, such as construction trailers.</p>	
<p>Impact N-2 Project construction would result in a short-term increase in vehicle trips to and from the project site that could increase traffic noise on area roadways. However, this noise would not result in a substantial increase in ambient noise levels on affected roadways that would impact nearby sensitive noise receptors. This impact would be Class III, <i>less than significant</i>.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact N-3 Construction of the proposed project would involve the use of construction equipment, including loaded trucks, jackhammers, and bulldozers, which could result in temporary groundborne vibration that could disturb nearby sensitive receptors. This impact would be Class II, <i>significant but mitigable</i>.</p>	<p>N-3 Vibration Mitigation. Vibration-generating construction activities associated with the installation of storm drain conveyance pipeline beneath Pine Avenue and the installation of an underground stormwater equalization/storage facility at Robert Down Elementary School shall not occur simultaneously. Equipment used for these activities shall be limited to 20 tons, and</p>	<p>Less than significant</p>



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	heavily-loaded trucks shall be routed away from professional offices on Pine Avenue, Pacific Grove City Hall, Pacific Grove Recreation Department and Youth Center, and the Robert Down Elementary School. Earth-moving equipment shall be operated as far from these uses as possible.	
PUBLIC SERVICES AND UTILITIES		
Impact PSU-1 The amount of solid waste that would be generated during construction and operation of the proposed project would not exceed the surplus capacity of the landfill serving the site. Impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
Impact PSU-2 The proposed project would divert some stormwater to the MRWPCA Regional Treatment Plant via the Fountain Pump Station in Pacific Grove. The diverted stormwater would not exceed the capacity of the Fountain Pump Station or the Regional Treatment Plant. Impacts would be Class III, <i>less than significant</i> .	None required	Less than significant
TRANSPORTATION/TRAFFIC		
Impact T-1 Construction of the proposed project would result in changes to intersection operations and roadway traffic. The project would generate new truck trips as part of the construction phase and would require temporary block closures during construction. Impacts would be Class II, <i>significant but mitigable</i> .	<p>T-1(a) Temporary Traffic Handling Plans. Plans shall be prepared for the proposed lane reductions on Pine Avenue and Ocean View Boulevard as part of the Pine Avenue Conveyance and Ocean View Boulevard Conveyance components of the project, respectively. The plans shall be prepared in accordance with the latest California Manual on Uniform Traffic Control Devices (CA MUTCD) and Work Area Traffic Control Handbook (WATCH) manual requirements (where appropriate) and contain provisions for handling bike and pedestrian traffic, as well as ensuring access to neighboring facilities and residences during construction and ensuring emergency access to fire hydrants along all roadways. The plans shall be reviewed and approved by the City of Pacific Grove Public Works Department prior to construction. At each of the lane closure locations and at the intersection of Pine Avenue and Forest Avenue, a traffic flagger shall be utilized to ensure that traffic can be safely accommodated through the closures during construction. In addition, traffic flaggers shall be utilized to handle school/pedestrian traffic crossing if construction on Pine Avenue is to occur during school hours.</p> <p>T-1(b) City Staff Coordination. For the Point Pinos Stormwater Treatment Facility and Crespi Pond and Diversions to MRWPCA</p>	Less than significant



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	Components of the project, the project administrator shall coordinate with City staff regarding the duration and locations of short-term traffic diversions. Temporary traffic handling plans shall be prepared when necessary to detour traffic to appropriate locations. In addition, the daytime hours of traffic diversion shall be restricted to allow for adequate traffic flow at high traffic volume locations during peak commute hours.	
Impact T-2 Construction of the proposed project would generate temporary traffic at the intersection of David Avenue and Forest Avenue. Impacts to this intersection's level of service would be Class III, <i>less than significant</i> .	None required	Less than significant



1.0 INTRODUCTION

This Environmental Impact Report (EIR) has been prepared to evaluate potential environmental impacts associated with the proposed Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project (project). The purpose of the project is to improve stormwater quality discharged into the ASBS, in accordance with State Water Resources Control Board (SWRCB) standards. As discussed in detail in Section 2.0, *Project Description*, the project area comprises five associated components located primarily in the City of Pacific Grove, with a portion of two components located in the City of Monterey, California.

The City of Pacific Grove is the public agency with the principal responsibility for approving the project, and as such is the lead agency for this project under the California Environmental Quality Act of 1970 (CEQA) as defined in *State CEQA Guidelines* Section 15367. The City of Monterey is a co-sponsor of the project and will be a responsible agency under CEQA. CEQA requires the lead agency to consider the information contained in the EIR prior to taking any discretionary action. This EIR is intended to serve as an informational document to be considered by the City and other permitting agencies during their respective processing of permits for the proposed project.

This EIR has been prepared in accordance with CEQA, as amended (Public Resources Code [PRC] Section 21000, et seq.), and the *State CEQA Guidelines* for implementation of CEQA (California Code of Regulations [CCR], Title 14, Section 15000 et seq.). This EIR also complies with the procedures established by the City for implementation of CEQA. The report was prepared by professional planning consultants in conjunction with City of Pacific Grove and City of Monterey staff.

This section describes: (1) the purpose and legal authority of the EIR; (2) public involvement in the EIR process; (3) the scope and content of the EIR; (4) lead, responsible, and trustee agencies; and (5) the environmental review process required under CEQA.

1.1 PURPOSE AND LEGAL AUTHORITY

This EIR has been prepared to evaluate environmental impacts that may result from implementation of the proposed project. As the lead agency, the City of Pacific Grove has prepared this Draft EIR, and will prepare a Final EIR that incorporates responses to comments on the Draft EIR. The Pacific Grove City Council will consider certification of the Final EIR and approve or deny the proposed project. As a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR.

The City of Pacific Grove has the authority to take discretionary actions relating to development of the proposed project and may conditionally approve or deny the Use Permit and related Encroachment Permits. As stated previously, this EIR is intended to serve as an informational document to be considered by the City during permit considerations on the proposed project. This EIR evaluates and identifies mitigation measures to address the potential impacts associated with the proposed project. The EIR also discloses growth-inducing impacts; impacts found not to be significant; and significant cumulative impacts of past, present, and reasonably anticipated future projects.



This EIR serves as a Project EIR pursuant to the *State CEQA Guidelines* (CCR Title 14, Chapter 3, Sections 15000-15387), Sections 15161 and 15168(a)(2), respectively. According to Section 15161 of the *State CEQA Guidelines*, a Project EIR is appropriate for specific development projects in which information is available for all phases of the project, including planning, construction, and operation. This EIR provides project-level analysis for all aspects of the project.

CEQA requires the lead agency to consider the information contained in the EIR prior to taking any discretionary action. This EIR provides information to the lead agency and other public agencies, the general public, and decision makers regarding the potential environmental impacts from the construction and operation of the proposed project. The purpose of the public review of the EIR is to evaluate the adequacy of the environmental analysis in terms of compliance with CEQA. Section 15151 of the *State CEQA Guidelines* states the following regarding standards from which adequacy is judged:

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have not looked for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

Under CEQA, “The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the proposed project, and to indicate the manner in which those significant effects can be mitigated or avoided” (PRC Section 21002.1[a]). An EIR is the most comprehensive form of environmental documentation identified in CEQA and the *State CEQA Guidelines* and provides the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts.

As required by *State CEQA Guidelines* Section 15128, this EIR must identify the effects of the proposed project determined to be significant. This EIR is considered a “full-scope” EIR in which all environmental impact categories identified in the Environmental Checklist Form (*State CEQA Guidelines* Appendix G) are discussed in Section 4.0 of this document.

1.2 PUBLIC INVOLVEMENT

CEQA requires the lead agency to provide the public with a good faith effort at full disclosure of the expected environmental consequences of the proposed project and with an opportunity to provide comments. In accordance with CEQA, the process for public participation in the decision-making takes place through the following steps:

- **Notice of Preparation (NOP) and Scoping.** As required by *State CEQA Guidelines* Section 15082, the City issued a Notice of Preparation (NOP) on October 2, 2013, that



described the proposed project, stated its intention to prepare an EIR, and requested comments from interested parties. The NOP also included notice of a public scoping meeting that was held on October 24, 2013 in Pacific Grove. The NOP was filed with the State Clearinghouse on October 2, 2013 (SCH # 2013101005), starting a minimum 30-day public scoping period. The review period for the NOP was extended two weeks and ended on November 14, 2013. The City received one letter in response to the NOP, as well as verbal comments provided at the public scoping meeting. The comments received during this public scoping process are summarized in Table 1-1 below. The table includes all comments pertinent to CEQA. Comments related to the merit or design of the proposed project are outside the purview of CEQA analysis, and are therefore excluded from this table. The NOP prepared for the project as well all comment letters received are presented in Appendix A.

- **Comments on Draft EIR.** This Draft EIR is circulated for review and comment to the public, agencies and individuals and interest groups who have requested to be notified, and is made available to the general public. Per Section 15105 of the *State CEQA Guidelines*, the City of Pacific Grove will provide for a 45-day public review period on the Draft EIR. The Final EIR will include a response to each comment on the Draft EIR.
- **Certification of Final EIR.** The Pacific Grove City Council will consider the adequacy of the Final EIR, and if determined to be adequate, will certify the Final EIR, and then will consider the Use Permit application materials and the Final EIR before approving or denying the Use Permit. The City Council will hold a public hearing on these decisions.

**Table 1-1
 Summary of Scoping Period Comments**

Commenter	Summary of Comments	Response/Reference to Location of Topic in EIR
Monterey Regional Water Pollution Control Agency	The commenter requested the inclusion of proposed changes to the annual, monthly, and daily volumes and flow rates that would be diverted each year to the Monterey Regional Water Pollution Control Agency (MRWPCA), and the percentage of dry weather, wet weather, and municipal wastewater.	Refer to Section 4.8, <i>Hydrology and Water Quality</i> , and Section 4.11, <i>Public Services and Utilities</i> .
	The commenter requested that the EIR describe the assumptions and analysis of stormwater volumes, flow rates, and quality proposed to be added to the Ocean View/Forest Avenue diversion point.	Refer to Section 4.8, <i>Hydrology and Water Quality</i> , and Section 4.11, <i>Public Services and Utilities</i> .
	The commenter requested that the EIR provide the assumptions and analysis of existing and proposed accumulated flows at each site being considered.	Refer to Section 4.8, <i>Hydrology and Water Quality</i> , and Section 4.11, <i>Public Services and Utilities</i> .
	The commenter requested an alternative that maximizes opportunities for local stormwater retention and longer-term diversions to the wastewater collection system (outside the wet season).	Refer to Section 6.0, <i>Alternatives</i> .
	The commenter expressed support for projects that would help protect water quality and use water resources wisely and efficiently.	Refer to Section 4.8, <i>Hydrology and Water Quality</i> , for a discussion of impacts to water quality.
Verbal Comments Received at	A commenter questioned the feasibility of a No Project Alternative for the project considering potential fines for non-compliance.	The No Project Alternative is discussed in Section 6.0, <i>Alternatives</i> .



**Table 1-1
 Summary of Scoping Period Comments**

Commenter	Summary of Comments	Response/Reference to Location of Topic in EIR
EIR Scoping Meeting	A commenter expressed concern over potential loss of trees in general, and especially in Caledonia Park.	Impacts related to tree removal are discussed in Section 4.3, <i>Biological Resources</i> .
	A commenter requested including a disclosure of chemicals by type and quantity which would be associated with any water treatment.	Hazardous materials are discussed in Section 4.7, <i>Hazards and Hazardous Materials</i> .
	A commenter requested that the EIR include proposed location of any project facilities in Caledonia Park.	Refer to Figure 2-6 in Section 2.0, <i>Project Description</i> .
	A commenter requested that greenhouse gas emissions be included in the analysis.	Impacts related to greenhouse gas emissions are discussed in Section 4.6, <i>Greenhouse Gas Emissions</i> .

1.3 SCOPE AND CONTENT

This EIR addresses the issues determined to be potentially significant during the EIR scoping period. The analysis is guided by input gathered during the NOP and scoping process, as summarized in Table 1-1, and consultation with City staff. The issues that have been identified to be addressed in this EIR include:

- *Aesthetics*
- *Air Quality*
- *Biological Resources*
- *Cultural Resources*
- *Geology/Soils*
- *Greenhouse Gas Emissions*
- *Hazards and Hazardous Materials*
- *Hydrology and Water Quality*
- *Land Use and Planning*
- *Noise*
- *Public Services and Utilities*
- *Transportation/Traffic*

This EIR addresses the issues referenced above and identifies potentially significant environmental impacts, including site-specific and cumulative effects of the project in accordance with the provisions set forth in the *State CEQA Guidelines*. In addition, the EIR recommends feasible mitigation measures, where possible, that would reduce or eliminate adverse environmental effects.

In preparing the EIR, use was made of pertinent City policies and guidelines, existing EIRs and background documents prepared by the City. A full reference list is contained in Section 7.0, *References and Preparers*, of this EIR.



Section 6.0, *Alternatives*, of the EIR was prepared in accordance with Section 15126(d) of the *State CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic objectives of the project. In addition, the EIR identifies the “environmentally superior” alternative from the alternatives assessed. The alternatives evaluated include:

- *Alternative 1: No Project*
- *Alternative 2: Treatment at the MRWPCA WTP*
- *Alternative 3: Treatment at the Retired PGWTP*

1.4 LEAD, RESPONSIBLE AND TRUSTEE AGENCIES

The *State CEQA Guidelines* define lead, responsible and trustee agencies. The City of Pacific Grove is the Lead Agency for the project. The City of Monterey is a co-sponsor of the project and a Responsible Agency. The California Coastal Commission is also a Responsible Agency for the project. Approvals and other permits that may be required from local, regional, state, and federal agencies as physical development occurs pursuant to the proposed project are identified in Section 2.0, *Project Description*.

1.5 ENVIRONMENTAL REVIEW PROCESS

The environmental impact review process, as required under CEQA, is outlined below. The steps are presented in sequential order.

1. *Notice of Preparation (NOP) Distributed.* Immediately after deciding that an EIR is required, the lead agency must file a NOP soliciting input on the EIR scope to “Responsible,” “Trustee,” and involved federal agencies; to the State Clearinghouse, if one or more state agencies is a responsible or trustee agency; and to parties previously requesting notice in writing (*State CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. A scoping meeting to solicit public input on the issues to be assessed in the EIR is not required, but may be conducted by the lead agency. The review period for the Monterey-Pacific Grove ASBS Stormwater Management Project NOP ended on November 14, 2013 and the scoping meeting was held on October 24, 2013.
2. *Draft Environmental Impact Report (DEIR) Prepared.* The DEIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. *Public Notice and Review.* A lead agency must prepare a Public Notice of Availability of an EIR. The Notice must be placed in the County Clerk's office for 30 days (Public Resources Code Section 21092). The lead agency must send a copy of its Notice to anyone requesting it (*State CEQA Guidelines* Section 15087). Additionally, public notice of DEIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency



must consult with and request comments on the DEIR from responsible and trustee agencies, and adjacent cities and counties (Public Resources Code Sections 21104 and 21253). When a DEIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless a shorter period is approved by the Clearinghouse (Public Resources Code 21091). Distribution of the DEIR may be required through the State Clearinghouse (*State CEQA Guidelines* Section 15305).

4. *Notice of Completion.* A lead agency must file a Notice of Completion with the State Clearinghouse as soon as it completes a DEIR.
5. *Final EIR (FEIR).* A FEIR must include: a) the DEIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
6. *Certification of FEIR.* The lead agency shall certify: a) the FEIR has been completed in compliance with CEQA; b) the FEIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the FEIR prior to approving a project (*State CEQA Guidelines* Section 15090).
7. *Lead Agency Project Decision.* A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*State CEQA Guidelines* Sections 15042 and 15043).
8. *Findings/Statement of Overriding Considerations.* For each significant impact of the project identified in the EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*State CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that set forth the specific social, economic or other reasons supporting the agency's decision.
9. *Mitigation Monitoring and Reporting Program.* When an agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
10. *Notice of Determination.* An agency must file a Notice of Determination after deciding to approve a project for which an EIR is prepared (*State CEQA Guidelines* Section 15094). A local agency must file the Notice with the County Clerk. The Notice must be posted for 30 days and sent to anyone previously requesting notice. Posting of the Notice starts a 30-day statute of limitations on CEQA challenges (Public Resources Code Section 21167[c]).



2.0 PROJECT DESCRIPTION

The proposed project is the Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project (project). The primary purpose of the project is to improve stormwater quality prior to being discharged into the ASBS, in accordance with State Water Resources Control Board (SWRCB) standards. A secondary project purpose is to provide stormwater as a source of non-potable recycled water supply for local irrigation and regional groundwater replenishment. This section describes the proposed project, including information about the project proponent, lead agency, project location, major characteristics, and a list of discretionary approvals needed to implement the project.

2.1 PROJECT PROPONENT/LEAD AGENCY

2.1.1 Project Proponent and Lead Agency

City of Pacific Grove
Public Works Department
2100 Sunset Drive
Pacific Grove, California 93950
Contacts: Daniel Gho, Public Works Program Manager; Sarah Hardgrave, Project Manager

2.1.2 Co-Sponsor and Responsible Agency

City of Monterey
Plans and Public Works Department
580 Pacific Street, Room 7
Monterey, California 93940
Contact: Jeff Krebs, Senior Engineer

2.2 PROJECT LOCATION

The project area is comprised of five associated components located primarily in the City of Pacific Grove, with a portion of two components located in the City of Monterey, California. The five components include:

- 1) *The former David Avenue Reservoir with adjacent inlet infrastructure improvements near the intersection of David Avenue, Terry Street, and Carmel Avenue (a portion of this project component is within the City of Monterey);*
- 2) *The Pine Avenue right-of-way between 7th Street and 18th Street;*
- 3) *The Ocean View Boulevard right-of-way from Forest Avenue west to the retired Pacific Grove Wastewater Treatment Plant at the Point Pinos Lighthouse Reservation;*
- 4) *The retired Pacific Grove Wastewater Treatment Plant and adjacent Crespi Pond, located on the Pacific Grove Golf Links; and*
- 5) *The Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue (existing runoff diversion system to the Monterey Regional Water Pollution Control Agency [MRWPCA] Regional Wastewater Treatment Plant in Marina; a portion of this component is within the City of Monterey).*

Figure 2-1 illustrates the regional location of the proposed project. Figure 2-2 illustrates the five project components within the City of Pacific Grove.





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 Project Areas



Regional Location

Figure 2-1





Proposed Stormwater System Improvements

2.2.1 Surrounding Land Uses

The project components are bordered by a range of low-density urban land uses. The following describes the surrounding land use pattern by component.

- 1) David Avenue Reservoir. The David Avenue Reservoir would be improved to capture runoff from the portion of the ASBS watershed within the City of Monterey and release it from the reservoir into the existing City of Pacific Grove storm drain system for conveyance downhill (northward) to Pine Avenue. The reservoir site is bordered by single family residences to the east and west, Hillcrest Avenue and Pacific Grove Middle School to north, and David Avenue and single and multi-family residences to the south.
- 2) Pine Avenue Conveyance. The Pine Avenue stormwater conveyance improvements would be located primarily within the Pine Avenue right-of-way, which is bordered to the northeast by single family residences, commercial uses, multi-family residences, professional offices, and City Hall and to the southwest by single family residences, Robert Down Elementary School, multi-family residences, and professional offices. This project component also includes installation of an underground stormwater equalization/storage facility in the vicinity of Robert Down Elementary School, which is bounded by Pine Avenue and single family residences to the north, multi-family residences to the west, 12th Street and single family residences to the east, and Junipero Avenue and the Pacific Grove Community Center to the south.
- 3) Ocean View Boulevard Conveyance. The Ocean View Boulevard conveyance improvements would be located primarily within the Ocean View Boulevard right-of-way, which is surrounded by open space, pedestrian trails, and Monterey Bay to the north and east, and by single family residences and commercial uses to the south. At the western edge of this project component, Ocean View Boulevard is bounded to the south by Pacific Grove Golf Links, Crespi Pond, and the retired Pacific Grove Wastewater Treatment Plant (PGWTP). In addition to conveyance improvements within the right-of-way, this project component includes three new pump stations: at the Lovers Point parking lot; north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. The Lovers Point pump station would be surrounded by a parking lot to the east, south, and west and by the Monterey Bay Coastal Recreation Trail to the north. The Sea Palm pump station would be located primarily within a landscaped median, and bordered by a parking area and Monterey Bay to the north and Ocean View Boulevard to the south. The Coral Street pump station would be primarily within the Ocean View Boulevard right-of-way, bordered by single family residences to the south and open space and the Monterey Bay to the north.
- 4) Point Pinos Stormwater Treatment Facility and Crespi Pond. The retired PGWTP (referred to here as the Point Pinos Stormwater Treatment Facility) and Crespi Pond are surrounded by open space, pedestrian trails, and the Monterey Bay to the north, dune habitat restoration to the west, and the Pacific Grove Golf Links to the south and east.



- 5) Diversions to MRWPCA. This component would be primarily within or adjacent to the Ocean View Boulevard right-of-way east of Forest Avenue, which is bordered by open space, pedestrian trails, Hopkins Marine Station, and the Monterey Bay to the north and east, single family residences and commercial uses to the south and west.

2.3 PROJECT BACKGROUND

2.3.1 ASBS Special Protections

The Pacific Grove ASBS is 3.2 miles of coastline adjacent to the City of Pacific Grove. This ASBS lies entirely within the Monterey Bay National Marine Sanctuary, and overlaps with the Pacific Grove State Marine Conservation Area and Hopkins State Marine Reserve. The Pacific Grove ASBS is one of 34 SWRCB-designated ASBS areas along the California Coast. These areas are defined as “ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable” (SWRCB Resolution No. 2012-0012). The California Ocean Plan (Ocean Plan) establishes water quality objectives for California’s ocean waters and provides the basis for regulation of point and non-point source discharges into the State’s coastal waters.

On March 20, 2012, the SWRCB adopted the “General Exception and Special Protections for the California Ocean Plan Waste Discharge Prohibition for Stormwater and Nonpoint Source Discharges” into the ASBS. The “Special Protections” have since been incorporated in the SWRCB’s Order No. 2013-0001-DWQ, NPDES No. CAS000004 [National Pollutant Discharge Elimination System (NPDES) General Permit For Waste Discharge Requirements (WDRs) For Storm Water Discharges From Small Municipal Separate Storm Sewer Systems (MS4s)]. The “Special Protections” are also part of a General Exception to the California Ocean Plan (COP), which states, “Waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas” (*ibid*). Generally, the Ocean Plan:

- *Is the basis for regulation of wastes discharged in coastal waters and establishes water quality objectives for discharges as measured in the ocean receiving water; and*
- *Applies to point (typically outfall pipes) and non-point (typically overland flow) source waste discharges.*

The principle requirements in the General Exception and Special Protections are:

- *Elimination of non-stormwater urban runoff (e.g. dry weather discharges) into the ASBS;*
- *Ensuring that wet weather flows do not alter “natural water quality;” Ocean receiving water monitoring to ensure marine life and other beneficial uses are protected;*
- *If receiving water monitoring finds natural water quality is degraded by stormwater discharges, reducing pollutant loads by 90 percent during wet-weather;*
- *Eliminating all trash from outfalls and discharges;*
- *Structural Best Management Practices (BMPs) to reduce pollutants, debris (e.g., street sweeping and storm drain inserts), and larger particles (e.g., detention basins and vortex units); and*



- *Non-structural BMPs such as construction site and commercial and industrial inspections, and public education and outreach.*

The “Special Protections” and “General Exception” apply statewide in lieu of individual exceptions.

The water quality parameters that define “natural water quality,” as well as impacts from existing stormwater discharges into the Pacific Grove ASBS, are currently unknown. The cities of Pacific Grove and Monterey are members of a ten-party Central Coast Regional ASBS Monitoring Program that is beginning a two-year water quality monitoring effort in 2013 to gather additional information to assess the Special Protections compliance requirements. If receiving water monitoring determines the natural water quality is degraded, target pollutants and removal levels will be determined. If implemented, the proposed project is intended to satisfy the ASBS Special Protection requirements and protect natural water quality if found degraded. If monitoring determines that the cities are already in compliance with the ASBS Special Protections, the proposed project would not be required and would therefore not be pursued.

2.3.2 Prior Study of Project Alternatives

In 2006, prior to adoption of the “Special Protections,” the City of Monterey obtained a Proposition 50¹ grant from the State Department of Water Resources (DWR) to analyze a suite of options to address regulatory restrictions under consideration by the SWRCB for stormwater discharges to the ASBS. The ASBS analysis was presented in a study completed in 2006 by MACTEC Engineering and Consulting, Inc. (MACTEC).² The focus of this study was to address stormwater discharges to the Pacific Grove and Carmel Bay ASBS. The Pacific Grove ASBS receives runoff from a watershed that includes portions of the New Monterey District in the City of Monterey and approximately half of the City of Pacific Grove. The MACTEC study identified and analyzed 22 alternative projects, including local projects that would collect and treat runoff in Pacific Grove before it is discharged to the Monterey Bay, regional projects that would pump runoff to the MRWPCA Regional Wastewater Treatment Plant in Marina, and other potential projects.

In 2009, the City of Pacific Grove retained an engineering firm to complete Feasibility and Basis of Design studies to evaluate the feasibility of collecting and recycling stormwater within the City of Pacific Grove.³ These studies evaluated five alternative projects. However, the primary objective of each project was focused on water recycling and not necessarily protection of the ASBS. As a result, the various projects did not fully address the requirements of the ASBS Special Protection Provisions adopted by the SWRCB in 2012.

¹ The California River Parkways Grant Program.

²MACTEC. 2006. *Final Alternatives Analysis and Data Acquisition for Pacific Grove and Carmel Bay Areas of Special Biological Significance*

³Malcom Pirnie, Inc. 2009. *Stormwater Recycling Facility – Basis of Design Report*



Since 2009, the cities of Monterey and Pacific Grove have continued to evaluate both stormwater management projects and alternative water supply to address the ASBS requirements and critical water supply issues on the Monterey Peninsula. As described in Subsection 2.3.1, the SWRCB adopted the “General Exception and Special Protections for the California Ocean Plan Waste Discharge Prohibition for Stormwater and Nonpoint Source Discharges” on March 20, 2012.

In January 2013, the City of Monterey retained an engineering firm, Fall Creek Engineering, to complete the *City of Monterey and Pacific Grove ASBS Refined 2006 Feasibility Study of Alternatives Management Plan*. The scope of work in this study is to:

- *Refine and select a preferred and alternate project from the broad list of projects identified by MACTEC,*
- *Select a preferred project alternative,*
- *Develop conceptual and preliminary plans for the preferred project; prepare the CEQA environmental review document for the preferred and alternative projects; and*
- *Prepare a work plan for a grant application for the preferred project.*

This EIR is part of the January 2013 scope of work.

Several meetings with the cities of Monterey and Pacific Grove, key stakeholders (CalAm, MRWPCA, and New Monterey District neighborhood representatives), and the project engineer were held to revisit and refine the various project alternatives. After a review and screening of the 22 alternatives identified in the 2006 MACTEC Study, six (6) project alternatives were identified and refined with input from the cities of Monterey and Pacific Grove.

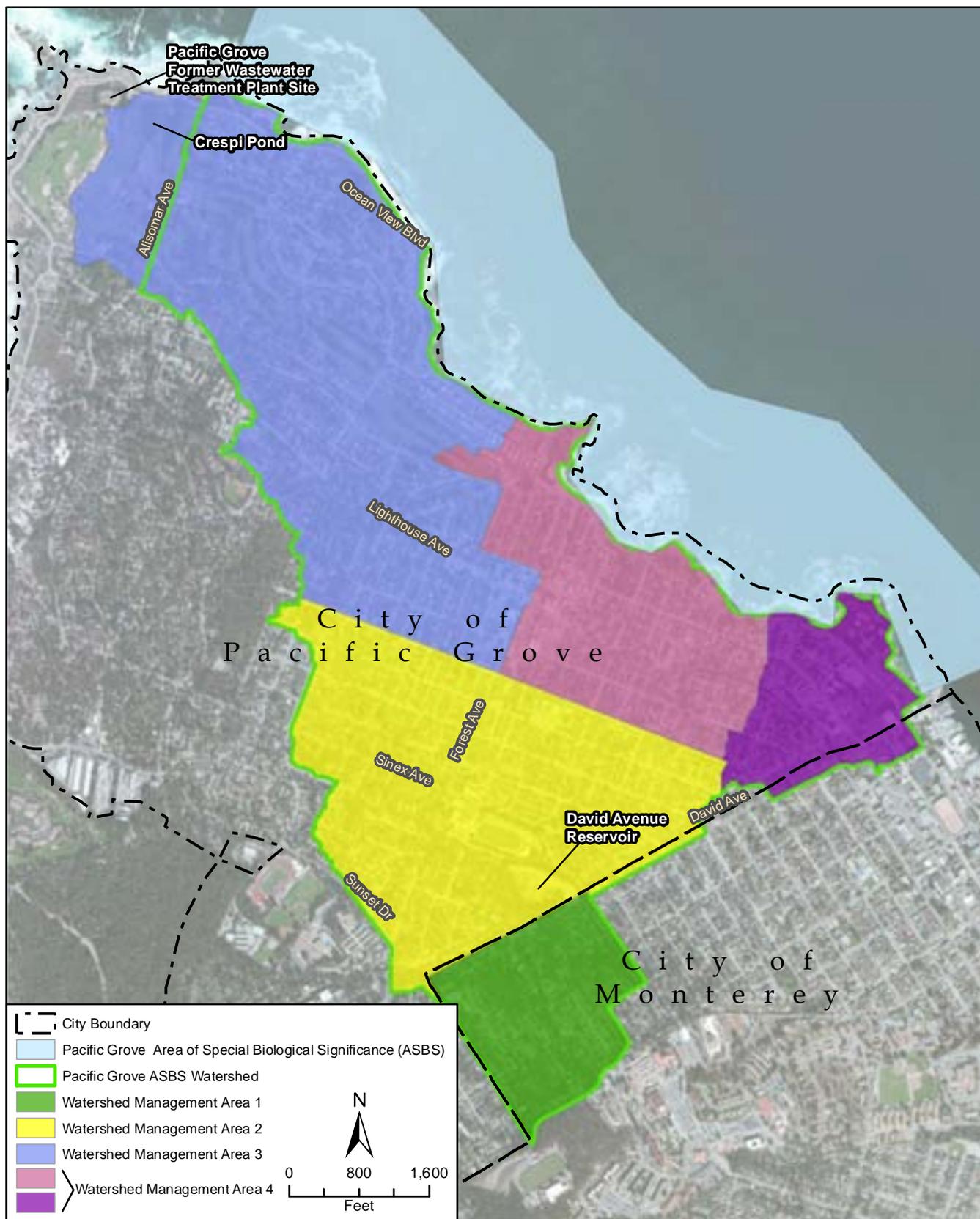
A screening analysis of these six project alternatives was completed in May 2013 to identify a preferred and alternate project and is included in Appendix B. The screening analysis compared six project alternatives based on 16 screening criteria, and identified a preferred project whereby both dry and wet-weather flows from Pacific Grove and New Monterey would be treated at stormwater treatment system constructed at the retired PGWTP site at Point Pinos. The final alternate project selected would treat both dry and wet-weather flows from Pacific Grove and Monterey at the MRWPCA Regional Wastewater Treatment Plant in Marina. Both proposed projects would utilize storage in a modified David Avenue Reservoir.

As the project team further developed the preferred and alternate project concepts, a hybrid project between the two was identified and considered environmentally superior and more cost effective to either project individually. The hybrid project, as described in this section and analyzed throughout this EIR, maximizes the use of existing infrastructure and planned projects within the cities of Monterey and Pacific Grove.

2.4 PROJECT CHARACTERISTICS

The primary goal of the proposed project is to reduce flow and improve stormwater quality prior to being discharged into the ASBS located along the Pacific Grove coastline, as identified in Figure 2-3. The project includes the diversion of both dry weather and portions of wet weather surface water runoff flows into an upgraded stormwater collection and treatment system from the ASBS





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 Additional data provided by Fall Creek Engineering
 and the City of Pacific Grove, 2013.

ASBS Watershed Management Areas

Figure 2-3

watershed (refer to Figure 2-2). For the purposes of this project, the ASBS drainage area was subdivided into four smaller water management areas. A different management approach would be applied to each area, and flows from each would be directed to either a new Point Pinos Stormwater Treatment Facility at the retired PGWTP site or to the MRWPCA Regional Wastewater Treatment Plant in the City of Marina, as follows:

- *Area 1 includes the New Monterey drainage. Runoff from this area would be directed to a restored David Avenue Reservoir and ultimately to a new Point Pinos Stormwater Treatment Facility located at the retired PGWTP.*
- *Area 2 is north of David Avenue and southwest of Pine Avenue. Runoff from this area would drain to Pine Avenue for conveyance northwest towards the new Point Pinos Stormwater Treatment Facility.*
- *Area 3 includes a portion of Pacific Grove that is outside and northwest of the existing dry weather diversion system. Runoff from this area would be conveyed to the new Point Pinos Stormwater Treatment Facility at the retired PGWTP.*
- *Area 4 includes the lower Pacific Grove drainage area below Pine Avenue and lower new Monterey drainage. Runoff from this area drains to an existing urban diversion system, which directs dry-weather flows to the MRWPCA. The existing system would be upgraded to convey dry and wet weather flows to the MRWPCA Regional Wastewater Treatment Plant for treatment and reuse.*

In addition, as final design of each project component progresses, use of Low Impact Development (LID) practices would be considered to reduce flows and provide water quality pre-treatment in each of the four management areas prior to collection and conveyance by the ASBS Stormwater Management System.

The objectives of the project are 1) to meet the ASBS Special Protection requirements to implement structural best management practices (BMPs) to achieve up to a 90 percent reduction in pollutant loading during storm events, if the wet weather discharges are impacting natural water quality to comply with the ASBS water quality standards set by the SWRCB, 2) to conserve potable water by developing dry and wet weather storm system flows as a source of non-potable water for irrigation at the Pacific Grove Golf Links, El Carmelo Cemetery, and other feasible non-potable water demands, and 3) to restore the David Avenue Reservoir to a year-round continuous reservoir.

The project includes five separate components, which are each described below.

2.4.1 David Avenue Reservoir

This component would involve improvements to the former David Avenue Reservoir and improvements to an adjacent inlet infrastructure in the City of Monterey including:

- *Upgrading the reservoir to current standards for stability, overflow capability for storm events, and providing an aesthetic benefit to adjacent residents;*
- *Capturing runoff from the portion of the ASBS watershed within the City of Monterey and releasing it (but keeping a minimum reservoir level for aesthetics and vegetation stability) from the David Avenue Reservoir into the existing City of Pacific Grove storm drain system for conveyance downhill (northward) to Pine Avenue.*



The original dam for the reservoir was built in 1882, and an expansion to the downstream (north) side of the dam was added in 1920. According to a *Seismic Safety and Hydrologic Investigation* for the reservoir (Converse Consultants Northern California, March 1989), the existing dam is 750 feet long, 30 feet high, has a crest elevation of 240 feet and a crest width of 60 feet. The reservoir historically retained 56 acre feet (AF) of water with a surface water elevation of 235 feet. In 1989, the reservoir ceased operation as a component of the California American Water Company (CalAm), and was drained of water in 1998. In January 2003, the Division of Safety and Dams designated the dam as inoperative. The site is still owned by CalAm, and is currently used as a maintenance, operations, and materials storage area. The site is restricted with gated entry. Vegetation has grown inside the previously inundated areas of the reservoir since the time the reservoir ceased operating as a water storage facility, and a small portion of the original reservoir bottom has filled with water. Currently, the dam is comprised of earthen embankments that surround the impoundment (previously inundated area) to the east, north, and west. The south side of the impoundment is situated against a natural high point along David Avenue.

The project would restore the function and aesthetics of the reservoir and use of this facility to assist in stormwater management in the ASBS watershed. The reservoir restoration would encompass approximately six acres of disturbance that includes grading, trenching, and material and equipment storage. The majority of the project disturbance would be on the David Avenue Reservoir site itself, with some trenching in Carmel Avenue/Terry Street, west of the reservoir. Improvements, which are depicted on Figure 2-4, would include:

- *A new inlet connection to the Monterey storm drain collection system;*
- *Excavation of a new forebay, an inlet structure and related improvements within the reservoir impoundment;*
- *Installation of a multi-layer geomembrane liner and sub-drain system within the interior of the former Reservoir to enable water storage behind the existing dam; and*
- *A new outlet connection to the Pacific Grove storm drain collection system.*

Inlet Connection. An existing stormwater manhole at the intersection of David Avenue and Terry Street/Carmel Avenue would be retrofitted to direct stormwater into the reservoir. The newly retrofitted manhole would include a weir and gate system that would allow a variable quantity of stormwater to be directed to the reservoir. The target flow is the 85th percentile stormwater runoff event from an approximately 87.3 acre drainage area in New Monterey, south (uphill) of the reservoir. Runoff above the 85th percentile event would bypass the reservoir and continue downstream within the existing City of Pacific Grove stormwater collection system as it currently does. A new pipe would be trenched from the new manhole at the David Avenue and Terry Street/Carmel Avenue intersection to the reservoir inlet. A shutoff valve would be installed on the new pipe to allow the intake to be closed and to force all stormwater runoff to bypass the reservoir.

Upstream of the reservoir and downstream of the new manhole at the David Avenue and Terry Street/Carmel Avenue intersection (within the David Avenue Reservoir site), a Continuous Deflection Separation (CDS) system would be installed to remove gross pollutants such as trash, vegetation debris, coarse solids, oil, and grease before runoff enters the reservoir.





Component 1: David Avenue Reservoir

Figure 2-4

Reservoir Improvements. Within the reservoir impoundment area, uncompacted fill in the northwest section would be excavated. This fill material is debris and rubble from a nearby construction project and was placed in its current location circa 2007. The content of the fill and its method of placement are unknown and the material would therefore need to be removed and screened. Fill material that is suitable for use elsewhere on the site, based on geotechnical observations during excavation, would be stockpiled in the northwestern and southwestern portions of the site. The remaining debris (determined to be unsuitable as fill) would be off-hauled to the Monterey Regional Waste Management District landfill in Marina.

A new forebay would be constructed in the southeast portion of the existing reservoir (refer to Figure 2-4). The function of the forebay would be to slow the speed of water entering the facility, dissipate the energy, and allow sediment to fall out of suspension within the forebay. The interior slopes of the existing earthen embankments would be filled and reshaped to a side slope of 2.5 horizontal to 1 vertical. All grading would occur on the interior slopes of the earthen embankments. The new slopes would be keyed into stable material, placed in lifts, and compacted to the desired compaction standards to be determined by a geotechnical engineer. The bottom of the reservoir would be graded (both cut/fill) to create a smooth surface. A piped underdrain and sump pump system would be installed to collect groundwater from below the site and convey it to the existing Pacific Grove storm drain system during operation. The forebay would be vegetated in accordance with a landscaping plan, and is anticipated to include emergent vegetation appropriate for inundation and fluctuating water levels.

The entire reservoir and forebay would be covered with a double layer of geosynthetic liner material with a leak detection system. The double layer geosynthetic liner is designed to prevent water impounded in the reservoir from infiltrating into the soils at the site. The geosynthetic liner system would be installed per manufacturer's recommendations and current industry standards, and covered with soil backfill. The height of the existing earthen embankments would remain at approximately 30 feet (measured from the downstream toe, or base of the barrier) and the overall shape of the restored reservoir would remain as in its historic footprint.

Stormwater runoff would enter the reservoir through a new inlet structure located in the forebay. The inlet structure would consist of a concrete headwall and wing wall structure. Stormwater would enter the vegetated forebay and remain for a hydraulic detention period that would vary based on the flow coming into the forebay. Stormwater would be conveyed from the forebay to the reservoir impoundment through a new concrete open channel spillway. The new spillway would discharge pre-treated stormwater into the reservoir in the southeast portion of the impoundment. Stormwater would remain impounded in the reservoir until the water surface levels reach the invert elevation of the outlets, the reservoir is drained to manage the water surface elevation within the reservoir, or the reservoir is discharged to meet downstream irrigation demands. The reservoir would only be discharged to a minimum level to maintain the reservoir as a water body and support surrounding vegetation.

Lowering the reservoir water level may be required in case of emergency, for inspection and maintenance, or for releasing water in anticipation of storm events or to meet downstream demands. Provisions for draining the reservoir would include an outlet pipe with a control gate at an elevation approximately four feet below the bottom of the reservoir. The bottom four feet



of the reservoir would drain using a pump system. In addition, the forebay would periodically be excavated and cleared to facilitate continued sediment deposition.

An existing concrete outlet structure located in the eastern portion of the site would remain in place for reuse if a final structural engineering analysis determines that it is in usable condition. If the existing structure is found inadequate, a new outlet structure would be constructed in the same location. The existing outlet pipe (12 inch diameter) would be replaced with a new 24 inch outlet pipe to allow for the conveyance of large storm events. A secondary overflow pipe would be added to accommodate excess flow and/or in the event the primary outlet is not functioning or undergoing maintenance to act a primary outlet. Trash racks would be installed on the inlet or upstream end of each of the of the outlet pipes. Reservoir outflow would be conveyed to a new manhole located at the intersection of Terry Street/Carmel Avenue and the entrance driveway to the reservoir. Stormwater would then be conveyed within the existing City of Pacific Grove stormdrain collection system north towards Pine Avenue.

Water Storage Capacity. After construction, the newly restored reservoir would have an estimated water storage capacity of 49.15 acre-feet (AF), which includes storage provided by the new forebay.

2.4.2 Pine Avenue Conveyance

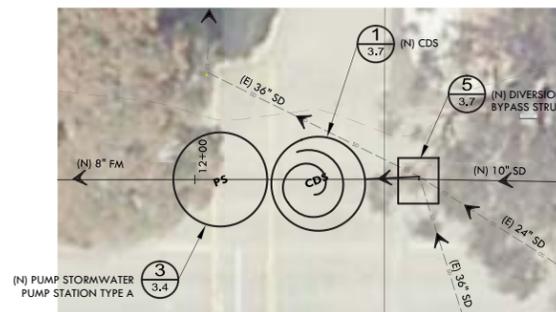
This component of the project would involve the installation of approximately 2,760 feet of new storm drain conveyance pipeline beneath Pine Avenue from 7th Street to 18th Street, as well as installation of a new underground stormwater equalization and storage facility in the vicinity of the Robert Down Elementary School. The underground storage facility would be located beneath the sports fields behind (south of) the school, adjacent to Junipero Avenue between 13th and 15th Streets (refer to Figure 2-5). This facility would have the capacity to store up to 240,000 gallons of stormwater, which could potentially be reused for irrigation of the playfield during dry season. The disturbance area for installing this facility would be approximately 80 feet by 180 feet (14,400 square feet). A diversion and bypass system and CDS unit would be installed near 14th Street in Junipero Avenue. The purpose of the CDS unit at this location is to minimize the amount of trash and sediment entering the storage system. The purpose of the diversion and bypass structure would be to divert flows less than or equal to the 85 percent storm event through the new CDS unit and to the equalization/storage facility. Flows exceeding the 85 percent flow rate would be diverted around the CDS unit and back into the existing storm drain. The new CDS unit would remove debris, trash and sediment from the water conveyed and collected below the David Avenue Reservoir, prior to water entering the new storage basin.

A new pipeline on Pine Avenue, extending from 7th Street to 19th Street (Pine Avenue Conveyance) would collect runoff from drainage areas uphill (southward) of Pine Avenue, including from the restored David Avenue Reservoir. A new pump station would be installed at the intersection of Pine Avenue and 15th Street, which would deliver water from the new Pine Avenue Conveyance to existing storm drain pipelines northeast down 19th Street. At 15th Street, water would enter a new diversion and bypass structure, where flows less than or equal to the

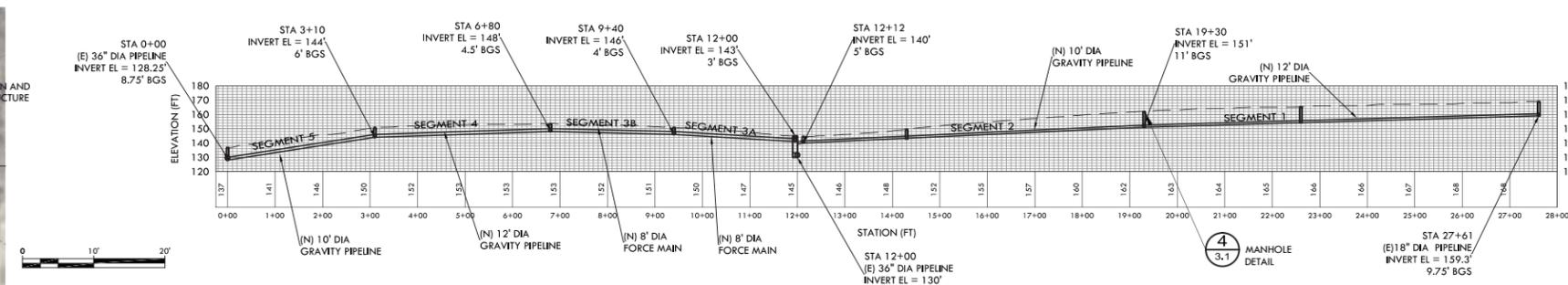




PINE AVENUE STORM DRAIN: PLAN VIEW



PINE AVENUE PUMP STATION



PINE AVENUE STORM DRAIN: PROFILE VIEW

HORIZONTAL: 1" = 150'



PLAN VIEW: EQUALIZATION/STORAGE AND CDS UNIT

SCALE: 1" = 10'

SUMMARY OF PIPELINE DIMENSIONS

Station	From	To	Material	Diameter	Notes
0+00	1+00	10' DIA	GRAVITY PIPELINE		
1+00	6+80	12' DIA	GRAVITY PIPELINE		
6+80	9+40	8' DIA	FORCE MAIN		
9+40	12+00	8' DIA	FORCE MAIN		
12+00	19+30	10' DIA	GRAVITY PIPELINE		
19+30	27+61	12' DIA	GRAVITY PIPELINE		

SUMMARY OF PIPELINE DIMENSIONS

SUMMARY OF MANHOLE STATIONING

Station	From	To	Material	Diameter	Notes
0+00	0+00	0+00	MANHOLE	3.4	
12+00	12+00	12+00	MANHOLE	3.1	
27+61	27+61	27+61	MANHOLE	3.1	

SUMMARY OF MANHOLE STATIONING

- NOTES:
1. THE CONDITION OF EXISTING STORMDRAINS, ALONG WITH ALL (E) INVERT ELEVATIONS AND PIPE DIAMETERS SHALL BE FIELD VERIFIED.
 2. LOCATION OF EXISTING UTILITIES BENEATH PINE AVENUE SHALL BE FIELD VERIFIED.
 3. RELOCATION OF EXISTING UTILITIES SHALL BE DETERMINED, ONCE EXISTING POSITION KNOWN.

Component 2: Pine Avenue Conveyance

Figure 2-5

design flow would enter a new CDS unit to remove trash and sediment.⁴ Flows exceeding the 85 percent flow rate would be diverted around the CDS unit and pump station and back into the existing storm drain, conveying water northward towards existing stormwater discharge locations along the Pacific Grove coastline. The new CDS unit would remove debris, trash and sediment from the water conveyed and collected down Pine Avenue, prior to water entering the new pump vault. The Pine Avenue pump station would be a duplex dry pit pump station, including a vertical well extending 15 feet below the ground surface, and would have a design flow of 1,155 gpm. From 19th Street runoff would run via gravity through existing storm drains to the intersection of Jewell and Caledonia Avenues. The Pine Avenue Conveyance improvements are shown in Figure 2-5.

2.4.3 Ocean View Boulevard Conveyance

This component of the project would be primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP at the Point Pinos Lighthouse Reservation, and would include the following improvements: approximately 1,100 feet of new gravity storm drain conveyance pipeline; approximately 8,000 feet of pipe lining within an existing abandoned sewer force main; an underground storage facility; and three new pump stations. The underground storage facility would be located at the intersection of Caledonia Street and Pacific Avenue, at a pocket park near the intersection, and would have a storage capacity of up to 320,000 gallons. The disturbance area for installing this facility would be approximately 80 feet by 80 feet (6,400 square feet). Stormwater from the existing storm drains on Caledonia Street and Jewell Street would each enter diversion and bypass structures, which would divert flows less than or equal to the 85 percent design flow into the storage area.⁵ Diverted flow would pass through a proposed CDS unit to remove trash and sediment prior to entering the new underground storage facility. The purpose of the CDS unit at this location is to minimize the amount of trash and sediment entering the storage system. The storage system would serve to delay and reduce peak flows entering the new pump station at Lovers Point and provide a potential source of water for nearby landscape irrigation at the pocket park.

The three new pump stations along Ocean View Boulevard would be designed to convey stormwater through the retrofitted existing sewer force main to the retired PGWTP site. The new pump stations would be located at the Lovers Point parking lot; in a median separating Ocean View Boulevard and a scenic turnout, north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. All three of these pump stations would be located below ground. The only aboveground features would be the electrical control panels located at the new stormwater pump stations. These panels would be similar in size and style as the existing panels installed to support the dry-weather diversion system and would be located sized and colored to minimize visual impacts. The features of each pump station are described below.

⁴ Flows exceeding the design flow would bypass the CDS unit and pump station and continue downstream through the existing stormdrain which drains to Greenwood Park.

⁵ Flow volumes exceeding the design capacity would bypass storage and continue into the existing storm drain down to the Lovers Point discharge location.



- The Lovers Point pump station would include a diversion and bypass structure to allow flows exceeding the design capacity to bypass the pump station and discharge through the existing storm drain, a duplex dry pit pump station with horizontal wet well, and electrical control vault. This pump station would have a design flow of 2,815 gpm.
- The Sea Palm pump station would receive flow from (1) a new gravity stormdrain on Ocean View Boulevard beginning at Clyde Street and extending down to Sea Palm, (2) a storm drain collecting runoff from above Sea Palm, and (3) flow conveyed from the Lovers Point Pump Station west through the existing pipeline. Flow from the Sea Palm storm drain would go through a diversion and bypass structure before joining the gravity pipeline from Clyde Street. The combined flow would pass through a new CDS unit prior to entering the new duplex dry pit pump station with vertical wet well. An associated electrical control vault would be located within the pump station vicinity. This pump station would have a design flow of 3,050 gpm.
- The Coral Street pump station would receive flow from (1) a new gravity line beginning at Coral Street and extending down to an existing MRWPCA pump station and from (2) flow conveyed from the Lovers Point and Sea Palm pump stations west through an existing pipeline. Flow from each of these sources would enter a new duplex dry pit pump station with horizontal wet well. An associated electrical control vault would be located within the pump station vicinity. This pump station would have a design flow of 3,080 gpm.

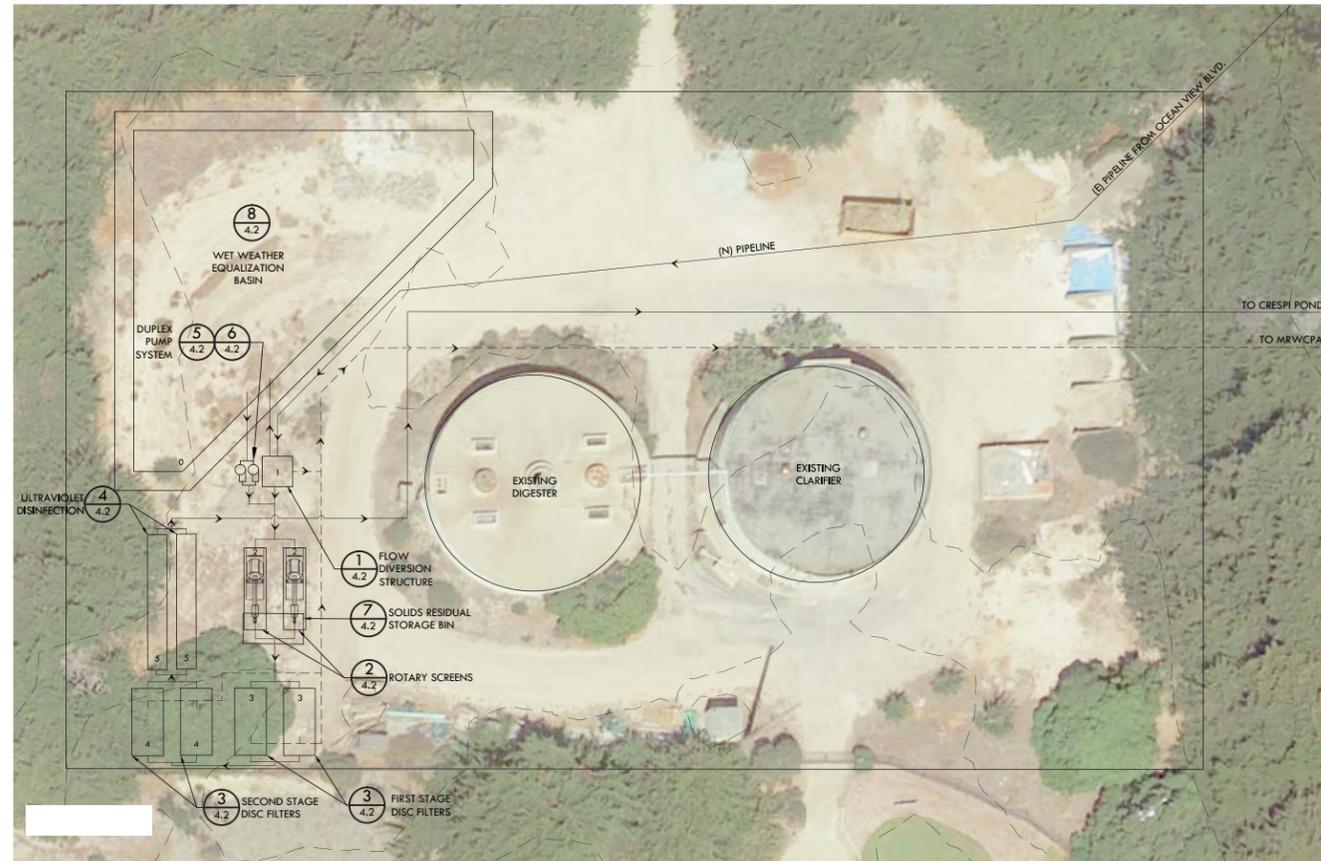
The Ocean View Conveyance improvements would serve to convey stormwater from the existing storm drain infrastructure at the intersection of Jewell and Pine Avenues to the new stormwater treatment system at the former PGWTP site. If stormwater is not needed for irrigation or Point Pinos storage is at capacity, excess treated water would be discharged at the existing Crespi Pond outfall. If the MRWPCA has a demand for water to serve their Groundwater Replenishment Project, untreated stormwater could be delivered to the MRWPCA at the Coral Street pump station site. The Ocean View Boulevard Conveyance improvements are shown in Figure 2-6.

2.4.4 Point Pinos Stormwater Treatment Facility and Crespi Pond

This component would involve the installation of a stormwater treatment facility at the retired PGWTP. The new treatment facility would be referred to as the Point Pinos Stormwater Treatment Facility. Treated stormwater from the treatment plant would either be discharged to the Monterey Bay through the existing Crespi Pond outfall or be available for reuse as irrigation water. Improvements within the PGWTP site, Crespi Pond, and the outfall are shown in Figure 2-7 and described below.

Stormwater Treatment Facility. The PGWTP was constructed in the early 1950s and began operation in January 1953, with an operational capacity treating 2 million gallons of wastewater per day (mgd) (Archives and Architecture, Inc., n.d.). Treated wastewater was discharged through an outfall to the Pacific Ocean. In 1980, the PGWTP was decommissioned (*ibid*). Since then, wastewater from the City of Pacific Grove has been treated at the MRWPCA Regional Wastewater Treatment Plant in Marina. The retired PGWTP site is now used by the





- STORMWATER TREATMENT TRAIN**
- 0. WET WEATHER EQUALIZATION BASIN AND DUPLEX PUMP SYSTEM
 - 0.1 PUMPED TO TREATMENT TRAIN
 - 0.2 PUMPED TO CRESPI POND
 - 1. FLOW DIVERSION STRUCTURE
 - 1.1. TO TREATMENT SYSTEM
 - 1.2. TO EQUALIZATION TANK
 - 1.3. TO MRWCPA VIA THE EXISTING SANITARY SEWER AT RESTROOM FACILITY
 - 2. ROTARY SCREEN
 - 2.1. MAY REQUIRE POTABLE WATER FOR BACKWASHING.
 - 2.2. SOLIDS RESIDUALS WILL BE COLLECTED IN A STORAGE CONTAINER AND PERIODICALLY DISPOSED OF.
 - 2.3. ANY BACKWASH WATER DISCHARGED WILL BE SENT TO THE MRWCPA.
 - 3. DISC FILTER - STAGE 1
 - 3.1. MAY REQUIRE POTABLE WATER FOR BACKWASHING.
 - 3.2. ANY BACKWASH WATER DISCHARGED WILL BE SENT TO THE MRWCPA.
 - 4. DISC FILTER - STAGE 2
 - 4.1. SAME AS DISC FILTER - STAGE 1
 - 5. ULTRAVIOLET DISINFECTION
 - 6. CRESPI POND
 - 6.1. DISCHARGE TO EXISTING OUTFALL
 - 7. RECYCLED WATER TO IRRIGATION
 - 8. MRWCPA CONNECTION AT EXISTING RESTROOM SEWER LATERAL
 - 8.1. WATER TO BE TREATED AT THE REGIONAL TREATMENT PLANT

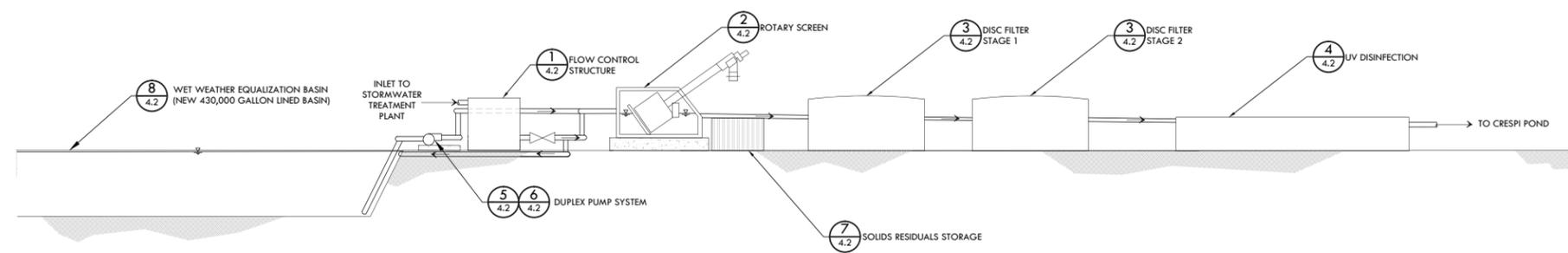


0 20' 40'
 GRAPHIC SCALE: 1" = 20'



PLAN VIEW OF POINT PINOS STORMWATER TREATMENT PLANT
 SCALE: 1" = 20'

1



STORMWATER TREATMENT SYSTEM SCHEMATIC HYDRAULIC PROFILE
 SCALE: NTS

1

Component 4: Point Pinos
 Stormwater Treatment Facility
 and Crespí Pond

Figure 2-7

City of Pacific Grove as a corporation yard and water storage facility. Two circular tank structures remain on-site, including a clarifier/administrative office (east tank) and a sludge digester (west tank), and the majority of the site is comprised of dirt driveways, with storage of construction material and debris along the periphery (Denise Duffy & Associates, July 2013). The site is surrounded by mature vegetation, primarily Monterey cypress (*Hesperocyparis macrocarpa*) (*ibid*).

A new stormwater treatment facility would be constructed on the retired wastewater treatment plant site, primarily along the western section of the site (refer to Figure 2-7), and would be capable of handling flows of up to 1,500 gallons per minute (gpm). All treatment system components would be located within the existing PGWTP site footprint. The system improvements include a flow control structure and a stormwater treatment system that would likely include screening, equalization, multi-stage filtration, and disinfection with redundancy incorporated to allow single tanks to be taken off-line for maintenance purposes. A new equalization and storage tank on the western perimeter of the PGWTP site would be used to manage flows into the treatment system. The two existing tanks on the site could be refurbished as part of the Pacific Grove Local Water Project (PGLWP) and made available for seasonal use by the proposed project. There may be an opportunity to share facilities between these two projects as they move forward in more detailed design and implementation phases. However, for the purposes of this analysis, it is assumed that these tanks would not be used as part of the proposed project. If results from the forthcoming (2013 - 2014) water quality monitoring effort identify a need for the ASBS Special Protections, it is expected that the new water quality data would be used to refine the final treatment process design.

As currently proposed, stormwater would enter the Point Pinos treatment plant from the Ocean View Conveyance pipeline via a proposed flow control structure. The flow control structure would be an ~~18-foot tall~~ approximately 9 to 10 feet tall structure located behind the sludge digester (west tank), and would divert water to three possible locations: the stormwater treatment system; the equalization tank; or the MRWPCA Regional Wastewater Treatment Plant in Marina. As water begins to fill the flow control structure, water would be diverted to the first stage of the treatment system (or "train"). As the flows increase, water would also be diverted to the west equalization tank to store the water before being pumped to the rotary screen. The third diversion would allow a portion of the water to be discharged to the MRWPCA for offsite treatment at the Regional Wastewater Treatment Plant in Marina, in the event the system is overloaded. The stormwater treatment system design would be adequate to manage and treat the 85% design storm, so diversions to the MRWPCA from the treatment facility would only occur in the event the system becomes overwhelmed.

After the flow control structure, stormwater would enter a rotary screen as the first stage of treatment, providing pretreatment to remove grit, trash, and organic debris. The rotary screen collects the pollutants and implements a helical screw system to lift and dewater the waste before it is conveyed to a dumpster. From the rotary screen system, stormwater would flow through two-stages of disc filters set in parallel. A disc filter unit consists of multiple rotating disks, which provide a media for biological growth and filtration to treat the stormwater. The rotation allows the media to be exposed to the atmosphere, allowing oxidation and slough off of excess solids. Both stages of the disc filters would be identical but with decreasing media sizes.



The mesh sizes vary by manufacturer and range from 50 microns to 1 micron, which determine the removal capabilities of the disc filter. Depending on the water quality monitoring results, a possible scenario would be the first stage is designed to remove the suspended pollutants using a 50 microns mesh and the second stage is designed to remove very fine pollutants using a 10 microns mesh. From the second disc filter stage, water would be conveyed through an ultraviolet disinfection system to inactivate potential waterborne pathogens remaining in the water. After disinfection, treated stormwater would either be available for reuse, or discharged to Crespi Pond so that treated runoff can supplement water in the pond and flow via the existing outfall to Monterey Bay. Crespi Pond is located approximately 250 feet east of the PGWTP site. Residual solids removed through the treatment would be dried, removed and disposed of at the Marina Regional Solid Waste Management Facility.

Site grading would be necessary within the treatment plant site where excavated material has been placed. New piping and trenching would include connections to a flow control structure and the treatment system components, an existing equalization tank (west tank), an existing treated water storage tank (east tank), Crespi Pond, and the MRWPCA conveyance. The flow control structure would be approximately 18 9 to 10 feet high and would be located southwest of the former digester tank (west tank), which has a height of 19.5 feet above the ground surface, providing a visual screening of the flow control structure from the main entrance gate to the facilities from Ocean View Boulevard. The treatment train would run parallel to the western edge of the site, with water flowing from south to north.

The proposed facilities would be co-located on the retired PGWTP site with the Pacific Grove Local Water Project (a wastewater treatment plant that would supply recycled water to the Pacific Grove Golf Links). The Pacific Grove Local Water Project is currently being planned and is undergoing a separate environmental review process.

Crespi Pond and Outfall. Installation of a new pond inlet energy dissipation structure in the northwest portion of the pond would result in some disturbance in Crespi Pond. However, substantial dredging, vegetation removal, or expansion of the pond is not proposed. The new pond inlet energy dissipation structure would include an approximately 2.5-foot tall concrete headwall, tapered side walls, and an approximately three-foot long apron onto which the treated stormwater would be discharged via a new 18-inch pipeline connecting the treatment facility and Crespi Pond. A discharge flow up to approximately 1,500 gallons per minute (gpm) is anticipated through the Crespi Pond outfall during the 85 percent 24-hour design storm.

Treated stormwater discharged to Crespi Pond would be discharged to the Monterey Bay through an existing outfall from the pond to the Bay. Preliminary hydraulic modeling indicates that the existing 15-inch diameter outfall is adequate to convey the anticipated flow from the treatment plant (1,500 gpm). Therefore, no new outfalls are proposed and the existing 15-inch outfall would be used as the primary point of discharge for treated stormwater into the Monterey Bay. If it is later determined that improvements to the outfall are needed, it is anticipated that the existing outfall could be lined by trenchless lining, thus maintaining the existing outfall. Therefore, this EIR assumes no enlargement or replacement of this outfall.



2.4.5 Diversions to MRWPCA

This component of the project would be primarily within or adjacent to the Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue, as shown in Figure 2-8. Improvements would include upgrades to the City of Pacific Grove’s existing dry weather urban diversion system to increase the capacity to allow the conveyance of wet weather flows in addition to dry weather flows. Specifically, new pumps would be installed at Greenwood Park, Berwick Park, and Eardley Avenue pump stations. In addition, some existing 4-inch storm drain lines would need to be replaced with 8-inch lines.

This component of the project would capture runoff from approximately 222 acres (23 percent of the total 950 acre ASBS drainage area) and convey it to the MRWPCA Regional Wastewater Treatment Plant in Marina. Additionally, connections between the stormwater collection system and the MRWPCA are proposed at the existing MRWPCA Coral Street pump station and at the Point Pinos Stormwater Treatment Facility. The Diversions to MRWPCA improvements are shown in Figure 2-8.

2.5 PROJECT CONSTRUCTION

This section provides an overview of the anticipated construction duration, construction equipment, grading, and truck access routes. Construction duration, grading, and road closures are summarized in Table 2-1. The timing and order of improvements would depend upon funding availability for each component, which is not known at this time.

**Table 2-1
 Summary of Project Component Construction Details**

Project Component	Estimated Duration of Construction (weeks)	Estimated Grading (CY)			Road Closures or Disturbances
		Cut	Fill	Off-Haul	
David Avenue Reservoir	22	21,420	17,656	3,765	None anticipated.
Pine Avenue Conveyance (ROW Improvements)	17	30,678	29,042	1,636	Two lanes of traffic and the northern on-street parking on Pine Avenue during construction days.
<i>Underground Stormwater Equalization and Storage Facility and CDS Unit</i>	7	8,000	1,600	6,400	15 th Street and Pine Avenue and Junipero Avenue between 488 Junipero Avenue and 517 Fountain Avenue.
Ocean View Boulevard Conveyance (ROW Improvements)	12	4,022	3,861	161	One lane plus the northern on-street parking along Ocean View Boulevard.
<i>Caledonia Street Storage and CDS Unit</i>	5	3,556	711	2,844	Pacific Avenue between Caledonia Avenue and Jewell Avenue
<i>Pump Stations (Lovers Point, Sea Palm, and Coral)</i>	9	2,333	1,250	1,083	Lovers Point parking lot, turnout at Sea Palm Avenue and Ocean View Boulevard, westbound lane of Ocean View Boulevard near Sea Palm pump station.
Point Pinos Stormwater	17	2,200	200	2,000	None anticipated.



**Table 2-1
 Summary of Project Component Construction Details**

Project Component	Estimated Duration of Construction (weeks)	Estimated Grading (CY)			Road Closures or Disturbances
		Cut	Fill	Off-Haul	
Treatment Facility and Crespi Pond					
Diversion to MRWPCA	8	667	167	500	Temporary disruptions to vehicle and bicycle traffic along Ocean View Boulevard.
Total	97^a	72,876	54,487	18,389	n/a

a. Assumes no overlap of construction.

David Avenue Reservoir. The David Avenue Reservoir improvements would be constructed over an estimated 22 weeks, and would require approximately 21,420 cubic yards (CY) of cut and 17,660 CY of fill. Approximately 3,765 CY of material would be hauled off-site and disposed of at the Monterey Regional Waste Management District landfill in Marina. Grading could include up to 1,200 CY/day and would take approximately 33 days.

Construction equipment would include: an excavator, dozer, front loader, dump truck, water truck, soil compactor, roller, cement truck, and delivery truck for materials. Trucks would access the site from Highway 1 to State Route (SR) 68 to David Avenue. It is not anticipated that there would be any temporary disruptions to vehicle traffic along David Avenue in the City of Monterey during construction.

Pine Avenue Conveyance. Improvements within the Pine Avenue ROW would be constructed over an estimated 17 weeks, and would require an estimated 30,678 CY of cut and 29,042 CY of fill. Approximately 1,636 CY of material would be hauled off-site and disposed of at the Monterey Regional Waste Management District landfill in Marina.

Installation of the Pine Avenue conveyance facilities would require closure of two lanes of traffic and the northern on-street parking on Pine Avenue during construction days. Each block, starting with 7th Street to 8th Street, would be closed during the daytime hours for approximately four days each. As each section of pipeline is installed, the trench would be covered with traffic-rated steel plates for use during non-construction hours. At the completion of this project component, the entire disturbed length of Pine Avenue would be re-paved with asphalt.

In addition to the improvements within the Pine Avenue ROW, this project component includes a pump station, CDS unit, and an underground stormwater equalization and storage facility. These facilities would take approximately 7 weeks to install and would require approximately 8,000 CY of cut and 1,600 CY of fill. Approximately 6,400 CY of material would be hauled off-site and disposed of at the Monterey Regional Waste Management District landfill in Marina. Construction would require daytime closure at 15th Street and Pine Avenue and on Junipero Avenue between 488 Junipero Avenue and 517 Fountain Avenue.

Construction equipment would include: an excavator, dozer, front loader, dump truck, water truck, soil compactor, roller, and delivery trucks for materials. Trucks and other vehicles would



access the site from SR 68/Forest Avenue to Pine Avenue. Per City requirements, the contractor would be required to prepare and submit a traffic management plan for City approval prior to the start of construction. The traffic management plan would indicate traffic, parking, bicyclist, and pedestrian management techniques to mitigate anticipated disruptions resulting from project construction.

Ocean View Boulevard Conveyance. The Ocean View Boulevard ROW improvements would be constructed over an estimated 12 weeks, and would require approximately 4,022 CY of cut and 3,861 CY of fill. The Caledonia Street storage unit would be constructed over approximately 5 weeks and would require 3,556 CY of cut and 711 CY of fill. The pump stations would require a total of 9 weeks for construction and would result in 2,333 CY of cut and 1,250 CY of fill. A total of 4,088 CY of material to be hauled off-site and disposed of at the Monterey Regional Waste Management District landfill in Marina

Construction equipment would include: an excavator, dozer, front loader, dump truck, water truck, soil compactor, roller, delivery trucks for materials, asphalt pavers and roller, and a street sweeper. Trucks and other vehicles would access the site from SR 68/Forest Avenue to Sunset Drive to 17 Mile Drive to Lighthouse Avenue to Asilomar Avenue to Ocean View Boulevard. Road closures would be required during construction, including one lane plus the northern on-street parking along Ocean View Boulevard. Each block would be impacted for approximately nine days. As each section of pipeline is installed, the trench would be covered with traffic-rated steel plates for use during non-construction hours. At the completion of this project component, the entire disturbed length of Ocean View Boulevard would be re-paved with asphalt.

For the five-weeks of construction for the Caledonia Street storage unit, closure of Pacific Avenue between Caledonia Avenue and Jewell Avenue would be required. The Lovers Point parking lot also would be closed during construction of the Lovers Point pump station (an estimated two week period), and the turnout at Sea Palm Avenue and Ocean View Boulevard would be closed during daytime hours during construction of the Sea Palm pump station (an estimated two week period). In addition, the westbound lane of Ocean View Boulevard in the vicinity of the Sea Palm pump station would be closed for one week and would be closed in the vicinity of the Coral Street pump station for two weeks during construction of these pump stations. Per City requirements, the contractor would be required to prepare and submit a traffic management plan for City approval prior to the start of construction. The traffic management plan would indicate traffic, parking, bicyclist, and pedestrian management techniques to mitigate anticipated disruptions resulting from project construction.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The Point Pinos Stormwater Treatment Facility improvements would be constructed over an estimated 17 weeks, and would require approximately 2,200 CY of cut, 200 CY of fill, and 1,400 linear feet (lf) of trenching. The remaining 2,000 CY of material would be hauled off-site and disposed of at the Monterey Regional Waste Management District landfill in Marina, with the exception of any excavated dune sand material, which would be reserved for use within the Asilomar Dunes complex. Grading and trenching would take approximately 22 days.

Construction equipment would include: an excavator, dozer, front loader, dump truck, water



truck, soil compactor, cement truck, and delivery truck for materials. Trucks and other vehicles would access the site from SR 68/Forest Avenue to Sunset Drive to 17 Mile Drive to Lighthouse Avenue to Asilomar Avenue to Ocean View Boulevard. It is not anticipated that there would be any temporary disruptions to vehicle traffic along Ocean View Boulevard during construction.

Diversions to MRWPCA. Improvements to existing diversions to MRWPCA would be constructed over an estimated 8 weeks, and would require approximately 667 CY of cut and 167 CY of fill. Approximately 500 CY of material would be hauled off-site and disposed of at the Monterey Regional Waste Management District landfill in Marina.

Construction equipment would include: an excavator, dozer, front loader, dump truck, water truck, soil compactor, roller, delivery trucks for materials, asphalt pavers and roller, and a street sweeper. Trucks and other vehicles would access the site from SR 68/Forest Avenue to David Avenue to Ocean View Boulevard. During construction, temporary disruptions to vehicle and bicycle traffic along Ocean View Boulevard would be expected. Per City requirements, the contractor would be required to prepare and submit a traffic management plan for City approval prior to the start of construction. The traffic management plan would indicate traffic, parking, bicyclist, and pedestrian management techniques to mitigate anticipated disruptions resulting from project construction.

2.6 PROJECT GOALS

If upcoming water quality monitoring results (anticipated to be available in 2015) identify impacts to natural water quality in the Pacific Grove ASBS, the cities would pursue the proposed project. The primary goal of the project is to improve stormwater quality discharged into the Pacific Grove ASBS. In addition, key objectives of the project are:

- 1. To meet the ASBS Special Protection requirements to implement structural BMPs to achieve up to a 90 percent reduction in pollutant loading during storm events, if the wet weather discharges are impacting natural water quality to comply with the ASBS water quality standards set by the SWRCB;*
- 2. To conserve potable water by developing dry and wet weather storm system flows as a source of non-potable water for irrigation at the Pacific Grove Golf Links, El Carmelo Cemetery, and other feasible non-potable water demands;*
- 3. To restore the David Avenue Reservoir to a year-round continuous reservoir;*
- 4. To install necessary stormwater infrastructure and structural BMPs to comply with the Special Protections and NPDES permit requirements, including: new stormdrain pipelines, stormwater treatment units, equalization basins, and lift stations so that runoff can be managed in an effective manner to protect water quality, and to allow the reuse of runoff either locally from David Avenue Reservoir, the proposed equalization systems, the planned Point Pinos Stormwater Treatment System and/or at MRWPCA future groundwater replenishment project;*
- 5. To construct improvements in such a way as to allow the future addition of stormwater BMPs into the system to further enhance water quality and local reuse activities;*
- 6. To expand the existing dry weather diversion system to collect runoff west of Lovers Point for discharge to the Point Pinos Stormwater Treatment Facility or the MRWPA system for reuse in North Monterey County or the proposed groundwater replenishment project in Seaside.*



7. *To reduce regulatory uncertainty by addressing the requirements of the ASBS Special Protections that may impact the cities of Monterey and/or Pacific Grove if they do not participate in the project;*
8. *To construct a project that is both financially and technically feasible;*
9. *To construct a project that does not exceed MRWPCA Regional Wastewater Treatment Plant capacity; and*
10. *To construct a project that can be eligible for multiple funding opportunities.*

2.7 REQUIRED APPROVALS and PERMITS

The City of Pacific Grove is the Lead Agency for the project. The City of Monterey is a co-sponsor of the project and a Responsible Agency. The California Coastal Commission is also a Responsible Agency for the project. Approvals and other permits that may be required from local, regional, state, and federal agencies as physical development occurs pursuant to the proposed project are identified below:

Municipal Approvals and Permits

- *City of Pacific Grove* – EIR Certification, Use Permit, Building Permit, Tree Removal Permit(s), and Encroachment Permits
- *City of Monterey* –EIR Certification, Use Permit (Utility, major), Tree Removal Permit (if applicable), Street Opening Permit and Building Permit

State Permits

- *California Coastal Commission* – Coastal Development Permit
- *Central Coast Regional Water Quality Control Board/State Water Resources Control Board* – Construction General Permit (CGP), Industrial General Permit (IGP) (for applicable built facilities), National Pollutant Discharge Elimination System (NPDES) Permit, Clean Water Act Section 401 certification or Waste Discharge Requirements (WDR), and compliance with existing Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit requirements.⁶
- *California Department of Public Health* – approval of treated stormwater for irrigation purposes
- *California Department of Fish and Wildlife* – 1602 Streambed Alteration Agreement
- *California Department of Water Resources Division of Safety and Dams* – approval of David Avenue Reservoir improvements

Federal Permits

- *U.S. Army Corps of Engineers* – Clean Water Act Section 404 Nationwide Permit

⁶ The ultimate determination of the specific permits required for each project component depends on the final project design and lies with the SWRCB and RWQCB, and may therefore vary from the list included herein.



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3.0 ENVIRONMENTAL SETTING

3.1 LOCATION

The Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project area comprises five associated components located primarily in the City of Pacific Grove, with a portion of two components located in the City of Monterey, California. The portions of the project located in the City of Monterey are located in the area known as “New Monterey,” which borders the City of Pacific Grove. All five components are located on the Monterey Peninsula, which is located approximately 30 miles southwest of Salinas and approximately 120 miles south of San Francisco. Specific locations of the five project components are provided below.

- 1) *The former David Avenue Reservoir, adjacent to the intersection of David Avenue, Terry Street, and Carmel Avenue;*
- 2) *The Pine Avenue right-of-way between 7th Street and 18th Street;*
- 3) *The Ocean View Boulevard right-of-way from Forest Avenue west to the former Pacific Grove Wastewater Treatment Plant at the Point Pinos Lighthouse Reservation;*
- 4) *The retired Pacific Grove Wastewater Treatment Plant (PGWTP) and adjacent Crespi Pond, located on the Pacific Grove Golf Links; and*
- 5) *The Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue (diversions to the Monterey Regional Water Pollution Control Agency [MRWPCA] Regional Wastewater Treatment Plant in Marina).*

The project sites are spread across the City of Pacific Grove. The Point Pinos Stormwater Treatment Facility site is the furthest north, at the northernmost point on the Monterey Peninsula, adjacent to the Pacific Ocean, as well as the northernmost point of the City of Pacific Grove. The Ocean View Boulevard segment is located along the northeast edge of the Peninsula and extends to the southern boundary of the City of Pacific Grove. The main access road to the region is Highway 1, which extends along the coast of California and traverses Monterey County in a north-south direction. Other primary access roads to the City of Pacific Grove and the applicable portion of Monterey include State Route (SR) 68, David Avenue, Forest Avenue, and Ocean View Boulevard.

3.1.1 General Plan and Zoning

As described above, the proposed project would be located throughout the City of Pacific Grove and within a portion of the City of Monterey. The applicable General Plan and zoning designations are listed in Table 3-1. As shown therein, the majority of project components would be located within existing roadway rights-of-way (ROW) and/or areas designated as open space.



**Table 3-1
 General Plan and Zoning Designations of Project Components**

Project Component	Jurisdiction	General Plan Designation	Zoning Designation
David Avenue Reservoir	Pacific Grove	Open Space-Institutional (OSI), Medium Density Residential (MDR)	Unclassified (U), Single Family Residential (R-1)
	Monterey	Residential – Low Density	Residential 1 (R-1)
Pine Avenue Conveyance	Pacific Grove	n/a (Roadway Right-of-Way), Public (P)	n/a (Roadway Right-of-Way), Unclassified (U)
Ocean View Boulevard Conveyance	Pacific Grove	n/a (Roadway Right-of-Way), Open Space (O)	n/a (Roadway Right-of-Way), Open Space (O)
Point Pinos Stormwater Treatment Facility and Crespi Pond	Pacific Grove	Open Space (OS), Open Space-Institutional (OSI), n/a (Roadway Right-of-Way)	Open Space (OS), n/a (Roadway Right-of-Way)
Diversions to MRWPCA	Pacific Grove	n/a (Roadway Right-of-Way), Open Space (OS)	n/a (Roadway Right-of-Way), Open Space (O)
	Monterey	Commercial, Medium Density Residential	Commercial 2 (C-2), Residential 3 (R-3)

3.1.2 Adjacent Land Uses

The project components are bordered by a range of low-density urban land uses. The following describes the surrounding land use pattern by component.

- 1) David Avenue Reservoir. The David Avenue Reservoir is bordered by single family residences to the east and west, Hillcrest Avenue and Pacific Grove Middle School to north, and David Avenue and single and multi-family residences to the south.

- 2) Pine Avenue Conveyance. The Pine Avenue conveyance improvements would be located primarily within the Pine Avenue right-of-way, which is bordered to the northeast by single family residences, commercial uses, multi-family residences, professional offices, and City Hall and to the southwest by single family residences, Robert Down Elementary School, multi-family residences, and professional offices. This project component also includes installation of an underground stormwater equalization/storage facility in the vicinity of Robert Down Elementary School, which is bounded by Pine Avenue and single family residences to the north, multi-family residences to the west, 12th Street and single family residences to the east, and Junipero Avenue and the Pacific Grove Recreation Department and Youth Center to the south.

- 3) Ocean View Boulevard Conveyance. The Ocean View Boulevard conveyance improvements would be located primarily within the Ocean View Boulevard right-of-way, which is surrounded by open space, pedestrian trails, and Monterey Bay to the north and east, and by single family residences and commercial uses to the south. At the western edge of this project component, Ocean View Boulevard is bounded to the south by Pacific Grove Golf Links, Crespi Pond, and the former Pacific Grove Wastewater Treatment Plant (PGWTP). In addition to conveyance improvements within the right-of-way, this project component includes three new pump stations: at the Lovers Point



parking lot; north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. The Lovers Point pump station would be surrounded by a parking lot to the east, south, and west and by the Monterey Bay Coastal Recreation Trail to the north. The Sea Palm pump station would be located primarily within a landscaped median, and bordered by a parking area and Monterey Bay to the north and Ocean View Boulevard to the south. The Coral Street pump station would be primarily within the Ocean View Boulevard right-of-way, bordered by single family residences to the south and open space and the Monterey Bay to the north.

- 4) Point Pinos Stormwater Treatment Facility and Crespi Pond. The former PGWTP (also known as the Point Pinos Stormwater Facility) and Crespi Pond are surrounded by open space, pedestrian trails, and the Monterey Bay to the north, dune habitat restoration to the west, and the Pacific Grove Golf Links to the south and east.
- 5) Diversions to MRWPCA. This component would be primarily within or adjacent to the Ocean View Boulevard right-of-way east of Forest Avenue, which is bordered by open space, pedestrian trails, Hopkins Marine Station, and the Monterey Bay to the north and east, single family residences and commercial uses to the south and west.

Figures 2-1 and 2-2 in Section 2.0, *Project Description*, illustrate the regional location and specific locations of project components.

3.2 PHYSIOGRAPHY AND CLIMATE

The project area lies within the Monterey Peninsula, which includes the cities of Pacific Grove, Monterey, and Carmel. Based on the provinces defined by the California Geological Survey (CGS), the project site is located within the Coast Ranges Geomorphic Province of California (CGS, 2002). The Coast Ranges are northwest-trending mountain ranges and valleys that subparallel the San Andreas Fault. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary rocks. The most prominent features within the Monterey Peninsula region are the Santa Lucia and Gabilan Mountain Ranges, the Salinas and Carmel Valleys, and about 100 miles of coastline within Monterey County. The Santa Lucia and Gabilan Mountain Ranges are formed of granite and metamorphic rocks and are characterized by steep slopes and complex drainage patterns. The Monterey Peninsula possesses rocky shores and cliffs.

The project site's elevation ranges from approximately 250 feet at the David Avenue Reservoir to approximately 20 feet at the site of the proposed Point Pinos Stormwater Treatment Facility. All sites are within one mile of the Pacific Ocean. The regional landscape is predominantly residential in character with commercial, recreational, and open space uses in the immediate vicinity of project components.

The City of Pacific Grove has a coastal Mediterranean climate characterized by moderate temperatures throughout the year with mild winter rains and cool summers influenced by coastal fog and onshore breezes. The local climate is largely dominated by the Pacific High Pressure Cell. The proximity of this high pressure cell to the California coast is responsible for large-scale weather patterns within the Monterey Bay region, including rain, wind speed and direction, air temperature, and fog conditions.



Between April and September, prevailing winds are from the northwest nearly 60 percent of the time. During the winter, winds accompanying storm fronts will be from the south, southwest, or southeast. Prevailing winds are still from the northwest or north nearly 50 percent of the time, but are generally weaker than in spring or summer. Average annual precipitation is about 16 inches, approximately 85 percent of which occurs between November and April. December and January are usually the wettest months of the year. July and August are virtually without rainfall. Fog is most common during July, August, and September, with a low-lying fog bank generally persisting in the area with only short afternoon breaks.

3.3 HYDROLOGIC CONDITIONS

The project site is located in the Central Coast Hydrologic Region. This region covers approximately 7.22 million square miles and includes all of Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara counties, as well as parts of San Benito, San Mateo, Santa Clara, and Ventura counties. Major geographic features that define the region include the Pajaro, Salinas, Carmel, Santa Maria, Santa Ynez, and Cuyama valleys; the coastal plain of Santa Barbara; and the Coast Range. The region is largely defined by the northwest-trending southern Coast Range (Department of Water Resources, 2009).

The project site is situated primarily within the City of Pacific Grove, which does not directly overlie a groundwater basin. The City of Pacific Grove is located between the Salinas Valley Seaside Area Sub-basin, which lies east of Pacific Grove in the vicinity of Seaside, Marina, and the former Fort Ord (IWRIS, Nov. 2013) and the Carmel Valley Groundwater Basin, which is located to the south, within the Carmel River Valley.

3.3.1 Watershed

The proposed project encompasses the watershed that drains to the Pacific Grove ASBS (see Figure 2-3 in Section 2.0, *Project Description*). The ASBS watershed is subdivided into four smaller watershed management areas that are further described below.

- *Area 1 includes the New Monterey drainage. Runoff from this area would be directed to a restored David Avenue Reservoir and ultimately to a new Point Pinos Stormwater Treatment Facility located at the retired PGWTP.*
- *Area 2 is north of David Avenue and southwest of Pine Avenue. Runoff from this area would drain to Pine Avenue for conveyance northwest towards the new Point Pinos Stormwater Treatment Facility.*
- *Area 3 includes a portion of Pacific Grove that is outside and northwest of the existing dry weather diversion system. Runoff from this area would be conveyed to the new Point Pinos Stormwater Treatment Facility at the retired PGWTP.*
- *Area 4 includes the lower Pacific Grove drainage area below Pine Avenue and lower New Monterey drainage. Runoff from this area drains to an existing urban diversion system, which directs dry-weather flows to the MRWPCA. The existing system would be upgraded to convey dry and wet weather flows to the MRWPCA Regional Wastewater Treatment Plant for treatment and reuse.*

Additional hydrological context is provided in Section 4.8, *Hydrology*.



3.4 HISTORICAL CONTEXT

The Monterey Bay area was successively occupied by three major cultural groups: Native Americans of the central coast region; Spanish-Mexicans; and Northern Europeans. The early recorded history of the Monterey Peninsula is the history of the city of Monterey. Monterey is one of the oldest communities in North America. The Spanish first came to the present site of Monterey just 50 years after Columbus discovered the New Continent. In the early 1800s, the rearing of cattle for hides and the hunting of marine mammals was the principal commerce. Sea otters, sea lions, and whales were in abundance. Many new settlements whose economy was based on the whaling industry were established along the coast. Monterey Bay was a major center for this activity.

Many small towns were founded in California in the 1870s, primarily in response to local economic and social pressures. Pacific Grove, however, was formed for religious purposes. Most of the land that now constitutes Pacific Grove was owned by David Jacks, a wealthy land owner and rancher. In 1875, he consented to the development of a Methodist Christian Seaside Retreat on 100 acres of pine-covered coastal land that he donated. The Retreat was conceived as a place to worship in a quiet and beautiful natural environment where one could nurture both spiritual and physical health. The first two-week camp meeting of Methodist ministers was held on August 8, 1875, and the meetings became an annual event for several decades.

Additional cultural and historical context is provided in Section 4.4, *Cultural Resources*.

3.5 NATURAL RESOURCES

Pacific Grove and the Monterey Peninsula contain a wide variety of habitats, including, but not limited to: mixed Monterey pine/oak woodland habitat type, Bulrush marsh habitat, Rosy ice plant mats, Monterey cypress, seasonal wetland/bulrush marsh, open water, and developed and landscaped land. Portions of the project sites are located within the Coastal Zone, specifically the retired PGWTP and adjacent Crespi Pond, and the Coral Avenue Pump Station are sited within the Coastal Zone as defined by the City of Pacific Grove Local Coastal Program (LCP)/ Land Use Plan (LUP). In particular, the PGWTP/Crespi Pond portion of the project is located within the Lighthouse Reservation, and area identified as an area of Scientific and Ecological Significance under the LCP/LUP. However, no environmentally sensitive habitat areas (ESHAs) are mapped within the project sites.

Additional natural resources setting information is described in Section 4.3, *Biological Resources*.

3.6 CUMULATIVE SETTING

3.6.1 CEQA Requirements

According to the *State CEQA Guidelines* Section 15130(a)(1), “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the environmental impact report (EIR) together with other projects causing related impacts.” In addition, an EIR must discuss cumulative impacts if the incremental effect of a project,



combined with the effects of other projects is “cumulatively considerable” [Section 15130(a)]. Such incremental effects are to be “viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” [Section 15164(b)(1)]. Together, these projects comprise the cumulative scenario which forms the basis of the cumulative impact analysis. A cumulative impact analysis should highlight past actions that are closely related (either in time or location) to the project being considered, catalogue past projects and discuss how past projects have harmed the environment, and discuss past actions, even if they were undertaken by another agency or another person.

Both the severity of impacts and the likelihood of their occurrence are to be reflected in the discussion, “but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion of cumulative impacts shall be guided by standards of practicality and reasonableness, and shall focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact” [Section 15130(b)]. However, the analysis must be in sufficient detail to be useful to decision makers in deciding whether, or how, to alter the program to lessen cumulative impacts. Most of the projects included in the cumulative projects list have, are, or will be required to undergo their own independent environmental review under CEQA. Significant adverse impacts of the cumulative projects would be required to be reduced, avoided, or minimized through the application and implementation of mitigation measures. The net effect of these mitigation measures is assumed to be a general lessening of the potential for a contribution to cumulative impacts.

There are two commonly used approaches, or methodologies, for establishing the cumulative impact setting or scenario. One approach is to use a “list of past, present, and probable future projects producing related or cumulative impacts” [Section 15130(b)(1)(A)]. The other is to use a “summary of projects contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact” [Section 15130(b)(1)(B)]. This EIR uses the list approach to provide a tangible understanding and context for analysing the potential cumulative effects of a project. General plans and other planning documents were used as additional reference points in establishing the cumulative scenario for the analysis.

3.6.2 Proposed Development in the Project Vicinity

Reasonably foreseeable projects that could contribute to the cumulative effects scenario are listed below. Collectively, these projects represent known and anticipated activities that may occur in the project vicinity that have the potential to contribute to a cumulative impact on the environment.

1. *A stormdrain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue (from 12th to 14th Streets).*
2. *Lovers Point stormdrain retrofit (Pine Avenue and 19th Street to Lovers Point).*
3. *The Pacific Grove Local Water Project (LWP) at Point Pinos.*



The above projects are all located within the City of Pacific Grove. The LWP would be constructed on the same site as the proposed Point Pinos Stormwater Treatment Facility, and is currently undergoing a separate environmental review. However, the LWP is anticipated to be constructed prior to the proposed Point Pinos Stormwater Treatment Facility and Crespi Pond component of the proposed project.

There are no reasonably foreseeable projects that could contribute to the cumulative effects scenario within the City of Monterey (personal communication, November 21, 2013).



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4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section contains a discussion of the possible environmental effects of the proposed project for the specific issue areas that were identified through the NOP scoping process as having the potential to experience significant impacts.

“Significant effect” is defined by the *State CEQA Guidelines* §15382 as:

“a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.”

The assessment of each issue area begins with the environmental setting and is followed by the impact analysis. Within the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds,” which are those criteria adopted by the City of Pacific Grove (as the CEQA Lead Agency) or other resource agencies. Other thresholds are universally recognized or have been developed specifically for this analysis. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded impact listing also contains a statement of the significance determination for the environmental impact as follows:

Significant and Unavoidable: *An impact that cannot be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.*

Significant but Mitigable: *An impact that can be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.*

Less than Significant: *An impact that may be adverse, but does not exceed the significance threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.*

No Impact: *No impact would occur.*

Beneficial Impact: *The project would result in a beneficial impact on the environment.*

Following each environmental effect discussion is a listing of mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area.



Please refer to the Executive Summary for this EIR, which summarizes impacts and mitigation measures identified in the EIR for the proposed Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project.



4.1 AESTHETICS

4.1.1 Setting

a. Regional Landscape. The Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project is comprised of five associated components located primarily in the City of Pacific Grove, with a portion of two components located in the City of Monterey. The portions located in the City of Monterey are located in the area known as “New Monterey,” which borders the City of Pacific Grove. All five components are located on the Monterey Peninsula, which is located approximately 30 miles southwest of Salinas and approximately 120 miles south of San Francisco (refer to Figures 2-1 and 2-2 in Section 2.0, *Project Description*).

The project site’s elevation ranges from approximately 250 feet above mean sea level (amsl) at the David Avenue Reservoir to approximately 20 feet amsl at the site of the proposed Point Pinos Stormwater Treatment Facility. The regional landscape is predominantly residential in character with commercial, recreational, and open space uses located in the immediate vicinities of some of the project components. Within the vicinity of the coastal areas of the City, dramatic ocean views are available, including from Ocean View Boulevard and the retired Pacific Grove Wastewater Treatment Plant (PGWTP). Views of the Point Pinos Lighthouse are also available from the retired PGWTP and the northern segment of Ocean View Boulevard. With the exception of the area around the Point Pinos Stormwater Treatment Facility and Crespi Pond, the City of Pacific Grove, and thus the majority of the project area, is almost completely built out and is characterized primarily by residential development. Development in the City is a mixture of historical (late 1800s to early 1900s) and modern architectural design with the areas of the City closer to the historic commercial and residential cores.

b. Project Site Setting. The individual site settings for each of the five project components are described below.

David Avenue Reservoir. The David Avenue Reservoir is located adjacent to the intersection of Carmel Avenue and David Avenue in Pacific Grove, near its boundary with the City of Monterey. The site is located in an urban/residential setting. Two single-story houses are located directly to the northwest and below the downstream toe of the dam. Single-family and multi-family housing as well as the Pacific Grove Middle School are located in the vicinity of the site. The site is owned by California American Water Company (CalAm), who currently uses the site as a maintenance, operations, and materials storage area. The site is unpaved and characterized by bare ground, with the exception of a paved access road and parking area around the perimeter. The reservoir has ceased operating as a water storage facility. Vegetation has grown inside the previously inundated areas of the reservoir. Vegetation in the form of trees and shrubs bound a majority of the site, screening portions of it from the adjacent roadways and residences.

This project component is not located within an area designated for visual sensitivity, according to the City of Pacific Grove General Plan. State Route (SR) 68 is a State-designated scenic highway for specific segments and passes within the vicinity of the David Avenue Reservoir, approximately 0.4 miles to the southeast. Various buildings and outlying structures are located on the site, with nighttime security lighting present. Photographs of the site are displayed in



Figure 4.1-1. Views through the site are characterized by vegetation within the previous reservoir area, low lying shrubs and trees and the existing maintenance and storage areas.

Pine Avenue Conveyance. The Pine Avenue conveyance improvements would be located primarily within the Pine Avenue right-of-way. The right-of-way is bordered to the northeast by single and multi-story single family residences, commercial uses, multi-family residences, professional offices and City Hall and to the southwest by single and multi-story single family residences, Robert Down Elementary School, multi-family residences and professional offices. This component also includes installation of an underground stormwater equalization/storage facility in the vicinity of Robert Down Elementary School, which is bounded by Pine Avenue and single family residences to the north, multi-family residences to the west, 12th Street and single family residences to the east, and Junipero Avenue and the Pacific Grove Recreation Department and Youth Center to the south. The area is characterized by its existing use as a generally flat neighborhood roadway, with street trees and landscaped sidewalk areas located regularly along its length. Views through the site are of the roadway itself and the existing development in the area, some of which is comprised of the early structures which are indicative of the City's historic character. See Figure 2-5 in Section 2.0, *Project Description*, for an aerial view of the right-of-way and the surrounding land uses.

Ocean View Boulevard Conveyance. The Ocean View Boulevard conveyance improvements would be located primarily within the Ocean View Boulevard right-of-way. The right-of-way is bounded by open space, pedestrian trails, and Monterey Bay to the north and east and by single and multi-story single family residences and commercial uses to the south. At the western edge of this component, Ocean View Boulevard is bounded to the south by Pacific Grove Golf Links, Crespi Pond, and the retired Pacific Grove Wastewater Treatment Plant (PGWTP). In addition to conveyance improvements within the right-of-way, this project component includes three new pump stations: at the Lovers Point parking lot; north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. The Lovers Point pump station would be surrounded by a parking lot to the east, south, and west and bounded by the Monterey Bay Coastal Recreation Trail to the north. The Sea Palm pump station would be located primarily within a landscaped median, which is bordered by a parking area and Monterey Bay to the north and Ocean View Boulevard to the south. The Coral Street pump station would be located primarily within the Ocean View Boulevard right-of-way, bordered by single family residences to the south and open space and the Monterey Bay to the north. Views in the vicinity of this component are dominated by the rocky coastline with its low lying vegetation and the ocean beyond as well as the historical nature of the structures located along the length of Ocean View Boulevard. See Figure 2-6 in Section 2.0, *Project Description*, for an aerial view of the right-of-way and the surrounding land uses.





Photo 1: Existing vegetation within former reservoir.



Photo 2: Within former reservoir, looking northeast.





Photo 3: Within former reservoir, looking south.



Photo 4: Within former reservoir, looking south.



Point Pinos Stormwater Treatment Facility and Crespi Pond. The retired PGWTP (referred to here as the Point Pinos Stormwater Treatment Facility) and Crespi Pond are bounded by open space, pedestrian trails, and the Monterey Bay to the north, dune habitat restoration to the west, and the Pacific Grove Golf Links to the south and east. Photographs of the site are displayed in Figure 4.1-2 and an aerial view of the site and surrounding land uses is provided in Figure 2-7 in Section 2.0, *Project Description*. The majority of views through the site from the surrounding area are blocked by existing trees and shrubs that bound the site, with the exception of views afforded to passing motorists and recreational users by the entrance to the site along Ocean View Boulevard.

Diversions to Monterey Regional Water Pollution Control Agency (MRWPCA). This component would be located primarily within or adjacent to the Ocean View Boulevard right-of-way east of Forest Avenue, which is bounded by open space, pedestrian trails, Hopkins Marine Station and the Monterey Bay to the north and east, and single family residences and commercial uses to the south and west. See Figure 2-8 in Section 2.0, *Project Description*, for an aerial view of the right-of-way and the surrounding land uses. Views in the vicinity of this component are dominated by the rocky coastline with its low lying vegetation and the ocean beyond. Structures along this segment of Ocean View Boulevard are a mix of single- and multi-story structures characterized by both modern and historical architecture.

c. Proposed Project Viewsheds. The project viewsheds or areas of potential visual effect (i.e. the areas from which project components could potentially be viewed) are described below for each project component.

David Avenue Reservoir. SR 68 passes approximately 0.4 miles southeast of the David Avenue Reservoir. Segments of SR 68 are designated as a State scenic highway; however, the site is not visible from SR 68. Although the site is not generally visible from public roadways or other public viewing areas, it is visible from the single-family residences located at higher elevations to the south of the site. Nighttime security lighting is installed on the David Avenue Reservoir site. When operated as an active reservoir, the site appeared as a lake to surrounding residents.

Pine Avenue Conveyance. Construction activities associated with this project component would be visible from single and multi-family residences, commercial uses, the elementary school, and professional offices located along the Pine Avenue right-of-way. Construction activities would also be visible to passing motorists at the intersection of Fountain Avenue and Pine Avenue, at the entrance to the City of Pacific Grove's downtown commercial area. No designated scenic state highways or viewsheds exist in the immediate vicinity of the site.





Photo 1: Crespi Pond looking east.



Photo 2: Point Pinos Stormwater Treatment Facility site front access.

Point Pinos Stormwater Treatment
Facility and Crespi Pond Site Photos

Figure 4.1-2a





Photo 3: Point Pinos Stormwater Treatment Facility site rear access.



Photo 4: Existing tanks within interior of Point Pinos Stormwater Treatment Facility Site.



Ocean View Boulevard Conveyance. Construction activities associated with this component would be visible from single-family residences located on Ocean View Boulevard, from nearby recreational areas (e.g. the Pacific Grove Golf Links, the coastal trail adjacent to Ocean View Boulevard or Sunset Drive, the shoreline), and by passing motorists on Ocean View Boulevard or Sunset Drive and intersecting roadways. While Ocean View Boulevard and Sunset Drive area not designated as state scenic highways, the City of Pacific Grove General Plan includes goals and policies designed to protect the visual quality of these roadways. In addition, the City of Pacific Grove Coastal Land Use Plan identifies all areas seaward of Ocean View Boulevard and Sunset Drive as scenic.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Construction activities associated with the Point Pinos Stormwater Treatment Facility and Crespi Pond component would be visible from nearby recreational areas (e.g. the Pacific Grove Golf Links, the coastal trail adjacent to Sunset Drive, the shoreline), and by passing motorists on Sunset Drive. While Sunset Drive is not designated as a state scenic highway, the City of Pacific Grove General Plan includes goals and policies designed to protect the visual quality of this roadway. In addition, the City of Pacific Grove Coastal Land Use Plan further identifies all areas seaward of Ocean View Boulevard and Sunset Drive as scenic.

Diversions to MRWPCA. Construction activities associated with this component would be visible from single-family residences located on Ocean View Boulevard, from nearby recreational areas (e.g. the coastal trail adjacent to Ocean View Boulevard, the shoreline), and by passing motorists on Ocean View Boulevard and intersecting roadways. While Ocean View Boulevard is not a designated state scenic highway, the City of Pacific Grove General Plan includes goals and policies designed to protect the visual quality of this roadway. In addition, the City of Pacific Grove Coastal Land Use Plan further identifies all areas seaward of Ocean View Boulevard as scenic.

d. Existing Visual Quality and Viewer Sensitivity. Characterization of the existing visual quality of each of the project component sites and their surrounding areas is based on site visits conducted on July 2, 2013.

Visual quality is described using a three-criterion scale system based on the Federal Highway Administration's (FHWA's) *Visual Impact Assessment for Highway Projects* (n.d.). The three criteria used are vividness, intactness and unity, and are defined as follows:

- *Vividness.* Vividness is the degree of drama, memorability, or distinctiveness of the landscape components. Vividness is composed of four elements – landform, vegetation, water features, and human-made elements – that usually influence the degree of vividness.
- *Intactness.* Intactness is a measure of the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes, as well as in natural settings. High intactness means that the landscape is free of eyesores and is not broken up by features that appear to be out of place. Two primary elements – development and encroachment – influence the degree of intactness.



- *Unity.* Unity is the degree of visual coherence and compositional harmony of the landscape when it is considered as a whole. High unity frequently attests to the careful design of individual components and their relationship in the landscape.

The FHWA's methodology typically assigns numeric ratings to the three criteria – vividness, intactness and unity – that determine visual quality and then averages the ratings to establish an overall visual quality score. For the purpose of this analysis, rather than using numerical ratings, qualitative assessments are provided for each of the criteria and then an overall assessment is provided to assign a “high, medium or low” rating. The concepts utilized to evaluate the visual quality of a particular location may be somewhat esoteric or subjective; however, these criteria help identify the existing visual environment in a manner that allows a meaningful and consistent evaluation of potential project effects.

Applying this approach provides an evaluation that reasonably represents the range of visual quality and allows identification of viewpoints that may be considered more visually sensitive than other locations. This approach is appropriate for the dual purposes of: a) determining the visual quality of an area; and b) determining whether the project would (or would not) result in a change in the visual environment that would constitute a substantial adverse visual effect, as defined by the City of Pacific Grove. The overall visual quality categories, described as low, medium, or high, are defined as follows:

- *Low Visual Quality.* Areas that have low visual quality may have features that seem visually out of place, lack visual coherence, do not have compositional harmony, and contain eyesores.
- *Medium Visual Quality.* These areas can be generally pleasant appearing but may lack distinctiveness, memorability, drama, and compositional harmony, or may simply be common and ordinary landscapes.
- *High Visual Quality.* These areas may be memorable, distinctive, unique (in a positive way), intact natural or park-like areas, or urban areas with strong and consistent architectural and urban design features.

Viewers can be categorized as having low, medium, or high sensitivity to changes in the viewed environment. Viewer sensitivity is strongly influenced by a viewer's activity, awareness of his or her surroundings, and amount of time spent looking at a view. People who view a landscape infrequently, view it for short periods of time (often as they pass through it), or are not attentive to it due to focusing on other activities (such as driving) are often less sensitive to changes and are assumed to have low viewer sensitivity. Viewers with average viewer sensitivity include workers and customers who may expect a somewhat pleasant visual setting for the establishments they work in or frequent but are in the locations for purposes other than enjoying its scenery or visual quality. The visual quality of an area can provide a good indication of how responsive an area's most sensitive viewers would likely be to changes in the visual environment. For example, viewers with high viewer sensitivity in areas that are categorized as having high visual quality would be expected to react more to changes in the visual environment than they would in areas that have medium or low visual quality. This concept can help determine areas where a project might be expected to have its greatest impacts on visual resources.



Using the methodology described above, the existing visual quality of views from each project component is presented in the following paragraphs.

David Avenue Reservoir. The surrounding area, as perceived from this location, is categorized as having medium visual quality. Views from the David Avenue Reservoir site encompass adjoining residential development and area roadways; however, existing vegetation and topography limit views from the site itself.

The site itself is at minimum partially visible from locations, such as adjacent residences and nearby roadways, in the surrounding area. The site is currently occupied by administrative buildings and a storage and maintenance area. These uses do not contribute to the visual quality of the site; however, they are somewhat limited to perimeter locations allowing for more open views across the majority of the site.

The David Avenue Reservoir does not offer distinct and memorable views for viewers of the site. However, views are relatively intact with few visual intrusions, and a high degree of unity due to historical uses at the site. Viewer sensitivity is considered moderate due to duration of views as perceived by vehicular traffic and existing conditions at the site.

Pine Avenue Conveyance. Views from the area surrounding this project component consist primarily of streetscape views of residential development, with some commercial development in the form of professional offices.

The surrounding area, as perceived from nearby development and motorists along Pine Avenue and its intersecting roadways, is categorized as having medium visual quality. This area does not offer distinct and memorable views, though views are considered relatively intact with few visual intrusions and a high degree of unity. Viewer sensitivity is considered moderate due to duration of views as perceived by vehicular traffic and the existing developed character of the area.

Ocean View Boulevard Conveyance. Views to the north from Ocean View Boulevard and development located south of the alignment consist primarily of uninterrupted views of the Pacific Ocean and views east are of the Monterey Bay. Views to the south and west from the adjacent trail consist of primarily of Ocean View Boulevard and residential development.

The surrounding area, as perceived from adjacent residences and other land uses along Ocean View Boulevard and in the vicinity of Lovers Point Park, is categorized as having high visual quality, with views of the ocean and bay prominently visible to the east. The areas around this site offer distinct and memorable views, views are intact with few to no visual intrusions, and views have a high degree of unity. Viewer sensitivity is considered to be high.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Views to the north and west from Sunset Drive consist of uninterrupted views of the Pacific Ocean. Views to the east consist of uninterrupted views of the Monterey Bay. Views to the south consist of views of Crespi Pond and the retired PGWTP in the foreground, Pacific Grove Golf Links in the middle ground, and Point Pinos Lighthouse in the background. Views across the site from Pacific



Grove Golf Links and Point Pinos Lighthouse and from residential development to the east are dominated by the Pacific Ocean and the Monterey Bay.

The area is categorized as having high visual quality; views of the ocean and bay are prominently visible from almost all vantage points in the immediate vicinity of the site. This area offers distinct and memorable views, views are intact with few to no visual intrusions, and views have a high degree of unity. Viewer sensitivity is considered to be high.

Diversions to MRWPCA. Views to the north from Ocean View Boulevard, the residences to the south and trail to the north consist primarily of uninterrupted views of the Pacific Ocean and views east are of the Monterey Bay. Views to the south from the shoreline and Ocean View Boulevard consist of residential development and limited commercial development.

The area is categorized as having high visual quality; views of the ocean and bay are prominently visible from almost all vantage points in the immediate vicinity of the site. This area offers distinct and memorable views, views are intact with few to no visual intrusions, and views have a high degree of unity. Viewer sensitivity is considered to be high.

e. Regulatory Setting.

California State Scenic Highway Program. The California State Scenic Highway program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are either designated or eligible for designation as a scenic highway. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

SR 68 (also locally known as Holman Highway) is a State-designated scenic highway for specific segments and passes within the vicinity of the David Avenue Reservoir, approximately 0.4 miles southeast of the site.

City of Pacific Grove General Plan. The Urban Structure and Design Element of the City of Pacific Grove General Plan contains goals, policies, and programs relating to maintaining and improving the appearance of the physical environment. This Element calls for emphasizing and promoting the overall visual attractiveness of Pacific Grove, enhancing the relationship between the City and the Pacific Ocean and the Monterey Bay, and maintaining and enhancing the quality of the City's landscape and streetscape. Consistency of the proposed project with specific visual resources policies is evaluated in Section 4.10, *Land Use and Planning*.

City of Pacific Grove Local Coastal Program. The City of Pacific Grove Local Coastal Program Land Use Plan (LUP) includes numerous policies related to visual quality and scenic resources. Specifically, the LUP designates all areas seaward of Ocean View Boulevard and Sunset Drive as scenic, and limits development within these areas. Views of the Pacific Ocean and Monterey Bay are also protected. In addition, Policy 2.5.4.5 requires the preparation and approval



of a landscaping plan for any project affecting landforms and landscaping. Consistency of the proposed project with visual resources policies is evaluated in Section 4.9, *Land Use and Planning*.

City of Monterey General Plan. Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. Construction of these improvements would require approval of a Use Permit, a Street Opening Permit, a Building Permit, and potentially a Tree Removal Permit (if trees would be removed in the final design) from the City of Monterey. In addition, as a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR. Therefore, the project would be subject to City of Monterey policies and programs. The General Plan Urban Design Element contains goals policies intended to guide future urban design decisions. They focus on preserving and enhancing Monterey's aesthetic environment, and were developed around two central concepts: Monterey's special physical setting and its image as a town.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds. The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers react to viewsheds and aesthetic conditions differently.

Information gathered to determine the existing environmental setting included site visits, review of site photographs and aerial photographs of the five project component sites, and preparation of an existing conditions inventory. The existing conditions inventory, presented in Section 4.1.2(d) (Existing Visual Quality and Viewer Sensitivity), describes the visual quality of the viewshed in the vicinity of project components and describes viewer sensitivity to changes in the viewed environment (viewer sensitivity). This assessment uses the terminology and methodology based on the system developed by the FHWA for assessing the visual effects of highway projects, as described in Section 4.1.2(d).

In accordance with Appendix G of the *State CEQA Guidelines*, impacts would be considered potentially significant if the proposed project would:

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

It should be noted that no designated State or County scenic highways are located in the direct vicinity of the five project component sites. As a result, the proposed project would not affect scenic resources within a state scenic highway, and Issue 2 is not addressed further in this section (refer to Section 4.13, *Effects Found not to be Significant*, for further discussion). Issues 1, 3, and 4 are discussed below.



b. Project Impacts and Mitigation Measures.

Impact AES-1 Several of the project component sites are located in visually sensitive locations. However, given the nature of the proposed improvements, construction and operation of the project would not have a substantial adverse effect on a scenic vista. Impacts would be Class III, *less than significant*.

As noted in Section 4.1.2(c) (Proposed Project Viewsheds), the five project component sites are either prominently or partially visible from public roadways, some of which are considered to be within visually sensitive areas. Potential impacts to scenic vistas for project component are described below.

It should also be noted that all of the project components would also be visible from surrounding residences, with the exception of the Point Pinos Stormwater Treatment Facility component. However, the adjacent properties are privately owned and do not provide public access from which views of the sites would be offered (for example, through recreation trails). Private views are not considered further in this analysis.

David Avenue Reservoir. As described previously, public viewpoints in the vicinity of the David Avenue Reservoir are limited to streetscape views. The project proposes to re-use the site as a water storage facility; therefore, the project would re-introduce a body of water on the site, which is currently not inundated. Construction and implementation of this component would require tree trimming and removal.

Infrastructure development related to the establishment of a reservoir, such as below-grade inlet and outlet connections, and the reservoir itself would not detract from existing views. The overall re-establishment of a water feature at the site would result in a beneficial visual impact for viewers, including those elevated above the site. The appearance of a water feature, as contrasted with the materials storage area that currently characterizes the site, would be a visual improvement. Therefore, implementation of the proposed project would not degrade a scenic vista, and impacts would be considered less than significant.

Pine Avenue Conveyance. Public viewpoints within the vicinity of the Pine Avenue Conveyance improvements are primarily afforded streetscape views, with no scenic viewpoints present. Proposed improvements in this area would be located almost entirely below-grade, either within or immediately adjacent to the Pine Avenue right-of-way. As proposed new facilities would be located primarily underground, viewshed disruptions would be limited to temporary construction activities. Potential impacts would be less than significant.

Ocean View Boulevard Conveyance. Views available to motorists and recreation users in the vicinity of the Ocean View Boulevard Conveyance are dominated by the ocean, bay, and coastline. On-site development associated with this component would include installation of pipeline and pump station improvements below-grade within the Ocean View Boulevard right-of-way. Minimal improvements would be installed above the surface of the roadway. As proposed new facilities would be located primarily underground, viewshed disruptions would be limited to temporary construction activities. Potential impacts would be less than significant.



Point Pinos Stormwater Treatment Facility and Crespi Pond. Existing facilities at the Point Pinos Stormwater Treatment Facility include two water storage tanks, which are remnants from the retired PGWTP. The tanks and the overall site itself are mostly obscured from Sunset Boulevard and the Pacific Grove Golf Links by an existing fence and vegetation bordering the periphery of the site. The only exceptions to this are the front entrance to the site, which is within views of passing motorists and recreational users on Sunset Boulevard and the adjacent parking area, and a rear entrance to the site, which is visible by golfers from locations on the Pacific Grove Golf Links course.

Development associated with this project component would involve new above- and below-grade infrastructure both within the retired PGWTP site and adjacent to Crespi Pond. The only new “structure” proposed by the project would include an ~~18-foot~~ approximately 9 to 10-foot tall flow control structure located within the treatment facility enclosure. This structure would be located over 150 feet from Sunset Drive, and would not exceed the height of existing facilities within the treatment facility. Above-ground infrastructure adjacent to Crespi Pond would be limited to a 2.5-foot high, concrete inlet structure.

Given the limited amount of new above-ground facilities proposed for the site, as well as the existing fence and vegetation that almost entirely shields the interior of the site from external views, the proposed improvements would not degrade views from surrounding viewpoints during the operational phase. In addition, construction activities would be temporary and largely obscured from public viewpoints by existing vegetation. Potential impacts would be less than significant.

Diversion to MRWPCA. This component would include installation of pipeline and pump station improvements within the Ocean View Boulevard right-of-way. The majority of new infrastructure would be installed below the surface of the roadway. As proposed new facilities would be located almost entirely underground, viewshed disruptions would be limited to temporary construction activities. Potential impacts would be less than significant.

Mitigation Measures. For project components requiring the removal of existing vegetation and landscaping, preparation and approval of a landscaping plan would be required, in accordance with City of Pacific Grove Local Coastal Program Policy 2.5.4.5. Beyond compliance with existing City requirements, no mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-2 Construction and operation of the proposed project would alter the existing visual character of the component sites. Considering the existing and historical uses of these sites and the nature of the proposed changes, the project would not substantially degrade the existing character or quality of the sites. Impacts would be Class III, less than significant.

All project component sites are potentially visible from common public viewing areas. In addition, specific component sites are located in areas designated as visually sensitive. Potential impacts to existing visual character are described below for each component.



David Avenue Reservoir. The David Avenue Reservoir is currently used as a storage and maintenance area with several administrative buildings and a paved parking area located in the eastern corner of the site. The property is oblong in shape with an internal, partially-paved access road following its periphery. Various types of equipment and materials are stockpiled in multiple locations on the site. Vegetation has grown inside the previously inundated areas of the reservoir since the time the reservoir ceased operating as a water storage facility, and a small portion of the original reservoir bottom has filled with water. Mature trees line the border of the site.

The project proposes to re-use the site as a water storage facility; therefore, the project would remove the existing materials storage and parking areas and re-introduce a body of water to the site. Construction of this project component would also require removal of some trees to accommodate required inlet and outlet connections to the storm drain system. However, given the limited amount of tree removal required and City of Pacific Growth tree replanting requirements (refer to Section 4.3, *Biological Resources*), the change in visual character of the site from this aspect of the project would be minor. Furthermore, the overall re-establishment of a water feature at the project site would result in an improvement in views from residences located at higher elevations around the site. The appearance of a water feature, as contrasted with the existing materials storage area, would represent an improvement in visual character at the site. Therefore, the proposed project would result in a beneficial visual character impact for the David Avenue Reservoir.

Pine Avenue Conveyance. The segment of Pine Avenue where this component would occur is a four-lane public roadway lined with single- and multi-family residences, professional office buildings, and an elementary school. Infrastructure improvements associated with this component would be located almost entirely below-grade, either within or immediately adjacent to the Pine Avenue right-of-way. Therefore, the potential for change in the existing visual character of the site from installation of new infrastructure would be temporary and confined to the construction phase. Long-term change in visual character of the site from this aspect of the project would be minor. Potential impacts would be less than significant.

Ocean View Boulevard Conveyance. The segment of Ocean View Boulevard where this component would occur is a two-lane public roadway lined with primarily single-family residences on one side and open space used for recreational purposes on the other. Infrastructure improvements associated with this component would be located almost entirely below-grade, either within or immediately adjacent to the Ocean View Boulevard right-of-way. Therefore, the potential for change in the existing visual character of the site from installation of new infrastructure would be temporary and confined to the construction phase. Construction of this component would not require tree removal or permanent removal of existing vegetation in open space areas adjacent to the roadway. Potential impacts would be less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The proposed Point Pinos Stormwater Treatment Facility would be constructed within the footprint of the retired PGWTP; minimal improvements would occur outside of this area. Two water storage tanks, both approximately 50 feet in diameter, dominate the site's visual character. Areas of the site are used by the City for stockpiling and storage purposes. Mature trees create an unbroken visual



barrier between the interior of the site and Sunset Boulevard and Pacific Grove Golf Links, with the exception of limited views through front and rear entrances to the site.

Proposed development at the retired PGWTP site would involve placement of new infrastructure above- and below-grade. The only new “structure” would include an ~~18-foot~~ approximately 9 to 10-foot tall flow control structure located within the treatment facility enclosure. This structure would be located over 150 feet from Sunset Drive, and would not exceed the height of existing facilities within the treatment facility. Above-ground infrastructure adjacent to Crespi Pond would be limited to a 2.5-foot high, concrete inlet structure. Minimal tree trimming or removal would be required as part of construction of this component of the project, and would occur only for installation of a conveyance structure between the stormwater treatment facility and Crespi Pond. Existing screening from Sunset Drive would remain. Given the existing screening of the site and the height of the proposed structures, potential impacts to the visual character of this component site would be less than significant.

Diversions to MRWPCA. The segment of Ocean View Boulevard where this component would occur is a two-lane public roadway, which is bordered by primarily single-family residences on one side and open space used for recreational purposes on the other. Infrastructure improvements associated with this component would be located almost entirely below-grade, either within or immediately adjacent to the Ocean View Boulevard right-of-way. Therefore, the potential for change in the existing visual character of the site from installation of new infrastructure would be temporary and confined to the construction phase. Potential impacts would be less than significant.

Mitigation Measures. For project components requiring the removal of existing vegetation and landscaping, preparation and approval of a landscaping plan would be required, in accordance with City of Pacific Grove Local Coastal Program Policy 2.5.4.5. Beyond compliance with existing requirements, no mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-3 The proposed project would introduce new sources of lighting at the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility. All new site lighting would be down-lit and directional in nature, consistent with City of Pacific Grove standards. Impacts would be Class III, less than significant.

Construction and operation of the proposed project would introduce nighttime lighting at certain project component sites, as described below. Visibility of nighttime lighting may affect stargazing activities in the surrounding areas. Potential nighttime lighting impacts are described below for each component.

David Avenue Reservoir. Re-establishment of a water feature at the David Avenue Reservoir would not require substantial new nighttime lighting at the site. Security lighting is currently installed and operational at the site. A limited amount of additional nighttime security lighting may be introduced on the site as part of the proposed project; however, it would not represent a substantial increase in on-site lighting compared to existing conditions.



Additionally, any new site lighting would be down-lit and directional in nature, consistent with City of Pacific Grove standards. Impacts would be less than significant.

Pine Avenue Conveyance. Infrastructure improvements associated with this component would be located below-grade, either within or immediately adjacent to the Pine Avenue right-of-way. No new lighting would be associated with this project component; therefore, no impact would occur.

Ocean View Boulevard Conveyance. Infrastructure associated with this component would be located below-grade, either within or immediately adjacent to the Ocean View Boulevard right-of-way. No new lighting would be associated with this project component; therefore, no impact would occur.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Re-use of the retired PGWTP as part of this component would introduce nighttime security lighting at the site. The site is currently used for storage and stockpiling of materials by the City of Pacific Grove and does not currently have nighttime security lighting. However, provision of new lighting would not result in a substantial increase in lighting. The new Point Pinos Stormwater Treatment Facility would continue to be largely concealed by existing vegetation. In addition, all lighting would be down-lit and directional in nature, consistent with City of Pacific Grove standards. No new lighting would be introduced at Crespi Pond. Impacts would be less than significant.

Diversions to MRWPCA. Infrastructure improvements associated with this component would be located below-grade, either within or immediately adjacent to the Ocean View Boulevard right-of-way. No new lighting would be associated with this project component; therefore, no impact would occur.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-4 The proposed project would introduce limited new sources of glare at the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility sites. Impacts would be Class III, less than significant.

David Avenue Reservoir. Re-establishment of a water storage facility at the David Avenue Reservoir would re-introduce a water feature that has been absent for decades. Water levels in the re-established reservoir would introduce a new/renewed source of glare in the area. Based on the relatively limited size of the reservoir and the positive aesthetic impacts which would occur with re-establishment of a water reservoir on the site, this would be a less than significant impact.

Pine Avenue Conveyance. Development associated with this component would be almost entirely below-grade within or adjacent to the Pine Avenue right-of-way. This component of the project would not introduce a permanent source of glare; therefore, no impact would occur.



Ocean View Boulevard Conveyance. Development associated with this component would be almost entirely below-grade within or adjacent to the Ocean View Boulevard right-of-way. This component of the project would not introduce a permanent source of glare; therefore, no impact would occur.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Re-use of the retired PGWTP as part of this component would include introduction of new above- and below-ground equipment/facilities at the site. New facilities would be expected to have architectural coating (i.e. be painted) and would be required to be consistent with City of Pacific Grove standards requiring facilities to be painted in muted colors that blend with the surrounding natural environment. Additionally, existing and new facilities on the site would continue to be largely concealed from outside viewing locations by the existing fence and mature trees present around the perimeter. No facilities that would introduce new sources of glare would be constructed at Crespi Pond. Impacts would be less than significant.

Diversions to MRWPCA. Development associated with this component would be almost entirely below-grade within or adjacent to the Ocean View Boulevard right-of-way. This component of the project would not introduce a permanent source of glare; therefore, no impact would occur.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in the ASBS watershed area includes a storm drain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue, a Lovers Point storm drain retrofit, and the Pacific Grove Local Water Project (PGLWP). It is feasible that several of these projects may potentially be developed concurrently with components of the project. Construction of multiple projects within the same geographical area and within the same timeframe could create potentially significant cumulative aesthetic impacts. However, future projects in cities of Pacific Grove and Monterey will be required to adhere to specific development standards in each City's Zoning Ordinance and General Plan, which are designed to protect and enhance the area's aesthetic and visual resources. In addition, the limited effects of the proposed project, as described above, would limit the potential for a significant contribution to cumulative impacts. The project's contribution to the overall visual effect of cumulative development in the area would, therefore, be less than significant.



4.2 AIR QUALITY

4.2.1 Setting

a. Climate and Topography. The proposed project would be located within the North Central Coast Air Basin (NCCAB), which covers an area of 5,159 square miles along the central California coast and includes Monterey, San Benito, and Santa Cruz counties. Climatological conditions, an area's topography, and the quantity and type of pollutants released commonly determine ambient air quality. The northwest portion of the NCCAB is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary of the NCCAB. The Santa Clara Valley extends into the northeastern tip of the NCCAB. Further south, the Santa Clara Valley becomes the San Benito Valley, which runs northwest-southeast with the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to south of King City. The coastal Santa Lucia Range defines the western side of the valley.

The semi-permanent high pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air loft acts as a lid to inhibit vertical air movement (Monterey Bay Air Pollution Control District [MBUAPCD], February 2008).

The generally northwest-southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure which intensifies the onshore air flow during the afternoon and evening. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB (MBUAPCD, February 2008).

During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm system usually result in good air quality for the NCCAB as a whole in winter and early spring (MBUAPCD, February 2008).

In the project vicinity, marine breezes from Monterey Bay dominate the climate. These westerly winds predominate in all seasons, but are strongest and most persistent during the spring and summer months.



b. Air Pollution Regulation. The federal and state Clean Air Acts regulate the emission of airborne pollutants from various mobile and stationary sources. The United States Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the state equivalent in the California Environmental Protection Agency. These agencies have established ambient air quality standards for the protection of public health. Local air quality management control and planning is provided through regional Air Pollution Control Districts (APCDs) established by the CARB for the 14 California air basins. CARB is responsible for control of mobile emission sources, while the local APCDs are responsible for control of stationary sources and enforcing regulations. The Monterey Bay Unified Air Pollution Control District (MBUAPCD) is responsible for local control and monitoring of criteria air pollutants throughout the NCCAB.

Federal and state standards have been established for six criteria pollutants, including ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (including particulates less than 10 and 2.5 microns in diameter [PM₁₀ and PM_{2.5}]), and lead (Pb). Table 4.2-1 summarizes the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS) for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except for lead and the eight-hour average for CO. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The local APCD is required to monitor air pollutant levels to assure that air quality standards are met and, in the event they are not, to develop strategies to meet these standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in “attainment” or “non-attainment.” Some areas are unclassified, which means no monitoring data are available. Unclassified areas are considered to be in attainment.

**Table 4.2-1
 Current Federal and State Ambient Air Quality Standards**

Pollutant	Federal Standard	California Standard
Ozone	0.075 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.07 ppm (8-hr avg)
Carbon Monoxide	35.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)	20.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)
Nitrogen Dioxide	0.10 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.030 ppm (annual avg)
Sulfur Dioxide	0.075 ppm (1-hr avg) 0.14 ppm (24-hr avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)
Lead	1.5 µg/m ³ (3-month avg)	1.5 µg/m ³ (30-day avg)
Particulate Matter (PM ₁₀)	150 µg/m ³ (24-hr avg)	50 µg/m ³ (24-hr avg) 20 µg/m ³ (annual avg)
Particulate Matter (PM _{2.5})	35 µg/m ³ (24-hr avg) 12 µg/m ³ (annual avg)	12 µg/m ³ (annual avg)

ppm= parts per million

µg/m³ = micrograms per cubic meter

Source: California Air Resources Board, www.arb.ca.gov/research/aaqs/aaqs2.pdf, June 4, 2013.



The general characteristics of the six criteria pollutants regulated by the Federal Clean Air Act and California Clean Air Act are described below.

Ozone. Most ozone in the atmosphere is produced by a photochemical reaction (triggered by ultraviolet light in sunlight) between reactive organic gases (ROG) and nitrogen oxides (NO_x). NO_x is formed during the combustion of fuels, while ROGs are formed during combustion and evaporation of organic solvents. Ozone is a highly reactive molecule that readily combines with many different components of the atmosphere; consequently, high levels of ozone tend to exist only while high ROG and NO_x levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide. Carbon monoxide (CO) is an odorless, colorless, gas. CO causes a number of health problems including fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major cause of CO. CO is also produced during the winter from wood stoves and fireplaces. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the state CO standard are generally associated with major roadway intersections during peak hour traffic conditions. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Localized CO “hotspots” can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the NAAQS of 35.0 parts per million (ppm) or the CAAQS of 20.0 ppm.

Nitrogen Dioxide. Nitrogen dioxide (NO₂) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ is an acute irritant. A relationship between NO₂ and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 ppm may occur. NO₂ absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM₁₀ and acid rain.

Particulate Matter. Suspended particulate matter (airborne dust) consists of particles small enough to remain suspended in the air for long periods. Fine particulate matter includes particles small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, with resultant health effects. Particulate matter can include materials such as sulfates and nitrates, which are particularly damaging to the lungs. PM₁₀ is particulate matter measuring no more than 10 microns in diameter, while PM_{2.5} is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates include primarily dust particles, nitrates and sulfates. Both PM₁₀ and PM_{2.5} are by-products of fuel combustion and wind erosion of soil



and unpaved roads, and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions.

Fine particulate matter is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Sulfur Dioxide. Sulfur dioxide (SO₂) is one of a group of highly reactive gasses known as "oxides of sulfur." The largest sources of SO₂ emissions are from fossil fuel combustion at power plants (73%) and other industrial facilities (20%). Smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore, and the burning of high sulfur containing fuels by locomotives, large ships, and non-road equipment. SO₂ is linked with a number of adverse effects on the respiratory system.

Lead. Lead is a toxic metal that can be emitted from industrial sources, leaded aviation gasoline, and lead-based paint. Lead may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death.

c. Current Ambient Air Quality. CARB and MBUAPCD monitor ambient air quality throughout the NCCAB to assure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. Table 4.2-2 summarizes the state and federal attainment status for criteria pollutants in the NCCAB.

**Table 4.2-2
 Attainment Status of the North Central Coast Air Basin**

Pollutant	State Standard	Federal Standard
Ozone (O ₃)	Non-attainment ¹	Attainment/Unclassified ²
Inhalable Particulates (PM ₁₀)	Non-attainment	Attainment
Fine Particulates (PM _{2.5})	Attainment	Attainment/Unclassified ³
Carbon Monoxide (CO)	Attainment (Monterey County)	Attainment/Unclassified
Nitrogen Dioxide (NO _x)	Attainment	Attainment/Unclassified ⁴
Sulfur Dioxide (SO _x)	Attainment	Attainment ⁵
Lead	Attainment	Attainment/Unclassified ⁶

¹ Effective July 26, 2007, the CARB designated the NCCAB a non-attainment area for the state ozone standard, which was revised in 2006 to include an 8-hour standard of 0.070 ppm.

² On March 12, 2008, USEPA adopted a new 8-hour ozone standard of 0.075 ppm, while temporarily retaining the existing 8-hour standard of 0.08 ppm.

³ In 2006, the federal 24-hour standard for PM_{2.5} was revised from 65 to 35 µg/m³. Although final designations have yet to be made, it is expected that the NCCAB will remain designated unclassified/attainment.

⁴ In 2011, USEPA indicated it plans to designate the entire state as attainment/unclassified for the 2010 NO₂ standard. Final designations have yet to be made by USEPA.

⁵ In June 2011, the CARB recommended to USEPA that the entire state be designated as attainment for the 2010 primary SO₂ standard. Final designations have yet to be made by USEPA.

⁶ On October 15, 2008 USEPA substantially strengthened the national ambient air quality standard for lead by lowering the level of the primary standard from 1.5 µg/m³ to 0.15 µg/m³. Final designations were made by USEPA in November 2011.

Note: Non-attainment pollutants are highlighted in **Bold**.



As shown in Table 4.2-2, as of January 2013, the NCCAB is in attainment or unclassifiable for all NAAQS, and it is designated as non-attainment with respect to the more stringent state PM₁₀ standard and the state's eight-hour ozone standard. Vehicles are a significant source of these pollutants, both directly through combustion and indirectly due to the interaction of combustion by-products with one another and with ultraviolet (UV) light.

Ambient air quality is monitored at seven MBUAPCD-operated monitoring stations located in Salinas, Hollister, Carmel Valley, Santa Cruz, Scotts Valley, Watsonville, and Davenport. In addition, the National Park Service operates a station at the Pinnacles National Monument and an industry consortium operates a station in King City. Table 4.2-3 summarizes the representative annual air quality data for the project vicinity over the past three years. The nearest monitoring stations to the project area are the Carmel Valley monitoring station (approximately 13 miles southeast of the project area) and the Salinas monitoring station (approximately 16 miles northeast of the project area). Given that the NCCAB is designated as non-attainment for the state standards for ozone and PM₁₀, these are the primary pollutants of concern for the NCCAB.

**Table 4.2-3
 Ambient Air Quality Data**

Pollutant	Year	Maximum concentration (NCCAB) ²	Days (Samples) State/Federal Std. Exceeded
Ozone (O ₃) ¹ (1-hour)	2010	0.073 ppm	0/0
	2011	0.065	0/0
	2012	0.071	0/0
Ozone (O ₃) ¹ (8-hour)	2010	0.061 ppm	0/0
	2011	0.056	0/0
	2012	0.055	0/0
Carbon Monoxide (CO) (8-hour)	2010	0.76 ppm	0/0
	2011	0.99	0/0
	2012	1.39	0/0
Nitrogen Dioxide (NO ₂)	2010	36.0 ppm	0/0
	2011	40.0	0/0
	2012	42.0	0/0
Fine Particulate Matter (PM _{2.5})	2010	16.2 µg/m ³	NA/0
	2011	19.7	NA/0
	2012	16.2	NA/0
Particulate Matter (PM ₁₀) ¹	2010	39.0 µg/m ³	0/0
	2011	18.0	0/0
	2012	NM	0/0

Source: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2010 to 2012, <http://www.arb.ca.gov/adam>. ppm = parts per million; PM₁₀ – particulate matter 10 microns in diameter or less; NM = not measured or not available; µg/m³ = micrograms per cubic meter; PM_{2.5} = particulate matter 2.5 microns in diameter or less; NA = not applicable.

Notes: (1) Maximum concentration is measured over the same period as the California Standards. (2) O₃, CO, NO₂, PM_{2.5}, and PM₁₀ data from the Salinas monitoring station located at 855 East Laurel Drive, Salinas, California.

As indicated in Table 4.2-3, there were no federal or state ozone exceedances at the Salinas monitoring station in 2010, 2011, or 2012.

d. Regulatory Setting. This analysis has been prepared pursuant to the California Environmental Quality Act of 1970 and associated Guidelines (Public Resources Code 21000 et



seq. and California Code of Regulations, Title 14, Chapter 3 sections 15000 – 15387) and in accordance with local, state and federal laws, including those administered by MBUAPCD, CARB, and the USEPA. The principal air quality regulatory mechanisms include the following:

- *Federal Clean Air Act, in particular, the 1990 amendments;*
- *California Clean Air Act;*
- *California Health and Safety Code (H&SC), in particular, Chapter 3.5 (Toxic Air Contaminants) (H&SC Section 39650 et. seq.) and Part 6 (Air Toxics “Hot Spots” Information and Assessment) (H&SC Section 44300 et. seq.).*
- *MBUAPCD’s Rules and Regulations and air quality planning documents:*
 - *MBUAPCD Rule 200 (Emissions Permits), Rule 400 (Visible Emissions), Rule 402 (Nuisance), Rule 423 (New Source Performance Standards) incorporates Part 60, Chapter I, Title 40 of the Code of Federal Regulations, Rule 425 (Use of Cutback Asphalt).*
 - *2008 Air Quality Management Plan - Adopted August 2008 for achieving the 2006 California ozone standard.*
 - *2007 Federal Maintenance Plan - Adopted May 2007 for maintaining the 1997 federal ozone standard*
 - *2005 Particulate Matter Plan - Adopted December 2005 for particulate matter made in response to Senate Bill 656.*
 - *2008 MBUAPCD California Environmental Quality Act Air Quality Guidelines most recently revised February 2008.*

Federal and State. As described in Section 4.2.1(b) (Air Pollution Regulation), the USEPA is the federal agency designated to administer air quality regulation, while the CARB is the state equivalent in California. Local control in air quality management is provided by CARB through county-level or regional (multi-county) APCDs. CARB has established 14 air basins statewide.

Regional. The MBUAPCD regulates air quality in the NCCAB, and is responsible for attainment planning related to criteria air pollutants, and for district rule development and enforcement. It also reviews air quality analyses prepared for CEQA assessments, and has published the *CEQA Air Quality Guidelines* document (last revised February 2008) for use in evaluation of air quality impacts. The purpose of the Guidelines is to assist in the review and evaluation of air quality impacts from projects which are subject to CEQA. The Guidelines are an advisory document intended to provide lead agencies, consultants, and project proponents with uniform procedures for assessing potential air quality impacts and preparing the air quality section of environmental documents. The Guidelines are also intended to help these entities anticipate areas of concern from the MBUAPCD in its role as a lead, commenting and/or responsible agency for air quality.

Air Quality Management Plan. In accordance with the California Clean Air Act, the MBUAPCD has developed the *2008 Air Quality Management Plan for the Monterey Bay Region* (MBUAPCD, August 2008). The 2008 AQMP is a transitional plan shifting the focus of MBUAPCD’s efforts from achieving the 1-hour component of the CAAQS for ozone to achieving the 8-hour ozone requirement. The 2008 AQMP includes an updated air quality trends analysis, which reflects both the 1- and 8-hour standards, as well as an updated emissions inventory, which includes the latest information on stationary, area and mobile emission sources.



In April 2013, MBUAPCD adopted the *2012 Triennial Plan Revision* (MBUAPCD, 2008, revised 2012), which assesses and updates elements of the 2008 AQMP, including the air quality trends analysis, emission inventory, and mobile source programs. The 2012 AQMP Revision only addresses attainment of the state ozone standard. In 2012, USEPA designated the NCCAB as in attainment of the current national 8-hour ozone standard of 0.075 ppm.

e. Sensitive Receptors. Certain population groups are more sensitive to air pollution than the general population; in particular, children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases, are considered sensitive receptors. Sensitive receptors that are in proximity to localized sources of particulate matter, toxics, and CO are of particular concern. As described in the MBUAPCD's *CEQA Air Quality Guidelines* (February 2008), a sensitive receptor is defined as: any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes.

MBUAPCD recommends evaluating potential impacts to sensitive receptors within 1,000 feet of the project site. Project construction would occur throughout residential areas and adjacent to existing residences in the cities of Pacific Grove and Monterey.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of the project's air quality impacts follows the guidance and methodologies recommended in the MBUAPCD *CEQA Air Quality Guidelines* (February 2008) as well as Appendix G of the *State CEQA Guidelines*.

Appendix G of the *State CEQA Guidelines* contains the following checklist of effects that may be deemed potentially significant:

- 1) Conflict with or obstruct implementation of the applicable air quality plan;
- 2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed qualitative thresholds for ozone precursors);
- 4) Expose sensitive receptors to substantial pollutant concentrations; and/or
- 5) Create objectionable odors affecting a substantial number of people.

The *State CEQA Guidelines* further state that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the determinations above.

MBUAPCD Thresholds of Significance. The MBUAPCD has issued criteria for determining the level of significance for project-specific impacts within its jurisdiction in accordance with the above thresholds. Based on criteria applied in or adapted from the MBUAPCD *Guidelines*, the proposed project's impacts on criteria air pollution would be significant if the project would:



- *Be inconsistent with the adopted AQMP.*
- *During construction, cause a violation of PM₁₀ state or federal Ambient Air Quality Standards (AAQS) at nearby or upwind of sensitive receptors, based on whether the project would:*
 - *Emit greater than 82 lb/day of PM₁₀ if located nearby or upwind of sensitive receptors (note: projects which require minimal earthmoving on 8.1 or more acres per day or grading and excavation on 2.2 or more acres per day are likely to exceed this threshold); or*
 - *Use equipment that is not “typical construction equipment” as specified in Section 5.3 of the MBUAPCD CEQA Guidelines.*
- *During operations:*
 - *Generate direct (area source or stationary) plus indirect (operational or mobile) emissions of either ROG or NO_x that exceed 137 lbs/day;*
 - *Generate on-site emissions of PM₁₀ exceeding 82 lbs/day;*
 - *Generate direct emissions of CO exceeding 550 lbs/day; or*
 - *Generate direct emissions of SO_x exceeding 150 lbs/day.*
- *Cause or substantially contribute to a violation of a CO standard.*

In addition, construction projects which may cause or substantially contribute to the violation of other state or federal AAQS or that could emit toxic air contaminants could result in temporary significant impacts. Use of equipment that is not typical construction equipment¹ as specified in Section 5.3 of the MBUAPCD CEQA *Air Quality Guidelines* may also result in significant air quality impacts, specifically related to ROG and NO_x. However, the proposed project would use typical construction equipment, and as such would not emit significant ROG or NO_x emissions during construction. Because the proposed project would not result in an increase in daily long-term vehicle trips, or any change in land use that would substantially increase long-term criteria pollutant emissions in the basin, this analysis focuses on consistency with the adopted AQMP and short-term construction emissions associated with the project.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations. MBUAPCD recommends that a local CO hotspot analysis be conducted if any of the following scenarios would occur:

- 1) *Intersections or road segments that operate at LOS D or better would operate at LOS E or F with project traffic,*
- 2) *Intersections or road segments that operate at LOS E or F where the volume-to-capacity (V/C) ratio would increase 0.05 or more with project traffic,*
- 3) *Intersections that operate at LOS E or F where delay would increase by 10 seconds or more with project traffic,*
- 4) *Unsignalized intersections which operate at LOS E or F where the reserve capacity would decrease by 50 or more with project traffic,*
- 5) *The project would generate substantial heavy duty truck traffic or generate substantial traffic along urban street canyons or near a major stationary source of CO.*

Neither short-term construction nor long-term operation of the proposed project would result in any of the above scenarios (refer to Section 4.12, *Transportation/Traffic*, for a discussion of short-term

¹ Typical construction equipment includes dump trucks, scrapers, bulldozers, compactors and front-end loaders that temporarily emit precursors of ozone (i.e., ROG or NO_x). Non-typical equipment includes grinders and portable equipment (MBUAPCD, 2008).



traffic impacts associated with project construction). Therefore, a quantitative CO hotspot analysis is not required, and the project's impact to CO levels during construction and operation would be less than significant.

In addition to criteria pollutants, the MBUAPCD regulates toxic air contaminants (TACs) from new or modified sources under Rule 1000. Rule 1000 applies to any source which requires a permit to construct or operate pursuant to District Regulation II (Permits) and has the potential to emit carcinogenic or noncarcinogenic TACs. The District also implements Rule 1003, Air Toxic Emissions Inventory and Risk Assessments, which establishes and implements the Air Toxics Hot Spots Act, and Rule 424, which applies to demolition and/or renovation activities which are subject to the asbestos NESHAP in Rule 306. The proposed project would not result in significant TAC impacts as it would be required to comply with Rules 1000, 1003, and 424, as applicable.

Air Quality Management Plan Consistency. A project would conflict with or obstruct implementation of the 2008 AQMP and 2012 AQMP Revision for the Monterey Bay Region if it is inconsistent with the AQMP growth assumptions, in terms of population, employment, or regional growth in vehicle miles traveled (VMT). These population forecasts were developed, in part, using data obtained from local jurisdictions on projected land uses and population projections identified in community plans. Projects that result in an increase in population that is inconsistent with local community plans would be considered inconsistent with the AQMP.

Methodology. Construction of the project would generate temporary criteria pollutant emissions primarily due to the operation of diesel- and gas-fueled equipment and construction vehicle trips. Site preparation and grading typically generates the greatest amount of emissions due to the use of grading equipment and soil hauling. The California Emissions Estimator Model (CalEEMod) Version 2013.2.2 was used to estimate construction emissions from off-road equipment, on-road vehicle trips during project construction, and fugitive dust generated during the construction phase. CalEEMod is based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment used during construction. For the construction analysis, the anticipated duration of each of the five components of the project, as well as the estimated area of disturbance and associated soil hauling, is based on the description of the proposed project (refer to Section 2.0, *Project Description*).

The proposed project would not result in an increase in daily long-term vehicle trips, or any other change in land use that would increase long-term criteria pollutant emissions. The proposed improvements would require occasional maintenance vehicle trips; however, these vehicle trips would be infrequent and relatively short, and would not result in substantial criteria pollutant emissions. In addition, the new Point Pinos Stormwater Treatment Facility and proposed pump stations would result in a net increase in energy use; however, the standard methodology for calculating criteria pollutant emissions associated with electricity generation attributes these emissions to the source power plant, rather than the electricity consumer, since the impacts associated with criteria pollutants are localized. Therefore, the project would not result in long-term operational criteria pollutant emissions. Complete CalEEMod results and assumptions can be viewed in Appendix C.



b. Project Impacts and Mitigation Measures.

Impact AQ-1 **The proposed project would not contribute to population growth, and would therefore be consistent with the growth assumptions in the *Air Quality Management Plan (AQMP)*. This impact would be Class III, *less than significant*.**

State CEQA Guidelines § 15125(b) requires that an EIR evaluate a project's consistency with applicable regional plans, in this instance the 2008 AQMP. Project emissions which are not consistent with the AQMP are not accommodated in the AQMP and would represent a potentially significant impact for the purposes of CEQA.

As noted in Section 4.3.3(a) (Methodology and Significance Thresholds), a project would conflict with or obstruct implementation of the AQMP if it is inconsistent with the growth assumptions included in the AQMP, in terms of population, employment, or regional growth in VMT (MBUAPCD, 2008, revised 2012). Some project construction workers would be expected to come from out of the area and stay in hotels or residences, thereby temporarily increasing the local population. However, the proposed project does not contain a residential component and would not increase the long-term residential population of the area (refer to Section 4.13, *Effects Found not to be Significant*).

In addition, as noted in Section 5.0, *Long-Term Impacts*, no direct growth inducement is expected to result from project implementation. Therefore, the project would not exceed growth assumptions in the AQMP directly (through population growth) or indirectly (through employment or regional growth in VMT). As such, implementation of the project would not conflict with or obstruct implementation of the MBUACPD air quality management plans and impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-2 **Construction of the proposed project would result in the temporary generation of air pollutants, which would affect local air quality. Short-term emissions of PM₁₀ during the construction period would not exceed MBUAPCD thresholds. Impacts would be Class III, *less than significant*.**

During construction, grading and excavation could result in generation of fugitive dust and PM₁₀ emissions as well as ROG and ozone from construction equipment. According to the MBUAPCD *CEQA Air Quality Guidelines*, up to 2.2 acres per day could be graded and excavated without exceeding the MBUAPCD's direct emissions threshold of 82 lbs/day of PM₁₀. None of the project component sites would involve more than two acres of disturbance, with the exception of the David Avenue Reservoir, which could involve up to six acres of disturbance. Because soil disturbance at this site could exceed 2.2 acres per day, and because simultaneous construction of multiple project components could also result in greater than 2.2 acres per day of active grading activities, quantitative construction emissions estimates of ROG, NO_x, PM₁₀,



and CO were generated for the proposed project using the CalEEMod software. Table 4.2-4 shows the estimated maximum daily on and off-site construction emissions for each pollutant.

The NCCAB is currently in attainment for NO_x, PM_{2.5}, and CO, and is designated as non-attainment with respect to the more stringent state PM₁₀ standard and the state’s eight-hour ozone standard. As shown in Table 4.2-4, construction emissions from the proposed project would not exceed the MBUAPCD short-term construction threshold for PM₁₀. Note that the total emissions shown in Table 4.2-4 represent the maximum pollutant emissions that could occur if all five project components are constructed simultaneously, including total acreage from each site being actively graded at the same time; therefore, the total emissions shown in Table 4.2-4 represents an extremely conservative basis for analysis of potential impacts from short-term construction emissions.

**Table 4.2-4
 Estimated Construction Emissions**

Project Component	Emission Type (lbs/day)				
	ROG	NO _x	PM ₁₀	PM _{2.5}	CO
1) David Avenue Reservoir	4.56	49.41	8.83	5.54	34.13
2) Pine Avenue Conveyance	5.51	58.84	9.44	5.82	49.67
3) Ocean View Boulevard Conveyance	5.58	60.06	9.69	5.88	50.45
4) Point Pinos Stormwater Treatment Facility and Crespi Pond	4.80	51.60	9.41	5.66	37.95
5) Diversions to Monterey Regional Water Pollution Control Agency (MRWPCA)	4.57	49.24	8.63	5.48	31.06
Total	25.02	269.15	46.00	28.38	203.26
MBUAPCD Threshold	n/a	n/a	82 lbs/day	n/a	n/a

*Note: CalEEMod summer results are shown for ROG, NO_x, and PM₁₀. CalEEMod winter results are shown for CO.
 See Appendix C for calculations.*

Based on the MBUAPCD CEQA Air Quality Guidelines, since the project would involve the use of typical construction equipment, ozone precursor emissions from construction would be accommodated in the emission inventories of state- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone AAQS. As discussed in Section 4.2.2(a) (Methodology and Significance Thresholds), neither short-term construction nor long-term operation of the proposed project would be expected to result in CO emissions that would require a quantitative CO hotspot analysis, and the project’s impact to CO levels during construction and operation would be less than significant. Therefore, impacts related to construction emissions would be less than significant.

Mitigation Measures. No mitigation measures would be required.

Significance After Mitigation. Impacts related to construction emissions would be less than significant without mitigation.



Impact AQ-3 The project does not have the potential to create objectionable odors that could affect neighboring properties. The construction of the Point Pinos Stormwater Treatment Facility would not emit compounds that would result in substantial objectionable odors. Therefore, impacts related to odors would be Class III, less than significant.

Emissions typically associated with objectionable odors include sulfur compounds and methane. Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, and dairies (MBUAPCD, February 2008). The potential for each component to generate objectionable odors is described below.

David Avenue Reservoir. The David Avenue Reservoir component of the project would not establish a long-term odor generating use. During construction activities, only temporary odors from vehicle exhaust and construction equipment engines would occur. Construction-related odors would be short-term, and would cease upon completion of construction activities. Therefore, odors from this component of the project would be less than significant.

Pine Avenue Conveyance. The Pine Avenue Conveyance component of the project would not establish a long-term odor generating use. During construction activities, only temporary odors from vehicle exhaust and construction equipment engines would occur. Construction-related odors would be short-term, and would cease upon completion of construction activities. In addition, because construction activities would traverse the roadway as construction activity progresses throughout the construction phase, nearby residences would only be exposed to odors from construction activity for a relatively short portion of the total construction schedule. Therefore, odors from this component of the project would be less than significant.

Ocean View Boulevard Conveyance. The Ocean View Boulevard Conveyance component of the project would not establish a long-term odor generating use. During construction activities, only temporary odors from vehicle exhaust and construction equipment engines would occur. Construction-related odors would be short-term, and would cease upon completion of construction activities. In addition, because construction activities would traverse the roadway as construction activity progresses throughout the construction phase, nearby residences would only be exposed to odors from construction activity for a relatively short portion of the total construction schedule. Therefore, odors from this component of the project would be less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. This component of the project includes the construction of a new stormwater treatment facility, the Point Pinos Stormwater Treatment Facility, on the retired Pacific Grove Wastewater Treatment Plant (PGWTP) site. Based on the MBUAPCD *CEQA Air Quality Guidelines*, stormwater treatment facilities are not a source that has the potential to emit compounds that would result in objectionable odors for nearby residences. The MBUAPCD recommends that potential odor impacts be evaluated based on the distance of an emitting facility to nearby sensitive receptors. The area surrounding the Point Pinos Stormwater Treatment Facility component is designated as Open-Space and for Commercial/Recreational Fishing and Planned Development. The closest residence to the component site is located on Asolimar Avenue, approximately 900 feet east of the site. Because



the proposed stormwater treatment facility would not be expected to result in objectionable odors, this component of the project would not result in significant impacts to nearby residences.

Diversions to MRWPCA. The Diversions to MRWPCA component of the project would not establish a long-term odor generating use. During construction activities, only temporary odors from vehicle exhaust and construction equipment engines would occur. Construction-related odors would be short-term, and would cease upon completion of construction activities. In addition, because construction activities would traverse the roadway as construction activity progresses throughout the construction phase, nearby residences would only be exposed to odors from construction activity for a relatively short portion of the total construction schedule. Therefore, odors from this component of the project would be less than significant.

Summary. Because the proposed Point Pinos Stormwater Treatment Facility would not emit compounds that would result in substantial objectionable odors for nearby residences, and because project construction activities would be temporary and exposure to any particular receptor would be short-term, the project would result in less than significant impacts related to objectionable odors during construction and operation.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. The NCCAB is a non-attainment area for the state standards for ozone and PM₁₀. Additional growth within the Monterey Bay area would contribute to existing exceedances of ambient air quality standards when taken as a whole with existing development. However, the proposed project does not contain a residential component and would not increase the long-term residential population of the area (refer to Section 4.13, *Effects Found not to be Significant*). In addition, the project would not result in any change in land use that would increase long-term criteria pollutant emissions in the NCCAB.

As described in Impact AQ-1, the project would not conflict with the adopted AQMP. As demonstrated in Table 4.2-4, the proposed project would not generate emissions exceeding MBUAPCD thresholds. Therefore, because the project would not increase the long-term residential population and does not exceed MBUAPCD's construction or operational thresholds, the proposed project would not result in a cumulatively considerable contribution to air quality impacts.



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4.3 BIOLOGICAL RESOURCES

4.3.1 Setting

a. Regional Setting. The proposed project is located within developed portions of the City of Pacific Grove and a small portion of the City of Monterey (refer to Figures 2-1 and 2-2 in Section 2.0, *Project Description*). Various project components occur at elevations ranging from 25 to 225 feet above mean sea level, and all are located less than one mile from the Pacific Ocean. The climate is typical of the California central coast with mild year-round and morning coastal fog, generally cleared by afternoon breezes. Temperatures throughout the year are generally steady, with maximum average temperatures ranging from approximately 60 degrees Fahrenheit (°F) to 71°F over the course of the year (Western Regional Climate Center, 2013). Annual precipitation averages about 16 inches per year, most of which falls as rain from November to April.

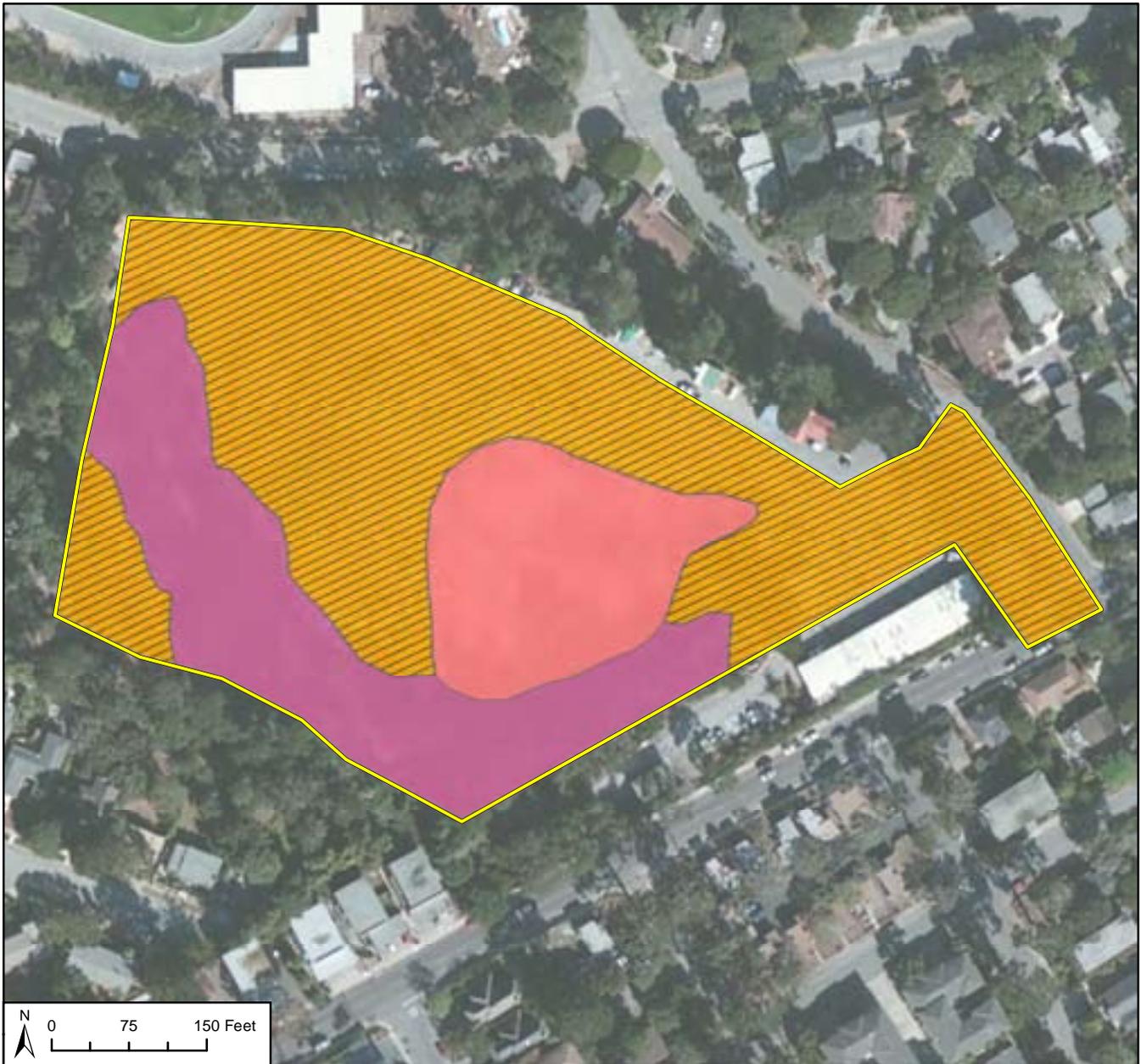
b. Habitats. Habitat types for this project were developed using a combination of described habitats and vegetation alliances in accordance with Sawyer et al. (2009) when possible. Much of the site is highly disturbed or developed and reference was made to the California Wildlife Habitat Relationship system (Mayer and Laudenslayer, 1988) to describe areas not defined by Sawyer et al. (2009). Five habitat types were documented within the five project component areas. Additionally, three types of developed areas are also described within the five components of the project. The acreages for each habitat type are reported in Table 4.3-1 and habitats are mapped on Figures 4.3-1(a) through 4.3-1(e).

**Table 4.3-1
Habitat Types and Approximate Area**

Habitat Type	Area (acres)
Bulrush Marsh	1.0
Developed	1.7
Developed/Landscaped	1.5
Developed/Ruderal	5.2
Ice Plant Mat	0.03
Intermittent Wetland/Bulrush Marsh	1.2
Mixed Pine/Oak Woodland	1.9
Monterey Cypress Stands	0.02
Open Water	0.7
TOTAL	13.25

Mixed Monterey Pine/Oak Woodland (Cismontane Woodland). The mixed Monterey pine/oak woodland habitat type comprises approximately 1.9 acres of the project site, located entirely within the David Avenue Reservoir (refer to Figure 4.3-1[a]). This habitat type is generally in a disturbed state due to adjacent residential development, and maintenance roads and buildings associated with municipal activity at the David Avenue Reservoir site. It is dominated by Monterey pine (*Pinus radiata*), with co-dominant coast live oak (*Quercus agrifolia*), and minor numbers of other species including blue gum (*Eucalyptus globulus*). The Monterey pines present on the project site includes mature trees (greater than 25 feet) that are likely a remnant of Monterey pine forest stands which are still present to the south and west of the





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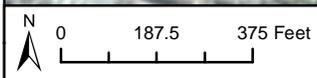
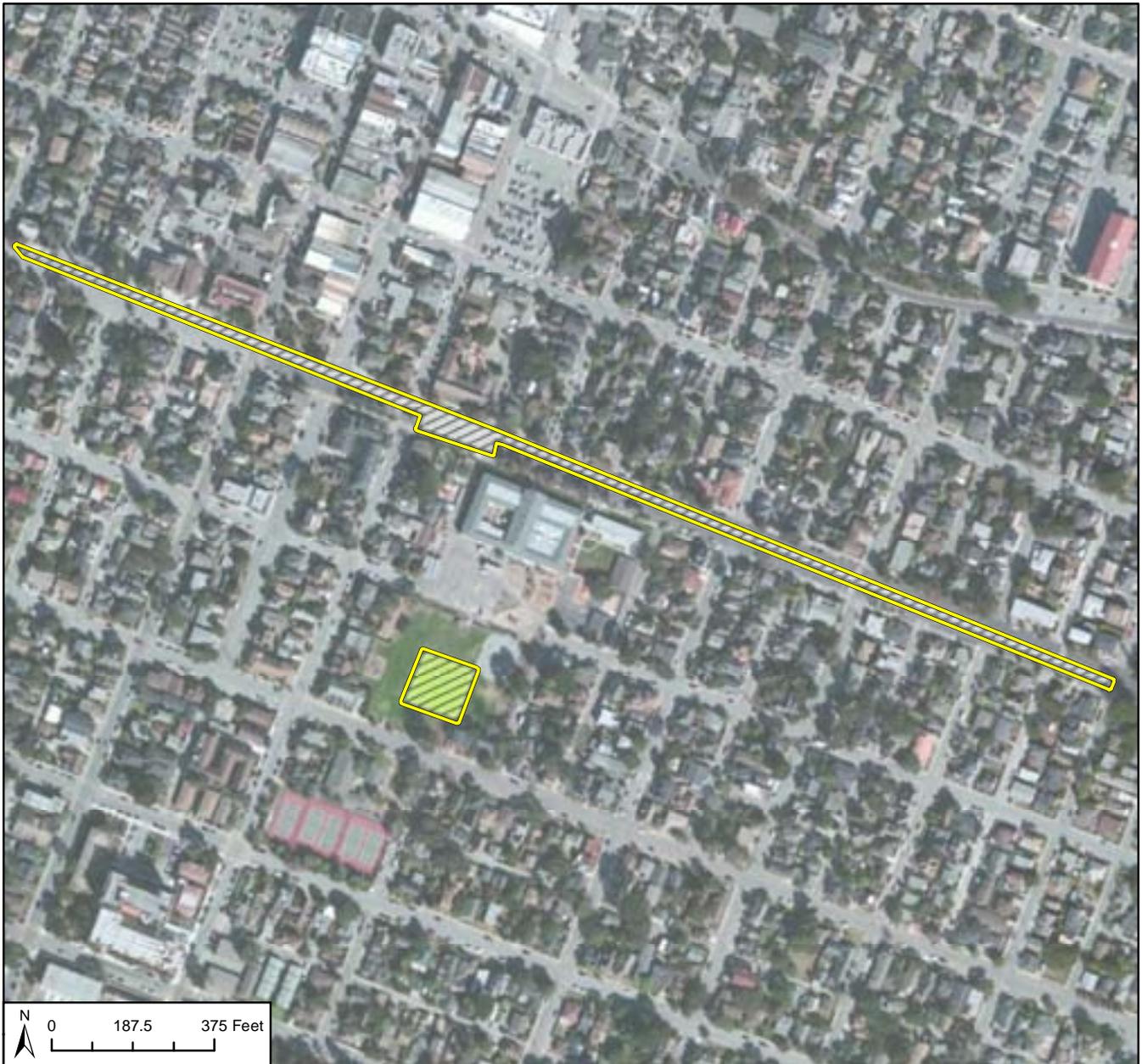
- Limits of Disturbance
- Habitats***
- Ice Plant Mats
- Open Water
- Monterey Cypress Stands
- Bulrush Marsh
- Developed
- Mixed Coast Live Oak/
Monterey Pine Woodland
- Intermittent Wetland/
Bulrush Marsh
- Developed/Landscaped
- Developed/Ruderal

*not all features displayed in legend appear on every map of the series.



Habitat Map: David Avenue Reservoir

Figure 4.3-1a



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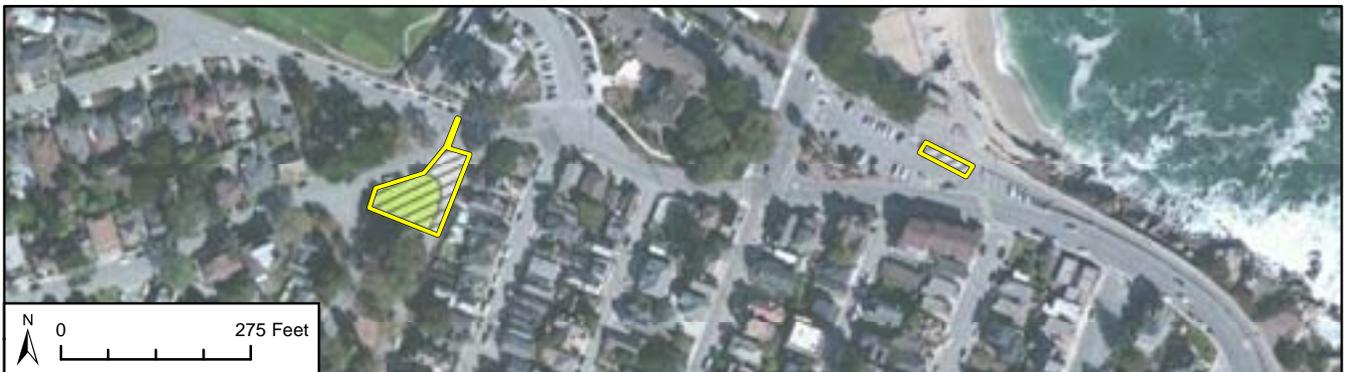
- Limits of Disturbance
- Habitats***
- Ice Plant Mats
- Open Water
- Monterey Cypress Stands
- Bulrush Marsh
- Mixed Coast Live Oak/
Monterey Pine Woodland
- Developed
- Intermittent Wetland/
Bulrush Marsh
- Developed/Landscaped
- Developed/Ruderal

*not all features displayed in legend appear on every map of the series.



Habitat Map: Pine Avenue Conveyance

Figure 4.3-1b



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- Limits of Disturbance
- Habitats***
- Ice Plant Mats
- Open Water
- Monterey Cypress Stands
- Bulrush Marsh
- Mixed Coast Live Oak/
Monterey Pine Woodland
- Developed
- Intermittent Wetland/
Bulrush Marsh
- Developed/Landscaped
- Developed/Ruderal

*not all features displayed in legend appear on every map of the series.



Habitat Map: Ocean View Boulevard Conveyance

Figure 4.3-1c



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- Limits of Disturbance
- Habitats***
- Ice Plant Mats
- Open Water
- Bulrush Marsh
- Developed
- Developed/Landscaped
- Developed/Ruderal
- Monterey Cypress Stands
- Mixed Coast Live Oak/
Monterey Pine Woodland
- Intermittent Wetland/
Bulrush Marsh

*not all features displayed in legend appear on every map of the series.



Habitat Map: Point Pinos Stormwater
 Treatment Facility and Crespi Pond

Figure 4.3-1d
 City of Pacific Grove





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Limits of Disturbance

Habitats*

- | | | | |
|--|----------------------|--|---|
| | Open Water | | Ice Plant Mats |
| | Bulrush Marsh | | Monterey Cypress Stands |
| | Developed | | Mixed Coast Live Oak/
Monterey Pine Woodland |
| | Developed/Landscaped | | Intermittent Wetland/
Bulrush Marsh |
| | Developed/Ruderal | | |

*not all features displayed in legend appear on every map of the series.



Habitat Map: MRWPCA Diversions

Figure 4.3-1e

David Avenue Reservoir site. Natural stands of Monterey pine woodland would be characterized as *Pinus radiata* Forest Alliance (Sawyer et al., 2009); however, the disturbed conditions on the site, presence of non-native species such as blue gum, and co-dominance with coast live oak make this habitat type better classified as cismontane woodland in general accordance with Mayer and Laudenslayer (1988).

Bulrush Marsh (*Bolboschoenus maritimus* Herbaceous Alliance). Bulrush marsh habitat is present on approximately 1.0 acre, entirely within the retired Pacific Grove Wastewater Treatment Plant (PGWTP) portion of the project site (refer to Figure 4.3-1[d]). The habitat is present in the southern half of Crespi Pond and bulrush (*Bolboschoenus maritimus*) represents 100 percent of the canopy cover. The bulrush habitat abuts the developed landscape of the golf course along the margins of Crespi Pond.

Ice Plant Mats (*Carpobrotus edulis* or Other Ice Plants Semi-natural Herbaceous Stand). Rosy ice plant (*Drosanthemum floribundum*) mats occur on approximately 0.03 acres where the project site extends to the ocean-side of Ocean View Boulevard across from Crespi Pond and east of Coral Street (refer to Figures 4.3-1[d] and 4.3-1[d]). On the project site, this habitat consists of this single, non-native, invasive species to the exclusion of all other plants.

Monterey Cypress Stand (*Callitropsis macrocarpa* Woodland Special Stands). Monterey cypress (*Hesperocyparis macrocarpa* = *Callitropsis macrocarpa*) stands consist of approximately 0.2 acres, located entirely within the retired PGWTP site. The trees form a small stand surrounding the retired PGWTP site and the project site crosses this stand where the outflow to Crespi Pond would be located (refer to Figure 4.3-1[d]). This stand is relatively dense with Monterey cypress forming 100 percent of the canopy cover, and little developed understory. This stand is insufficient in extent and number of trees to form a protected Monterey cypress forest (California Natural Diversity Database [CNDDB; CDFG 2003] records show Monterey Cypress Forest mapped near Pebble Beach approximately five miles south of the Point Pinos Stormwater Treatment Facility component of the project).

Seasonal Wetland/Bulrush Marsh. The bottom of the David Avenue Reservoir consists of approximate 1.2 acres of seasonal wetland/bulrush marsh. This habitat type is dominated by a mix of open water and bulrush, with other native and non-native species including purple pampas grass (*Cortaderia jubata*), willow (*Salix* sp.), Italian rye grass (*Festuca perennis*), brass buttons (*Cotula coronopifolia*), wild radish (*Raphanus sativus*), charlock mustard (*Sinapis arvensis*), beard grass (*Polypogon interruptus*), rabbitsfoot grass (*Polypogon monspeliensis*), and horsetail (*Equisetum* sp.). The vegetated portion of this habitat included a number of obligate wetland species, and Sierran tree frogs were observed within this habitat.

Open Water. The northern half of Crespi Pond is open water and comprises approximately 0.7 acres (refer to Figure 4.3-1[d]). This portion of the pond tends to fill during the winter when precipitation is highest, and then gradually dries throughout the summer and fall. Generally this area becomes an open mudflat by October or November.

Developed. Approximately 10 acres of the project site is developed as roads or parking lots. These areas are present throughout most of the project component sites, predominantly along Ocean View Boulevard and Pine Avenue (refer to Figures 4.3-1[b] through 4.3-1[e]).



Developed areas are distinguished from developed lands with landscaping or ruderal components as described below.

Developed/Ruderal. Approximately 5.2 acres of the project site is mapped as developed/ruderal. These are generally areas that have existing development and disturbance with buildings, dirt lots, unmaintained vegetation, paths, or other disturbances, primarily adjacent to the David Avenue Reservoir (refer to Figure 4.3-1[a]) but also adjacent to Ocean View Boulevard (refer to Figure 4.3-1[c]).

Developed/Landscaped. Approximately 1.5 acres of the project site is mapped as developed/landscaped. These are developed areas that are landscaped or regularly maintained, including the golf course, ball fields, and maintained roadsides and medians (refer to Figures 4.3-1[a] through 4.3-1[e]).

c. Common Wildlife. Although relatively developed, there is a variety of common wildlife species that would be expected to occur within portions of the various project components, particularly in those areas with more natural habitat including the David Avenue Reservoir and the Crespi Pond area. Species observed or otherwise detected from their sign on the project site include Sierran tree frog, California ground squirrel (*Otospermophilus beecheyi*), raccoon (*Procyon lotor*), black-tailed deer (*Odocoileus hemionus*), red-shouldered hawk (*Buteo lineatus*), Western scrub jay (*Aphelocoma californica*), Anna's hummingbird (*Calypte anna*), acorn woodpecker (*Melanerpes formicivorus*), western gull (*Larus occidentalis*), great-blue heron (*Ardea herodias*), Canada goose (*Branta canadensis*), red-winged blackbird (*Agelaius phoeniceus*), white-crowned sparrow (*Zonotrichia leucophrys*), killdeer (*Charadrius vociferous*), black phoebe (*Sayornis nigricans*), and mallard (*Anas platyrhynchos*).

d. Special Status Resources. For the purpose of this EIR, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act; those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants with a California Rare Plant Rank (CRPR) of 1 and 2 which are defined as:

- List 1A = Plants presumed extinct in California;
- List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat);
- List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened);
- List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened or no current threats known);
- List 2 = Rare, threatened or endangered in California, but more common elsewhere;

For each species, the potential to occur in any of the project component sites was assessed as either present, likely, possible, unlikely, or not expected. A species is "present" if the species or



sign of its presence was observed during site visits. A species is “likely” to occur if the species or sign of the species has not been observed but the species is reasonably likely to occur, or if there are known records in similar habitats nearby or overlapping any of the project component sites. A species occurrence is “possible” if the species or sign of the species has not been observed but habitat conditions suitable for the species are present in the project component site. A species is “unlikely” to occur if the species or sign has not been observed and only marginal habitat conditions for the species are present. A species is “not expected” if the species or sign has not been observed and habitat conditions are considered unsuitable for the species.

Sensitive Plant Communities and Critical Habitat. Five sensitive plant communities are known to occur within five miles of the various project components: Central Dune Scrub, Monterey Pine Forest, Monterey Cypress Forest, Monterey Pigmy Cypress Forest, and Central Maritime Chaparral. None of these sensitive plant communities are mapped within any of the project components. Similarly, federally designated critical habitat for Yadon’s piperia (*Piperia yadonii*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), California red-legged frog (CRLF) (*Rana draytoni*), and western snowy plover (*Charadrius alexandrinus nivosus*) are mapped within five miles of the various project components. The closest of these critical habitats is Monterey spineflower, which is mapped approximately 0.25 mile southwest of the retired PGWTP, and Yadon’s piperia, which is mapped approximately 0.75 mile west of the David Avenue Reservoir.

Special Status Plants and Animals. Special status plants and animals, their listing status, habitats, and potential to occur within the various project component sites are presented in Table 4.3-2. This list was compiled from CNDDDB occurrence records for the *Monterey, California* 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle on which the project occurs and the surrounding four 7.5-minute quadrangles (*Marin, Seaside, Mt. Carmel, and Soberanes Point*), the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants list (CNPS, 2012) of occurrences for the *Monterey, California* and four surrounding 7.5-minute USGS topographic quadrangles, and expert knowledge on local species occurrences from Rincon biologists. Figure 4.3-2 depicts the distribution of CNDDDB records of special status plants, reptiles and amphibians, and other wildlife species and critical habitats within five miles of project sites. Forty five special status plants and 25 special status animal species were evaluated for their potential to occur within the various project component sites. Based on the highly disturbed nature of much of the project site, and lack of suitable natural habitat, most of these species are not expect to occur on the project site. Those species with potential to occur on-site are discussed below.

Special Status Plants. Forty five special status plants were evaluated for their potential to occur within the project sites. Of these species, twelve are federally and/or state listed species. One of the species is a CRPR List 4 species, indicating it has a limited distribution within California, but they are considered “rare” from a statewide perspective. The remaining species are recognized on CRPR Lists 1B1-3, considered rare throughout their range and are largely endemic to California. Table 4.3-2 provides listing status for all species evaluated. Monterey pine and Monterey cypress were the only special status plant species detected within the project sites; however, neither of these species occurred as sensitive forests, and are not considered special status as individual trees. The remaining 43 special status plant species are considered



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
Plants			
<i>Allium hickmanii</i> Hickman's onion	--/--/1B.2	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, cismontane woodland. Sandy loam, damp ground and vernal swales; mostly in grassland though can be associated with chaparral or woodland. 20-2000 feet.	Not Expected. The project does not contain suitable habitat.
<i>Arctostaphylos edmundsii</i> Little Sur manzanita	--/--/1B.2	Coastal bluff scrub, chaparral. Includes <i>A. edmundsii</i> var. <i>parvifolia</i> which was formerly a state listed rare taxon. Forming mounds on sandy terraces on ocean bluffs. 98-345 feet.	Not Expected. The project does not contain suitable habitat. No manzanita shrubs observed.
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> Hooker's manzanita	--/--/1B.2	Chaparral, coastal scrub, closed-cone coniferous forest, cismontane woodland. Sandy soils, sandy shales, sandstone outcrops. 280-1000 feet.	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland); however, the habitat is marginal as a result of disturbance resulting from residential development in the area. No manzanita shrubs observed.
<i>Arctostaphylos montereyensis</i> Toro manzanita	--/--/1B.2	Chaparral, cismontane woodland, coastal scrub. Sandy soil, usually with chaparral associates. 100-2400 feet.	Not Expected. The project does not contain suitable habitat. No manzanita shrubs observed.
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	--/--/1B.1	Chaparral. Sandy soils. 100-2500 feet.	Not Expected. The project does not contain suitable habitat. No manzanita shrubs observed.
<i>Arctostaphylos pumila</i> sandmat manzanita	--/--/1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal dunes, coastal scrub. On sandy soil with other chaparral associates. 100-675 feet.	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland); however, the habitat is marginal as a result of disturbance resulting from residential development in the area. No manzanita shrubs observed.
<i>Astragalus tener</i> var. <i>titi</i> coastal dunes milk-vetch	FE/SE/1B.1	Coastal bluff scrub, coastal dunes. Moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; one site on a clay terrace. 3-165 feet.	Not Expected. The project does not contain suitable habitat.
<i>Castilleja ambigua</i> var. <i>insalutata</i> pink Johnny-nip	--/--/1B.1	Coastal bluff scrub, coastal prairie. 0-330 feet.	Not Expected. The project does not contain suitable habitat.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	--/--/1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy clay. 3-800 feet.	Not Expected. The project does not contain suitable habitat.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
<i>Chorizanthe pungens</i> var. <i>pungens</i> Monterey spineflower	FT/--/1B.2	Coastal dunes, chaparral, cismontane woodland, coastal scrub. Sandy soils in coastal dunes or more inland within chaparral or other habitats. 0-500 feet.	Unlikely to occur. The CNDDDB includes a record of this species from 1963 tracked along much of Asilomar Beach approximately 0.25 mile southwest of the Crespi Pond area of the project. The project site does not contain any suitable native habitat and the species is unlikely to occur beyond the limits of suitable habitat to the south and west of the Crespi Pond portion of the project.
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	FE/--/1B.1	Cismontane woodland, coastal dunes, coastal scrub sandy terraces and bluffs or in loose sand. 10-400 feet.	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland); however, the habitat is marginal as a result of disturbance resulting from residential development in the area.
<i>Clarkia jolonensis</i> Jolon clarkia	--/--/1B.2	Cismontane woodland. 1650 feet.	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland); however, the habitat is marginal as a result of disturbance resulting from residential development in the area.
<i>Collinsia multicolor</i> San Francisco collinsia	--/--/1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus. 100-820 feet.	Not Expected. The project does not contain suitable habitat.
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> seaside bird's-beak	--/SE/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, coastal dunes. Sandy, often disturbed sites, usually within chaparral or coastal scrub. 0-705 feet.	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland); however, the habitat is marginal as a result of disturbance resulting from residential development in the area.
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon larkspur	--/--/1B.2	Cismontane woodland, chaparral. In wet, boggy meadows, openings in chaparral and in canyons. 740-3500 feet.	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland); however, the habitat is marginal as a result of disturbance resulting from residential development in the area.
<i>Delphinium hutchinsoniae</i> Hutchinson's larkspur	--/--/1B.2	Broadleafed upland forest, chaparral, coastal prairie, coastal scrub. On semi-shaded, slightly moist slopes, usually west-facing. 0-1200 feet.	Not Expected. The project does not contain suitable habitat.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
<i>Ericameria fasciculata</i> Eastwood's goldenbush	--/--/1B.1	Closed-cone coniferous forest, chaparral (maritime), coastal scrub, coastal dunes. In sandy openings. 100-900 feet.	Not Expected. The CNDDDB includes a single occurrence record from 1974 that is tracked as "in the vicinity of the [David Avenue] reservoir," and the Special Status Species Occurrences Map in the City of Monterey General Plan shows this occurrence. However, the project site now consists of marginal and disturbed mixed woodland (coast live oak and Monterey pine) habitat adjacent to the reservoir. This woodland was likely at one time continuous with closed cone coniferous (Monterey pine/Monterey cypress) forest throughout the Monterey Peninsula, remnants of which remain to the south and west of the project site; however, resulting from disturbance associated with urban development the mixed woodland on the reservoir site cannot be characterized as closed cone coniferous forest and the site does not contain suitable habitat for this species.
<i>Eriogonum nortonii</i> Pinnacles buckwheat	--/--/1B.3	Chaparral, valley and foothill grassland. Sandy soils; often on recent burns; western Santa Lucias. 1280-3200 feet.	Not Expected. The project does not contain suitable habitat.
<i>Erysimum ammophilum</i> sand-loving wallflower	--/--/1B.2	Chaparral (maritime), coastal dunes, coastal scrub. Sandy openings. 0-425 feet.	Not Expected. The project does not contain suitable habitat.
<i>Erysimum menziesii</i> Menzies' wallflower	FE/SE/1B.1	Coastal dunes. Localized on dunes and coastal strand. 0-445 feet.	Unlikely to occur. A CNDDDB record of this species from 2002 is tracked adjacent to the retired Pacific Grove Waste Water Treatment Plant and other CNDDDB records are tracked to the south of this portion of the project. The adjacent record is recorded in dunes surrounded by golf course, but it is noted that locality information is vague. The project site does not contain any suitable native habitat and the species is unlikely to occur beyond the limits of suitable habitat to the south and west of the treatment plant.
<i>Fritillaria liliacea</i> fragrant fritillary	--/--/1B.2	Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 10-1345 feet.	Not Expected. The project does not contain suitable habitat.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i> sand gilia	FE/ST/1B.2	Coastal dunes, coastal scrub, chaparral (maritime), cismontane woodland. Bare, wind-sheltered areas often near dune summit or in the hind dunes; 2 records from Pleistocene inland dunes. 0-150 feet.	Not Expected. The project does not contain suitable habitat.
<i>Hesperocyparis goveniana</i> Gowen cypress	--/ST/1B.2	Closed-cone coniferous forest, chaparral. Coastal terraces; usually in sandy soils; sometimes with Monterey pine, bishop pine. 100-985 feet.	Not Expected. The project does not contain suitable habitat.
<i>Hesperocyparis macrocarpa</i> Monterey cypress	--/--/1B.2	Closed-cone coniferous forest. Granitic soils. 33-100 feet.	Present. The species is present along the margins of the PGWTP but does not constitute intact Monterey Cypress Forest.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	--/--/1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. 33-660 feet.	Not Expected. The project does not contain suitable habitat.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE/--/1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland. Vernal pools, swales, low depressions, in open grassy areas. 3-1600 feet.	Not Expected. The project does not contain suitable habitat.
<i>Layia carnosa</i> beach layia	FE/SE/1B.1	Coastal dunes, coastal scrub. On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 0-200 feet.	Unlikely to occur. A CNDDDB record of this species from 1962 is tracked in the immediate vicinity of the Crespi Pond portion of the project site. It occurred on sand hills at Point Pinos. The project site does not contain any suitable native habitat and the species is unlikely to occur outside of suitable dune habitat west and north of the Crespi Pond area.
<i>Lupinus tidestromii</i> Tidestrom's lupine	FE/SE/1B.1	Coastal dunes. Partially stabilized dunes, immediately near the ocean. 0-330 feet.	Unlikely to occur. A CNDDDB record of this species from 2011 is tracked adjacent to the retired Pacific Grove Waste Water Treatment Plant and other CNDDDB records are tracked to the south of this portion of the project. The adjacent record is recorded in dunes surrounded by golf course, behind sewage treatment plant. The project site does not contain any suitable native habitat and the species is unlikely to occur beyond the limits of suitable habitat to the south and west of the treatment plant.
<i>Malacothamnus palmeri</i> var. <i>involutus</i> Carmel Valley bush-mallow	--/--/1B.2	Cismontane woodland, chaparral. Talus hilltops and slopes, sometimes on serpentine. Burn dependent. 100-3600 feet.	Not Expected. The project does not contain suitable habitat.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
<i>Malacothamnus palmeri</i> var. <i>palmeri</i> Santa Lucia bush mallow	--/--/1B.2	Chaparral. Dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea. 200-1200 feet.	Not Expected. The project does not contain suitable habitat.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	--/--/1B.2	Chaparral, coastal scrub. Rock outcrops or steep rocky roadcuts. 80-3400 feet.	Not Expected. The project does not contain suitable habitat.
<i>Microseris paludosa</i> marsh microseris	--/--/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub valley and foothill grassland.	Not Expected. The project does not contain suitable habitat.
<i>Monolopia gracilens</i> woodland woollythreads	--/--/1B.2	Chaparral, valley and foothill grasslands (serpentine), cismontane woodland, broadleafed upland forests, grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns.	Not Expected. The project does not contain suitable habitat.
<i>Pinus radiata</i> Monterey pine	--/--/1B.1	Closed-cone coniferous forest, cismontane woodland. Three primary stands are native to California. Dry bluffs and slopes. 80-600 feet.	Present. The species is present along the margins of the David Avenue Reservoir but does not constitute intact Monterey Pine Forest.
<i>Piperia yadonii</i> Yadon's rein orchid	FE/--/1B.1	Closed-cone coniferous forest, chaparral, coastal bluff scrub. On sandstone and sandy soil, but poorly drained and often dry. 33-1700 feet.	Not Expected. The project does not contain suitable habitat.
<i>Plagiobothrys uncinatus</i> hooked popcornflower	--/--/1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Sandstone outcrops and canyon sides; often in burned or disturbed areas. 100-2500 feet.	Not Expected. The project does not contain suitable habitat.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE/SE/1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, marshes and swamps. Freshwater marshes, seeps, and small streams in open or forested areas along the coast. 33-500 feet.	Not Expected. The CNDDDB contains an occurrence of this species recorded as "Pacific Grove near reservoir...on road to Cypress Point" and the Special Status Species Occurrences Map in the City of Monterey General Plan shows this occurrence. However, the project site now consists of marginal and disturbed mixed woodland (coast live oak and Monterey pine) habitat adjacent to the reservoir. This woodland was likely at one time continuous with closed cone coniferous (Monterey pine/Monterey cypress) forest throughout the Monterey Peninsula, remnants of which remain to the south and west of the project site; however, resulting from disturbance associated with urban development the mixed woodland on the reservoir site cannot be characterized as closed cone coniferous forest and the site does not contain suitable habitat for this species.
<i>Rosa pinetorum</i> pine rose	--/--1B.2	Closed-cone coniferous forest. 7-100 feet.	Not Expected. The project does not contain suitable habitat.
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	--/--4.2	Broadleafed upland forest, coastal prairie, coastal scrub, north coast coniferous forest. Woodlands and clearings near coast; often in disturbed areas. 7-2500 feet.	Not Expected. The project does not contain suitable habitat.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	--/--1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub. Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. 33-1640 feet.	Not Expected. The project does not contain suitable habitat.
<i>Tortula californica</i> California screw moss	--/--1B.2	Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. 33-4800 feet.	Not Expected. The project does not contain suitable habitat.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	--/--1B.1	Coastal prairie, broadleafed upland forest, cismontane woodland. Moist grassland. Gravelly margins. 345-2000 feet..	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland), however the habitat is marginal as a result of disturbance from residential development in the area.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
<i>Trifolium hydrophilum</i> saline clover	--/1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0-1000 feet.	Unlikely to occur. The David Avenue Reservoir portion of the project site contains disturbed mixed oak/pine woodland (cismontane woodland); however the habitat is marginal as a result of disturbance resulting from residential development in the area.
<i>Trifolium polyodon</i> Pacific Grove clover	--/1B.1	Closed-cone coniferous forest, meadows and seeps, coastal prairie, valley and foothill grassland. Along small springs and seeps in grassy openings. 15-400 feet..	Not Expected. The project does not contain suitable habitat.
<i>Trifolium trichocalyx</i> Monterey clover	--/1B.1	Closed-cone coniferous forest. Poorly drained, low nutrient soil underlain with hardpan; also openings and burned areas. 100-800 feet..	Not Expected. The project does not contain suitable habitat.
Birds			
<i>Agelaius tricolor</i> tricolored blackbird	--/SSC/--	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within 1-2 miles of the colony.	Not expected to occur. There are no occurrences of this species within 5 miles of the project site. The project site does contain marginally suitable foraging habitat in the bulrush marsh within Crespi Pond and the David Avenue Reservoir; however these are small, remnant, and isolated patches of marsh that do not provide sufficient habitat to support a breeding colony of blackbirds.
<i>Athene cunicularia</i> burrowing owl	--/SSC/--	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not expected. The project site does not contain suitable nesting or foraging habitat.
<i>Buteo regalis</i> ferruginous hawk	--/WL/--	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Not expected. The project site does not contain suitable nesting or foraging habitat.
<i>Elanus leucurus</i> white-tailed kite	--/FP/-- (nesting)	Occurs throughout most of California's coastal and valley regions excluding the Cascade, Sierra Nevada, Mojave Desert, and Peninsular Ranges. Grasslands, dry farmed agricultural fields, savannahs and relatively open oak woodlands, and other relatively open lowland scrublands.	Possible. Suitable nesting habitat present (particularly in Monterey cypress within and adjacent to the retired Pacific Grove Water Treatment Plant). Foraging habitat present around Crespi Pond and along Ocean Blvd. The species is known to occur on the Monterey Peninsula
<i>Charadrius alexandrinus nivosus</i> western snowy plover	FT/SSC/--	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Unlikely to Occur. The project site does not contain suitable nesting habitat, however, as water levels drop during the fall, Crespi Pond may provide suitable foraging habitat.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
<i>Cypseloides niger</i> black swift	--/SSC/--	Coastal belt of Santa Cruz and Monterey Counties, central & southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf.	Not expected. The project site does not contain suitable nesting or foraging habitat.
<i>Eremophila alpestris actia</i> California horned lark	--/WL/--	Coastal regions, chiefly from Sonoma Co. to San Diego Co. Also main part of San Joaquin Valley & east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Not expected. The project site does not contain suitable nesting or foraging habitat.
<i>Oceanodroma homochroa</i> ashy storm-petrel	--/SSC/--	Colonial nester on off-shore islands. Usually nests on driest part of islands. Forages over open ocean. Nest sites on islands are in crevices beneath loosely piled rocks or driftwood, or in caves.	Not expected. The project site does not contain suitable nesting or foraging habitat.
<i>Pelecanus occidentalis californicus</i> California brown pelican	FD/--/--	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Unlikely to occur. The species was observed in the vicinity of the Crespi Pond area during the site visit, and is present in abundance along Ocean Blvd. However, the project site does not contain any suitable breeding or foraging habitat, and the species is unlikely to occur within the project site.
<i>Riparia riparia</i> bank swallow	--/ST/--	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not expected. The project site does not contain suitable nesting or foraging habitat.
Amphibians			
<i>Ambystoma californiense</i> California tiger salamander	FT/ST, SSC/--	Central Valley DPS federally listed as threatened. Santa Barbara & Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, & vernal pools or other seasonal water sources for breeding.	Not expected. The project site does not contain suitable habitat.
<i>Rana draytonii</i> California red-legged frog	FT/SSC/--	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Unlikely to occur. The CNDDDB includes 2 records of this species tracked approximately 2.5 miles southwest of the David Avenue Reservoir. However, the reservoir provides only marginal habitat with no linkage to natural stream courses or other riparian corridors.



**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
Reptiles			
<i>Anniella pulchra nigra</i> black legless lizard	--/SSC/--	Sand dunes and sandy soils in the Monterey Bay and Morro Bay regions. Inhabit sandy soil/dune areas with bush lupine and mock heather as dominant plants. Moist soil is essential.	Not Expected. The project site lacks suitable dune habitat and vegetation.
<i>Anniella pulchra pulchra</i> silvery legless lizard	--/SSC/--	Sandy or loose loamy soils under sparse vegetation. The species prefers soils with high moisture content and soil moisture is essential.	Not Expected. There are no recorded occurrences within 5 miles of the project site, and the project site lacks suitable habitat.
<i>Emys marmorata</i> western pond turtle	--/SSC/--	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetations. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 1640 feet from water for egg-laying.	Present. The CNDDDB includes a record from 1992 of two adults and one juvenile within the David Avenue Reservoir and the reservoir provides suitable habitat for the species. Suitable habitat is also present at Crespi Pond.
<i>Phrynosoma blainvillii</i> coast horned lizard	--/SSC/--	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial & abundant supply of ants & other insects.	Unlikely. No recorded occurrences within 5 miles of the project site. Marginal habitat is present in mixed pine forest along the rim of the David Avenue reservoir. This habitat is disturbed and isolated from other habitat by surrounding urban development.
Mammals			
<i>Lasiurus cinereus</i> hoary bat	--/SA/--	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.	Possible (foraging only). A single CNDDDB record is tracked approximately 1.5 miles east of the David Ave Reservoir and there is suitable foraging habitat present at the David Avenue Reservoir and the PGWTP/Crespi Pond area. There is no suitable roosting habitat within the impact areas at the PGWTP or the David Avenue Reservoir, and the species is not expected to roost on the project site.
<i>Reithrodontomys megalotis distichlis</i> Salinas harvest mouse	--/SA/--	Known only from the Monterey Bay region. Occurs in fresh and brackish water wetlands and probably around the mouth of the Salinas River.	Not Expected. One CNDDDB records tracked within 5 miles of the project site; however, the project site lacks suitable habitat for this species.
<i>Taxidea taxus</i> American badger	--/SSC/--	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected. One CNDDDB records tracked within 5 miles of the project site; however, the project site lacks suitable habitat for this species.



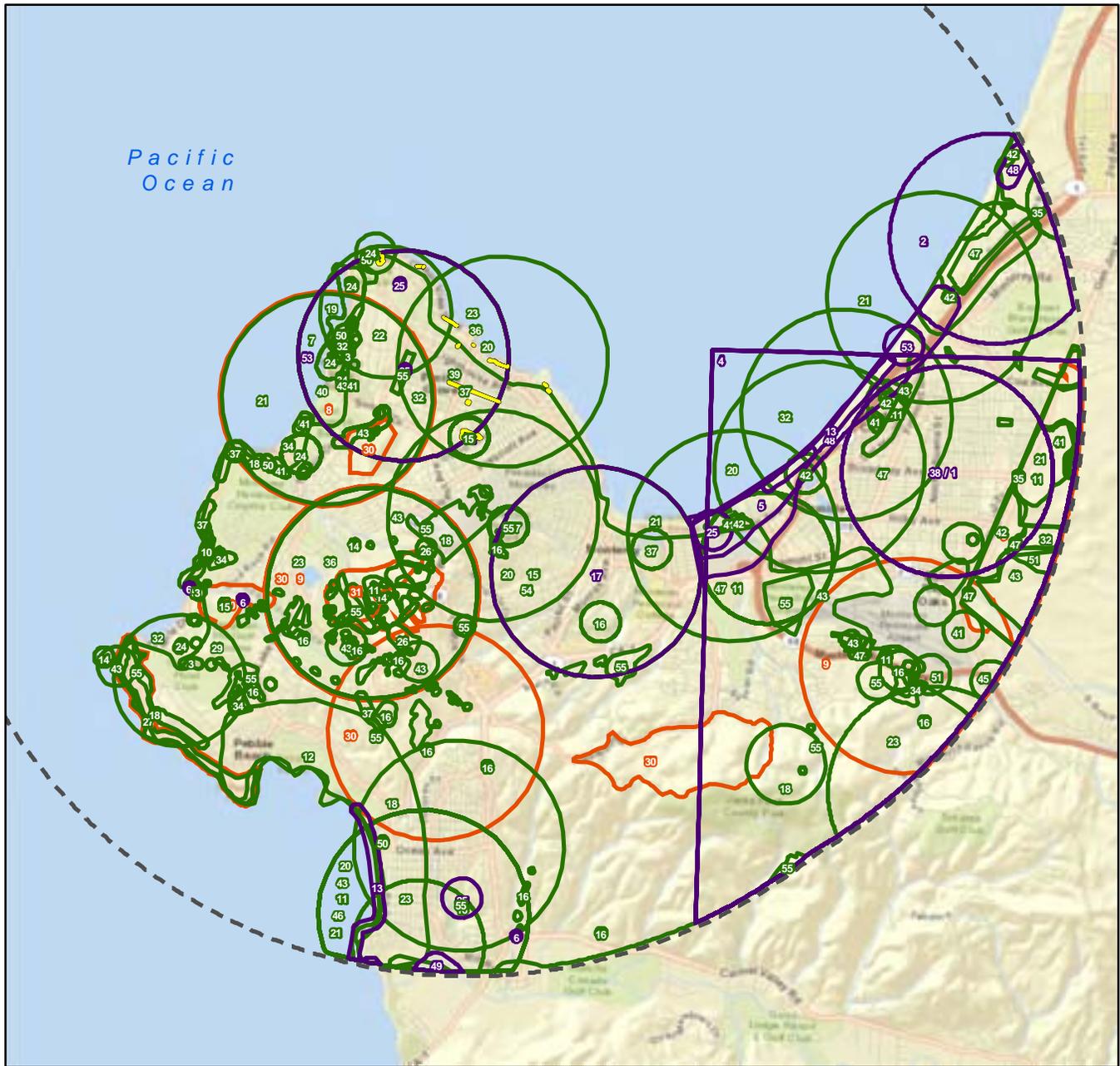
**Table 4.3-2
Special Status Species Potential to Occur Within the Project Sites**

Scientific Name Common Name	Status* Fed/State/ CRPR	Habitat Requirements	Potential for Occurrence within the Project Sites
Invertebrates			
<i>Coelus globosus</i> globose dune beetle	--/SA/--	Inhabitant of coastal sand dune habitat; erratically distributed from ten mile creek in Mendocino county south to Ensenada. Inhabits fore-dunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	Not Expected. One CNDDDB records tracked within 5 miles of the project site; however, the project site lacks suitable habitat for this species.
<i>Danaus plexippus</i> monarch butterfly	--/SA/--	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected. Two CNDDDB records are tracked within 5 miles of the project site. The records are related to the Pacific Grove Monarch Butterfly Sanctuary however, the project site lacks suitable foraging or winter roosting habitat for this species.
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	FE/--/--	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz counties. Hostplant: <i>Eriogonum latifolium</i> and <i>Eriogonum parvifolium</i> are utilized as both larval and adult foodplants.	Not Expected. One CNDDDB record tracked within 5 miles of the project site; however, the project site lacks suitable habitat for this species (i.e., no buckwheat species present).
<i>Linderiella occidentalis</i> California linderiella	--/SA/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and TDS.	Not Expected. No CNDDDB records tracked within 5 miles of the project site; however, the project site lacks suitable habitat for this species.
Fish			
<i>Eucyclogobius newberryi</i> tidewater goby	FE/SSC/--	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	Not Expected. No CNDDDB records tracked within 5 miles of the project site; however, the project site lacks suitable habitat for this species.
<i>Oncorhynchus mykiss irideus</i> steelhead - south/central California coast	FT/SSC/--	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	Not Expected. One CNDDDB record tracked within 5 miles of the project site; however, the project site lacks suitable habitat for this species.

***Status Definitions:**

- FE = Federally Endangered
- FT = Federally Threatened
- FD = Federally Delisted
- SE = State Endangered
- ST = State Threatened
- SR = State Rare
- SA = Special Animal
- FP = Fully Protected
- SSC = Species of Special Concern
- CS = Regional State Focal Corridor Species





California Natural Diversity Database, November, 2013. Additional suppressed records reported by the CNNDDB known to occur or potentially occur within this search radius include: *Monarch Butterfly, Black Legless Lizard*

- | | | | |
|--------------------------------|--------------------------------|------------------------------------|---|
| 1 - American badger | 15 - Hickman's cinquefoil | 29 - Monterey pine | 43 - sandmat manzanita |
| 2 - bank swallow | 16 - Hickman's onion | 30 - Monterey Pine Forest | 44 - Santa Cruz clover |
| 3 - beach layia | 17 - hoary bat | 31 - Monterey Pygmy Cypress Forest | 45 - Santa Cruz microseris |
| 4 - black legless lizard | 18 - Hooker's manzanita | 32 - Monterey spineflower | 46 - Santa Lucia bush-mallow |
| 5 - burrowing owl | 19 - Hutchinson's larkspur | 33 - Northern Bishop Pine Forest | 47 - seaside bird's-beak |
| 6 - California red-legged frog | 20 - Jolon clarkia | 34 - Pacific Grove clover | 48 - Smith's blue butterfly |
| 7 - Carmel Valley bush-mallow | 21 - Kellogg's horkelia | 35 - Pajaro manzanita | 49 - steelhead - south/central California coast DPS |
| 8 - Central Dune Scrub | 22 - maple-leaved checkerbloom | 36 - pine rose | 50 - Tidestrom's lupine |
| 9 - Central Maritime Chaparral | 23 - marsh microseris | 37 - pink Johnny-nip | 51 - Toro manzanita |
| 10 - coastal dunes milk-vetch | 24 - Menzies' wallflower | 38 - Salinas harvest mouse | 52 - western pond turtle |
| 11 - Eastwood's goldenbush | 25 - monarch butterfly | 39 - saline clover | 53 - western snowy plover |
| 12 - fragrant fritillary | 26 - Monterey clover | 40 - San Francisco collinsia | 54 - woodland woollythreads |
| 13 - globose dune beetle | 27 - Monterey cypress | 41 - sand gilia | 55 - Yadon's rein orchid |
| 14 - Gowen cypress | 28 - Monterey Cypress Forest | 42 - sand-loving wallflower | |

 Project Location
 5 Mile Buffer
CNNDDB
 Animals
 Plants
 Natural Communities

 N
 0 1.5
 Miles

CNNDDB Occurrence Map

Figure 4.3-2

unlikely to occur or not expected to occur based on the lack of suitable natural habitat on the project sites.

Special Status Birds. Ten special status bird species were assessed for their potential to occur on the project component sites. None were detected within the project site boundaries; however, brown pelican was observed outside of the project area in the vicinity of the Crespi Pond portion of the project site, and the species is known to occur in the coastal zone along Ocean View Boulevard. The project site does not contain any suitable habitat to support this species and the species is not expected to occur on the project site. Of the remaining nine special status bird species, only the white-tailed kite (*Elanus leucurus*) is considered to possibly occur on the project site. The species is known to breed and forage on the Monterey Peninsula, and suitable nesting trees and foraging habitat are present at the Crespi Pond and David Avenue Reservoir portions of the project. The remaining eight special status bird species are either unlikely to occur or not expected to occur based on the lack of suitable nesting and foraging habitat.

Special Status Amphibians. Two special status amphibians were assessed for their potential to occur on the project component sites. The CNDDDB includes two occurrences of CRLF within five miles of the project site. These records are from 2002, and are located in riparian corridors approximately 2.5 miles southwest of the David Avenue Reservoir. The David Avenue Reservoir contains marginally suitable habitat for the species; however, this habitat is isolated by surrounding residential development and there are no riparian corridors or other natural or continuous vegetation communities connecting the David Avenue Reservoir with suitable CRLF habitat in the region. The California tiger salamander (CTS) is not expected to occur on the site because the site lacks suitable habitat for this species.

Special Status Reptiles. Four special status reptile species were assessed for their potential to occur on the project component sites. The CNDDDB includes a recorded occurrence of two adults and one juvenile Western pond turtle (*Emys marmorata*) within the David Avenue Reservoir and the species is considered present on the project site. The remaining three species were considered unlikely to occur or not expected to occur based on a lack of suitable habitat.

Special Status Mammals. Three special status mammal species were evaluated for their potential to occur on the project component sites. The CNDDDB includes an occurrence of the pallid bat (*Antrozous pallidus*) within five miles of the project site and suitable roosting and foraging habitat is present in the Crespi Pond and David Avenue Reservoir portions of the project; therefore, it is possible that this species may occur in these areas. The remaining two species were assessed as unlikely to occur or not expected to occur based on the lack of suitable habitat.

Nesting Birds. The project site includes suitable nesting habitat for a variety of bird species that would be protected under the Migratory Bird Treaty Act (MBTA). Suitable nesting habitat is present within trees and forested areas and wetlands at the David Avenue Reservoir and Crespi Pond sites. Bird species that could potentially nest within the project sites includes, but is not limited to: black-crowned night heron (*Nycticorax nycticorax*), Canada goose, red-shouldered hawk, red-tailed hawk (*Buteo jamaicensis*), western gull (*Larus occidentalis*), Anna's



hummingbird, black phoebe, American crow (*Corvus brachyrhynchos*), California towhee (*Pipilo crissalis*), and white-crowned sparrow (*Zonotrichia leucophrys*).

Wildlife Movement Corridors. Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The CDFW Biogeographic Information and Observation System (BIOS) website and the *California Essential Habitat Connectivity Project: A strategy for conserving a connected California* (Spencer et al., 2010) were reviewed for wildlife movement information. No identified movement corridors are mapped within or near the project component sites.

Environmentally Sensitive Habitat Areas. Portions of the project sites are located within the Coastal Zone, specifically the Point Pinos Stormwater Treatment Facility and Crespi Pond, and the Coral Street Pump Station (included in the Ocean View Boulevard Conveyance component). The City of Pacific Grove Local Coastal Program (LCP) and associated Land Use Plan (LUP) define the Coastal Zone and regulate uses within it. According to the LCP, the Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project is located within the Lighthouse Reservation, and area identified as an area of Scientific and Ecological Significance. However, this site is comprised of the retired PGWTP facility, and does not contain sensitive habitat. No environmentally sensitive habitat areas (ESHAs) are mapped within any the project sites.

e. Regulatory Framework.

Federal

United States Fish and Wildlife Service. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the Federal Endangered Species Act (FESA) (16 USC § 153 *et seq.*). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result



in “take” of any federally listed threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

State.

California Department of Fish and Wildlife. The CDFW derives its authority from the California Fish and Game Code (CFGF). The CESA (CFGF Section 2050 *et seq.*) prohibits take of state listed threatened, endangered or fully protected species. Take under CESA is restricted to direct mortality of a listed species and does not prohibit indirect harm by way of habitat modification. The CDFW also prohibits take for species designated as Fully Protected under the CFGF.

Sections 3503, 3503.5, and 3511 of the CFGF describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the CFGF protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the CFGF as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGF Section 1900 *et seq.*). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 *et seq.* of the CFGF (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

Regional Water Quality Control Board. The State Water Resources Control Board (SWRCB) and each of nine local Regional Water Quality Control Boards (RWQCBs) have jurisdiction over “waters of the State” pursuant to the Porter-Cologne Water Quality Control Act which are defined as any surface water or groundwater, including saline waters, within the boundaries of



the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The local RWQCBs enforces actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act (CWA) for waters subject to federal jurisdiction. CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point source discharges of pollutants into waters of the United States. A NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. The United States Environmental Protection Agency is charged with administering the NPDES permit program, but can authorize states to assume many of the permitting, administrative, and enforcement responsibilities of the NPDES permit program, and in California, administration of the NPDES permit program is managed by the state RWQCBs. Authorized states are prohibited from adopting standards that are less stringent than those established under the Federal NPDES permit program, but may adopt or enforce standards that are more stringent than the Federal standards if allowed under state law.

California Coastal Commission. The California Coastal Commission (CCC) mission is to “protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations.” The CCC achieves this mission through enforcement of the California Coastal Act of 1976, which sets forth specific polices to achieve the goals in the mission statement. Many municipalities along the coast have adopted CCC-approved Local Coastal Plans that guide compliance with the California Coastal Act while preserver local government control over development. Project undertaken within the designated coastal zone are required to obtain a coastal permit either from the CCC or from local governments with adopted Local Coastal Plans.

Local

City of Pacific Grove. Biological resources in the City of Pacific Grove are regulated under the City’s General Plan Natural Resources Element (City of Pacific Grove, 1994). The Natural Resources Element includes goals, policies, and programs aimed at the preservation and management of all vegetation and wildlife within the Plan Area, including management of the urban forest. Additionally, a portion of the project also falls under the jurisdiction of the City’s LCP, which includes policies for the preservation of environmental sensitive habitats and other natural resources, primarily as it relates to new development, as well as the preservation and expansions of public access to the shoreline/beach areas. The LCP identifies Environmentally Sensitive Habitat Areas within the Coastal Zone including “shoreline pine forest/sand dune association,” and “pine/eucalyptus overwintering habitat for the Monarch butterfly” (it is noted in the LCP that monarch habitat is located close to, but not within the Coastal Zone). The LCP identifies the sand dune complex from Lighthouse Reservation to Asilomar Conference Grounds as having the greatest sensitivity, and the Lighthouse Reservation is identified in the Open Space Element as an area of Scientific and Ecological Significance. The LCP provides guidance and regulations for development within the Asilomar dune areas. The LCP was adopted by the Pacific Grove City Council on June 7, 1989, but was never certified by the



Coastal Commission. Therefore, it acts as an Element of the City's General Plan, rather than a certified LCP/LUP document.

Trees in the City of Pacific Grove are regulated under the City's 2013 Amended Urban Forestry Tree Ordinance. The tree ordinance includes standards, goals, and regulations to protect public and private trees, and the special status species that may nest in those trees. Section 12.20.020 identifies five categories of protected trees including native trees (Gowen cypress of any size, and Coast live oak, Monterey cypress, Shore and Monterey pine of six inches or greater in trunk diameter, measured at 54 inches above native grade), all trees on public property of six inches or greater in trunk diameter, measured at 54 inches above native grade, and all Street Trees, regardless of size. The ordinance additionally provides regulations relating to the removal and pruning of trees in public and private areas, and outlines requirements related to the replacement of protected trees.

City of Monterey. Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. Construction of these improvements would require approval of a Use Permit, a Street Opening Permit, a Building Permit, and potentially a Tree Removal Permit (if trees would be removed in the final design) from the City of Monterey. In addition, as a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR. Therefore, the project would be subject to City of Monterey policies and programs. The General Plan Conservation Element provides direction regarding the conservation, development, and utilization of natural resources, including flora, fauna, and marine resources. Policies call for the protection of native plants, native vegetation communities, and sensitive habitats.

The City of Monterey regulates the trimming and removal of trees under Chapter 37 of its Municipal Code (Preservation of Trees and Shrubs). Tree Removal Permits are required to remove any tree that measures six inches in diameter or larger and is four feet, five inches tall.

4.3.2 Impact Analysis

a. Methodology and Significance Thresholds. The following analysis is based on a site survey by a Rincon Consultants, Inc. biologist in July 2013, review of existing literature and sensitive species occurrence databases, and a biological memorandum prepared for the Pacific Grove Local Water Project (Denise Duffy & Associates, 2013; Appendix D) for the portion of the component within the retired PGWTP. Special status species databases and lists reviewed during this analysis include the CDFW CNDDDB (CDFW, 2003), the CNPS Online Inventory of Rare and Endangered Plants (CNPS, 2013), the Biogeographic Information and Observation System (BIOS) (CDFW, 2013a), the USFWS Critical Habitat Portal (USFWS, 2013), and the CDFW *Special Animals List* (CDFW, 2011) and *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW, 2013b).

In accordance with Appendix G of the *State CEQA Guidelines*, impacts would be potentially significant if the proposed project would result in any of the following:

- 1) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional*



- plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*
- 2) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*
 - 3) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; and/or*
 - 4) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*
 - 5) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or*
 - 6) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The proposed project is not located within a riparian corridor or the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved conservation agreement. The Point Pinos Stormwater Treatment Plan and Crespi Pond component of the project is located within the Point Pinos Lighthouse Reservation, and area identified as of “Scientific and Ecological Significance” within the LCP; however, the specific locations of the project site in this area are identified as low sensitivity in the LCP. The proposed project is also not located within wildlife movement corridors or nursery sites. As such, checklist Items 2, 4, and 6 are not discussed in the impact analysis below; refer to Section 4.13, *Effects Found not to be Significant*, for additional detail. Items 1, 3, and 5 are discussed below.

b. Project Impacts and Mitigation Measures.

Impact B-1 Implementation of the proposed project could result in impacts to California red-legged frogs (CRLF). This impact is Class II, significant but mitigable.

David Avenue Reservoir. CRLF have potential to occur within the David Avenue Reservoir based on suitable habitat within the project site and CNDDDB occurrence records for this species within approximately 2.5 miles of the site. Individual CRLFs may be disturbed, injured or killed during project construction activities (including ground disturbance, vegetation removal, and reservoir lining activity), and this would be considered a significant impact.

Pine Avenue Conveyance. The Pine Avenue Conveyance improvements would be located primarily within the Pine Avenue right-of-way and a portion of the Robert Down Elementary School playing fields; no suitable CRLF habitat is present in this area.

Ocean View Boulevard Conveyance. This component of the project would be located primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP at the Point Pinos Lighthouse Reservation. No suitable CRLF habitat is present in this area.



Point Pinos Stormwater Treatment Facility and Crespi Pond. CRLF have potential to occur within Crespi Pond based on suitable habitat within the project site and CNDDDB occurrence records for this species indicating that frogs occur approximately 3.5 miles to the southwest. Improvements within Crespi Pond would be limited to the installation of a new pond inlet energy dissipation structure in the northwest portion of the pond; substantial dredging, vegetation removal, or expansion of the pond is not proposed. Construction of this component would also include installation of a water conveyance structure between the Stormwater Treatment Facility and Crespi Pond. Individual CRLFs may be disturbed, injured or killed during project construction activities (including ground disturbance, vegetation removal, dredging, or construction of the conveyance/dissipation structures), and this would be considered a significant impact.

Diversions to Monterey Regional Water Pollution Control Agency (MRWPCA). This component of the project would be primarily within or adjacent to the Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue. No suitable CRLF habitat is present in this area.

Mitigation Measures. The following mitigation measures are required.

- B-1(a) CRLF Consultation and Protocol Surveys.** Prior to construction of the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project, a qualified biologist shall prepare a CRLF site assessment of the David Avenue Reservoir and Crespi Pond following the guidelines included in the USFWS *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS, 2005). The site assessment shall be submitted to the USFWS for review and determination if a protocol survey is recommended for the project. If USFWS recommends completion of CRLF protocol surveys, a qualified biologist shall conduct protocol surveys prior to initiation of construction activity at the David Avenue Reservoir and prior to construction of the water conveyance structure between the Point Pinos Stormwater Treatment Facility and Crespi Pond and any associated work within Crespi Pond. Protocol surveys shall be conducted in accordance with the USFWS guidelines (USFWS, 2005). If protocol surveys are negative for CRLF, then no further agency consultation or permit applications are required. If CRLF are observed during protocol surveys, the City shall initiate informal consultation with USFWS. Regardless of the result of the protocol surveys, measures B-1(b) through B-1(i) shall be implemented.
- B-1(b) Worker Environmental Awareness Program (WEAP) Training.** WEAP training shall be provided to all construction personnel prior to onset of construction at the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project. Training shall include how to



recognize CRLF and review of applicable avoidance measures to protect the species. Construction personnel shall also be informed that if a CRLF is encountered in the work area, a qualified biologist shall be contacted and construction shall stop until the animal leaves the area of its own volition.

- B-1(c) Pre-construction Surveys for CRLF.** A qualified biologist shall conduct a pre-construction CRLF survey immediately prior to any ground disturbing activities at the David Avenue Reservoir and Crespi Pond and shall be on-site during all vegetation clearing and ground disturbing activities. If a CRLF is encountered in the work area, construction shall not begin until the animal leaves the area of its own volition.
- B-1(d) Submission of Biologist Qualifications.** At least 15 days prior to the onset of construction activities for the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project, the project proponent shall submit the name(s) and credentials of biologist(s) who would conduct activities specified in these measures to the City of Pacific Grove and/or USFWS. No project activities shall begin until the project proponent has received written approval from the City of Pacific Grove that the biologists are qualified to conduct the work.
- B-1(e) Construction Fencing.** A temporary silt fence or other wildlife exclusion fencing suitable for amphibians shall be erected along the perimeter of the construction areas at the David Avenue Reservoir and at the site of construction for the water conveyance structure between the Point Pinos Stormwater Treatment Facility and Crespi Pond to prevent entry of CRLF into the construction area and to deter construction personnel from accessing adjacent habitat. The qualified biologist shall verify appropriate placement of the construction fencing prior to the start of construction. The fence shall be inspected on a daily basis to ensure that it remains in place without any breaks or openings. No construction activity shall be allowed until this condition is satisfied. No grading, clearing, storage of equipment or machinery, or other disturbance or activity may occur until the qualified biologist has inspected and approved all temporary construction fencing.
- B-1(f) CRLF Entrapment Avoidance.** To avoid entrapment of CRLF, all excavated steep-walled holes or trenches more than 12 inches deep shall be provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day. If escape ramps cannot be provided, then holes or trenches shall be covered with plywood or similar materials.



Providing escape ramps or covering open trenches is anticipated to prevent injury or mortality of individuals resulting from falling into trenches and becoming trapped. The trenches shall be thoroughly inspected for the presence of CRLF prior to covering and at the beginning of each workday by a designated person trained by the qualified biologist. This person shall report daily during construction to the qualified biologist on the findings of these inspections.

- B-1(g) Trash Disposal.** All food-related garbage shall be placed in tightly sealed containers at the end of each workday to avoid attracting predators. Containers shall be emptied and garbage removed from the construction site at the end of each work week. If sealed containers are not available, garbage shall be removed from the construction site upon completion of daily activities. All garbage removed from the construction site shall be disposed of at an appropriate off-site refuse location.
- B-1(h) Construction Timing.** All construction activities shall be performed during daylight hours or with suitable lighting so that frogs can be seen.
- B-1(i) Work Restrictions during Precipitation.** No ground disturbing work shall occur during rain events of more than 0.5 inches in 24 hours.

Significance After Mitigation. With implementation of the above mitigation measures, potential impacts to the CRLF would be reduced to a less than significant level.

Impact B-2 Implementation of the proposed project could result in impacts to western pond turtle. This impact is Class II, significant but mitigable.

David Avenue Reservoir. The western pond turtle is considered present within the David Avenue Reservoir based on a record contained within the CNDDDB of two adults and one juvenile. These individuals were recorded within the reservoir itself in 1992, and the reservoir continues to support suitable habitat for this species. Project construction activity including ground disturbance, vegetation removal, and reservoir lining activity has the potential to directly impact western pond turtle if individuals of these species were to be injured or killed during construction activity, and would be considered significant under CEQA.

Pine Avenue Conveyance. The Pine Avenue Conveyance improvements would be located primarily within the Pine Avenue right-of-way and a portion of the Robert Down Elementary School playing fields; no suitable western pond turtle habitat is present in this area.

Ocean View Boulevard Conveyance. This component of the project would be primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP



at the Point Pinos Lighthouse Reservation. No suitable western pond turtle habitat is present in this area.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The western pond turtle has potential to occur within Crespi Pond based on the presence of suitable habitat and CNDDDB occurrence records for this species. Improvements within Crespi Pond would be limited to the installation of a new pond inlet energy dissipation structure in the northwest portion of the pond; substantial dredging, vegetation removal, or expansion of the pond is not proposed. Construction of this component would also include installation of a water conveyance structure between the Stormwater Treatment Facility and Crespi Pond. Individual turtles may be disturbed, injured or killed during project construction activities (including ground disturbance, vegetation removal, dredging, or construction of the conveyance/dissipation structures), and this would be considered a significant impact.

Diversions to MRWPCA. This component of the project would be primarily within or adjacent to the Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue. No suitable western pond turtle habitat is present in this area.

Mitigation Measures. The following mitigation measure is required.

B-2 **Pre-construction Surveys for Western Pond Turtle.** A qualified biologist shall conduct a pre-construction survey immediately prior to any ground disturbing activities at the David Avenue Reservoir and at the site of construction for the water conveyance and dissipation structures between the Point Pinos Wastewater Treatment Facility and Crespi Pond, and shall be on-site during all vegetation clearing and ground disturbing activities at these locations. If a western pond turtle is encountered in the work area, the qualified biologist shall relocate individuals to a part of Crespi Pond where no construction activity would occur.

Significance After Mitigation. With implementation of the above mitigation measure, potential impacts to the western pond turtle would be reduced to less than significant levels.

Impact B-3 **Implementation of the proposed project could result in impacts to white-tailed kite and other nesting bird species. This impact is Class II, significant but mitigable.**

David Avenue Reservoir. White-tailed kite are considered possible to forage and nest within the David Avenue Reservoir site based on the presence of suitable nesting and foraging habitat. This species is known to breed on the Monterey Peninsula and e-bird (Audubon and Cornell Lab of Ornithology; accessed November 2013) includes numerous records of the species across the entire peninsula. A number of other bird species protected under the MBTA would be expected to nest within the wooded areas of the David Avenue Reservoir and other landscaped areas containing trees and/or shrubs. Construction of this component of the project would require ground clearing, including some tree trimming and removal of a minimum of 308 trees within the David Avenue Reservoir site (based on current project design). This includes trees present on the interior and exterior of the reservoir. These activities have the



potential to directly affect nesting white tailed kites and other nesting bird species if individuals were injured or killed as a result of construction activity, or if nesting behavior was disrupted sufficiently to cause nest failure. In particular, the removal of over 300 trees from this densely wooded area, if conducted during the nesting season, is highly likely to result in the loss of active nests and potentially result in the death of nesting birds.

Pine Avenue Conveyance. Marginal nesting and foraging habitat for the white tailed kite is present in this area. A number of other bird species protected under the MBTA would be expected to nest in suitable habitat immediately adjacent to this project area. Project construction activity associated with the installation of approximately 2,760 feet of new storm drain conveyance pipeline beneath Pine Avenue from 7th Street to 18th Street could result in significant impacts to nesting birds if nesting behavior was disrupted sufficiently to cause nest failure.

Ocean View Boulevard Conveyance. This component of the project would be primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP at the Point Pinos Lighthouse Reservation. Marginal white-tailed kite nesting habitat is present in this area, and a number of other bird species protected under the MBTA would be expected to nest in suitable habitat immediately adjacent to this project area, particularly within the vicinity of the underground storage facility at Caledonia Avenue. Current project design avoids the removal of trees from the Caledonia Avenue storage facility area; however, construction activity could adversely affect nesting activity adjacent to the work area. Project construction activity associated with the installation of approximately 1,100 feet of new gravity storm drain conveyance pipeline; approximately 8,000 feet of pipe lining within an existing abandoned sewer force main; an underground storage facility; and three new pump stations could result in impacts to nesting birds if nesting behavior was disrupted sufficiently to cause nest failure.

Point Pinos Stormwater Treatment Facility and Crespi Pond. White-tailed kite are considered possible to forage and nest on the project site based on the presence of suitable nesting and foraging habitat within the Monterey cypress surrounding the retired PGWTP and suitable foraging habitat adjacent to Crespi Pond. This species is known to breed on the Monterey Peninsula and e-bird includes numerous records of the species in the immediate vicinity of this project component. A number of other bird species protected under the MBTA would be expected to nest within the Monterey cypress at the Point Pinos Stormwater Treatment Facility and the bulrush marsh at Crespi Pond. Project construction activity associated with the installation of a stormwater treatment facility and the development of the conveyance structure between the retired PGWTP and Crespi Pond may require trimming or removal of Monterey cypress. Vegetation removal, ground disturbance, and construction activity immediately adjacent to this habitat could result in significant impacts to white-tailed kites and other species if individuals were injured or killed as a result of construction activity, or if nesting behavior was disrupted sufficiently to cause nest failure.

Diversions to MRWPCA. This component of the project would be primarily within or adjacent to the Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue. Marginal white-tailed kite nesting habitat is present in this area, and a number of other bird species protected under the MBTA would be expected to nest in suitable habitat immediately adjacent to this project area. Project construction activity associated with the installation of new



pumps at the existing Greenwood Park, Berwick Park, and Eardley Avenue pump stations and replacement of some existing 4-inch storm drain lines with 8-inch lines could result in significant impacts to nesting birds if nesting behavior was disrupted sufficiently to cause nest failure.

Mitigation Measures. The following mitigation measure is required.

B-3(a) Tree Removal Conducted Outside of Nesting Season. Every effort shall be made to conduct all, or the majority, of tree removal activity at the David Avenue Reservoir during the non-nesting season (September 16 to January 31). No trees shall be removed from the David Avenue Reservoir site during the nesting season (February 1 through September 15) unless there is no reasonable alternative, and removal during the non-nesting season is not possible.

B-3(b) Preconstruction Surveys for Nesting Birds. For construction activities occurring during the nesting season (February 1 to September 15) and for any tree removal that would occur during the nesting season at any project component, surveys for nesting birds covered by the CFGC and the MBTA (including, but not limited to, white-tailed kite, red-tailed hawk and red-shouldered hawk) shall be conducted by a qualified biologist no more than 14 days prior to initiation of construction activities for each component project site where construction staging and tree or other vegetation removal would occur. The surveys shall include the entire disturbance area plus a 200 foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The biologist shall have full discretion for establishing a suitable buffer. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.

Significance After Mitigation. With implementation of the above mitigation measure, potential impacts to white-tailed kite and other nesting birds would be reduced to a less than significant level.

Impact B-4 The proposed project would involve removal of established wetland habitat on-site and discharge of non-potable water into the Pacific Ocean, thus impacting waters of the state and



waters of U.S. These impacts would be Class II, significant but mitigable.

David Avenue Reservoir. The David Avenue Reservoir currently consists of a well-developed, but intermittent wetland. The habitat includes typical obligate wetland plants species including bulrush, horsetail and willow. The wetland would be entirely removed to line and fill the reservoir as an essential component of the proposed project. The reservoir bottom contained water and wetland vegetation (bulrush marsh) at the time of the site visit and is subject to the jurisdiction of the RWQCB and CDFW as waters of the State. Removal of the existing intermittent wetland present within the David Avenue Reservoir and the filling of the reservoir would directly convert wetland habitat to open water habitat and be considered a significant impact. It is expected that consultation with CDFW and issuance of a Streambed Alteration Agreement (SAA) would be required to mitigate for impacts to wetlands within the David Avenue Reservoir.

Pine Avenue Conveyance. The Pine Avenue Conveyance improvements would be located primarily within the Pine Avenue right-of-way and a portion of the Robert Down Elementary School playing fields. There is no CDFW Jurisdictional habitat present in this area.

Ocean View Boulevard Conveyance. This component of the project would be primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP at the Point Pinos Lighthouse Reservation. There is no CDFW Jurisdictional habitat present in this area.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Ultimately, development of the entire project would result in stormwater runoff being directed to a new Point Pinos Stormwater Treatment Facility at the retired PGWTP or conveyed to the MRWPCA Regional Wastewater Treatment Plant in Marina. Stormwater conveyed to the Point Pinos Stormwater Treatment Facility would be treated to a non-potable condition and discharged to the Monterey Bay through the existing Crespi Pond outfall, or would be available for reuse as irrigation water. Monterey Bay is waters of the U.S., and although no dredge or fill is expected to be discharged into waters of the U.S., discharges of treated surface water into waters of the U.S. is subject to the jurisdiction of the RWQCB. Furthermore, it is expected that consultation with CDFW and issuance of a SAA, and consultation with USACE and issuance of a 404 permit would be required to mitigate for impacts to Crespi Pond from construction of the conveyance and dissipation structures.

Diversions to MRWPCA. This component of the project would be primarily within or adjacent to the Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue. There is no CDFW Jurisdictional habitat present in this area.

Mitigation Measures. The following measure is required.

- B-4 Jurisdictional Delineation.** Once final design has been developed, but prior to the start of construction, a qualified biologist shall conduct a jurisdictional delineation of the David Avenue Reservoir and Crespi Pond disturbance areas where construction activity could affect jurisdictional waters. The jurisdictional



delineation shall determine if features are under the jurisdiction of CDFW, USACE, Regional Water Quality Control Board (RWQCB), and/or other regulatory agencies. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the implementing entity, CDFW, USACE, RWQCB (and other agencies if necessary), as appropriate for review and approval. Prior to construction, all necessary permits shall be obtained from each agency where applicable. If it is determined that no jurisdictional waters would be impacted by project development, no further action is required. If the project would impact waters of the State and/or waters of the US, consultation with CDFW, RWQCB, and/or USACE shall be initiated, and applications for any required permits (SAA, 404 and 401, and/or Waste Discharge Requirement [WDR]) shall be prepared and submitted to the requisite agencies.

Significance After Mitigation. With implementation of the above mitigation measure, potential impacts to wetland habitat under state jurisdiction would be reduced to a less than significant level.

Impact B-5 Implementation of the proposed project could result in impacts to trees protected under the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance. This impact is Class III, less than significant.

David Avenue Reservoir. Current project design has identified a minimum of 308 trees for removal from the David Avenue Reservoir site. This number includes 179 trees located within the reservoir interior, at least 30 of which have a 6 inch or greater diameter, and 129 trees on the exterior of the reservoir, at least 85 of which have a diameter of 6 inches or greater. Tree removal would be required of young Monterey pine, Coast live oak, and other trees present within the David Avenue Reservoir, and tree trimming may be necessary along the rim of the reservoir. Removal and/or trimming of Monterey pine and coast live oak present within the David Avenue Reservoir site would result in impacts to trees protected under the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance. The ordinance provides guidelines and a permit process for tree removal including an application fee, preparation and submission of an arborist's report, a tree hazard evaluation, a site plan showing tree work locations and the location of replacement trees, a permit for tree trimming, and the replacement of protected trees at a 1:1 ratio. Adherence to the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance would result in less than significant impacts to these trees.

Pine Avenue Conveyance. Trimming of street trees along Pine Avenue may be required during construction along the Pine avenue Conveyance. Substantial trimming would result in impacts to trees protected under the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance, which protects all street trees. However, adherence to the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance would result in less than significant impacts to these trees.



Ocean View Boulevard Conveyance. Tree trimming along this component, if required, would be limited to work areas at Moss Street and the intersection of Pacific Avenue and Caledonia Avenue, and current project design avoids removal of trees from the Caledonia Avenue storage facility area. Substantial trimming of street trees present in these areas would result in impacts to trees protected under the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance. Compliance with the ordinance would result in less than significant impacts to these trees.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Tree trimming within this component, if required, would be limited to Monterey cypress between the retired PGWTP and Crespi Pond for construction of the conveyance structure. Substantial trimming of Monterey cypress present in these areas would result in impacts to trees protected under the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance. Compliance with the ordinance would result in less than significant impacts to these trees.

Diversions to MRWPCA. Tree trimming along this component, if required, would be limited to work areas adjacent to trees along Ocean View Boulevard. Substantial trimming or removal of street trees present in these areas would result in impacts to trees protected under the City of Pacific Grove 2013 Amended Urban Forestry Tree Ordinance. However, compliance with the ordinance would result in less than significant impacts to these trees.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact B-6 Implementation of the proposed project could result in impacts to hoary bat. However, the project would not modify the quality of foraging habitat, nor impact foraging behavior. This impact is Class III, less than significant.

All Project Components. It is considered possible that hoary bat forages on the project site. The David Avenue Reservoir and Point Pinos Wastewater Treatment Plant and Crespi Pond component areas provide the best foraging habitat, but the other project components (Pine Avenue Conveyance, Ocean View Boulevard Conveyance, and Diversions to MRWPCA) also have suitable foraging habitat in the vicinity. However, bat foraging activity is limited to evening and nighttime hours, and therefore project construction activity occurring during daytime hours would not impact foraging behavior. Because the project would not result in significant changes to the three-dimensional structures of any bat foraging habitats, the project would not modify the quality of foraging habitat. No suitable roosting habitat is present within any of the project component impact areas. Potentially suitable roosting habitat is present in larger trees surrounding the David Avenue Reservoir, but outside of direct project impact areas and the project would not impact roosting bats. Therefore the project would not be expected to impact hoary bats.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.



d. Cumulative Impacts. The proposed Area of Special Biological Significance (ASBS) Stormwater Management Project, in combination with other planned and pending development in the vicinity, would incrementally alter biological habitats in the area. However, because the cities of Monterey and Pacific Grove area almost entirely built out and thus consists primarily of biologically disturbed areas of urban development, cumulative biological resource impacts would be limited. Compliance with applicable federal, state, and local regulations relating to preservation of sensitive species in these areas would be expected to reduce cumulative biological impacts to less than significant levels. As described above, project-level impacts would be expected to be less than significant or less than significant with mitigation; thus, the project's contribution to cumulative impacts would not be substantial.



4.4 CULTURAL RESOURCES

4.4.1 Setting

a. Historical Background. The following setting information is based on the *Historic and Cultural Resource* chapter of the City of Pacific Grove General Plan, an *Archaeological Assessment for the Satellite Recycled Water Treatment Plant at the Former Point Pinos Wastewater Treatment Plant* prepared by Albion Environmental, Inc. (2013), and a *Preliminary Archaeological Reconnaissance for the ASBS Stormwater Management Project* prepared by Archaeological Consulting (2013). These documents are included as Appendix E to this EIR.

Central Coast Prehistory. Indications of prehistoric inhabitation of the central California coast dating to the terminal Pleistocene/early Holocene is limited, with the strongest evidence supporting this argument coming from two fluted points recovered from peri-coastal contexts in San Luis Obispo County. One fluted point fragment near Santa Margarita was recovered in association with two flake knives, a scraper, two cores and sixty-seven pieces of debitage. It was fabricated from pale yellow Franciscan chert. The other specimen was found near Nipomo by local rock collectors and is fabricated from Monterey chert. Later investigation of the area in which it was found failed to identify other archaeological remains, although the location is notable by the local presence of fossilized Pleistocene fauna. Unfortunately neither of these finds comes from dated contexts, or with robust assemblages, leaving their antiquity and greater cultural context relatively ambiguous (Albion Environmental, 2013).

Few other components dating to this period have been investigated, and many questions regarding topics such as settlement, subsistence, stone industries, and social organization, remain unanswered. The dearth of sites dating to this antiquity may, in part, be related to progressively rising sea levels that accompanied the end of the Pleistocene and the early Holocene. It is well documented that in the immediate post-Pleistocene period, world sea levels began to rise with the melting of continental ice sheets. At this time, many previously exposed landscapes in California were inundated by rising waters and underwent complex landscape transformation in the vicinities of river mouths. By 10,000 years Before Present (B.P.), for example, sea water began to penetrate San Francisco Bay, which previously had comprised a series of broad inland floodplains. Elsewhere in California, based on sediment cores and local landform configurations, marine transgression aided in the creation of bays, lagoons, and estuaries. Between ca. 10,000 and 8,000 B.P., the Elkhorn Valley was inundated by saltwater and transformed into a high energy tidal channel. At 8,000 years ago, sea level was about 15 m below its present level at Elkhorn Slough. It is estimated that sea level rise has submerged 20,000 square kilometers of land along the California coast. Sea level transgression slowed after about 7,000 years ago, prompting fluvial sedimentation and tectonic uplift. Consequently, coastal sites earlier than 7,000 B.P. may have been inundated by rising waters (Albion Environmental, 2013).

In general, researchers normally divide this early time span into two divisions: the Paleoindian (pre- 10,000 B.P.) and the Millingstone (10,000–5,500 B.P.). Although few sites or site components dating from this time period have been investigated and its presence is largely conjectural, some researchers have posited that Paleo-Coastal peoples established residences along estuaries and bay shores. Associated toolkits are suggested to be scrapers, scraper-planes,



bifaces, and lack milling equipment. One of the few inland sites in the region that may date to this time period is the Scotts Valley site (CA-SCR-177) where radiocarbon assays from the site suggest that the earliest cultural stratum dates to at least 9,000 years. For the same site, two pre-8,000 B.C. phases have been proposed, marked by flake tools, small leaf-shaped and medium lanceolate projectile points and/or knives, hammer stones, and ochre. It has also been suggested that there are numerous issues compromising interpretations of the site's stratigraphic integrity and dating. In fact it has been noted that "the extent to which these assemblages are constituted to some unknown degree by materials mixed from more recent contexts is indicated by the occurrence of obsidian among strata assigned to these phases since none of the obsidian hydration results equate with a time depth greater than 7000 B.C." As a result, the Paleo-Coastal Tradition is not readily described in the Monterey Bay area (Albion Environmental, 2013).

The next few thousand years (between 5,500 and 2,600 B.P.) are referred to as the Early Period throughout southern and central California. Most notable about prehistoric adaptations at this time are innovations in subsistence technology, especially the initial appearance of mortars and pestles (perhaps signaling acorn use) and an increase in the frequency of large side-notched and contracting stem projectile points along with flaked stone debris. Shell beads common during this time period include thick rectangular (L-series), end-ground (B-series), and split (C-series) Olivella beads. The appearance of eastern California obsidian (mainly Casa Diablo) in Early Period assemblages also implies that long-distance trade and exchange relations developed during this period (Jones, 1995). A decrease in residential mobility has been posited, which has been attributed to the advent of mortar and pestle use and a clearer delineation of gender roles that accompanied a trend toward greater population circumscription. Early Period sites, in contrast to Millingstone Period sites, are found in more diverse settings, including interior, estuary, and outer coast contexts. In terms of subsistence, mammals and fish increased in importance relative to shellfish. These resources, coupled with the addition of acorns, signified a broadening of the diet breadth. At CASCR-60/130, stable isotope analysis on two individuals supports the increased importance of terrestrial resources relative to marine ones. They attribute this to limitations of the marine resource base, however, this does not account for the presence of productive fisheries at Elkhorn Slough and the Pajaro River. This expansion of the diet breadth was accompanied by a significant increase in labor devoted to food processing. Before acorns can be made palatable, the toxic tannic acid must be leached out of the meal, a process not required by hard seeds. While the introduction of acorns has implications for labor organization and settlement, the peripheral role played by the resource base at this time in prehistory may relate to more of a process of "extensification" where new foods are introduced to the diet, rather than "intensification" where greater amounts of labor are focused on the processing of a particular resource, as is more characteristic of later prehistoric times (Albion Environmental, 2013).

Acorn macrofossils are recovered in lesser amounts in these early assemblages than in later ones. The change that occurred from the Millingstone to the Early Period has traditionally been interpreted as an adaptive shift Hunting peoples entered the central coast and gradually displaced the earlier populations of Millingstone-adapted peoples. This premise, however, has more recently been discounted largely in favor of the idea that observed differences in artifact assemblages are probably more indicative of seasonal or functional variability in site occupations. The transition from Millingstone to Hunting technologies was largely the result of



population circumscription and economic intensification, an in situ development that reflected the shift from an earlier, mobile, more selective adaptive strategy to one emphasizing limited mobility and decreased subsistence efficiency (Albion Environmental, 2013).

Cultural changes marking the transition from the Early to Middle Period (2,600-1,000 B.P.) were much less pronounced than during the Millingstone/Early Period transition. Instead, many of the adaptive traits initiated during the Early Period continued and grew in relative importance. The use of mortars and pestles increased, as did reliance on small schooling fishes, e.g. anchovies, herring and smelt. The use of shellfish, however, appears to have steadily declined. Middle Period populations also began to focus more on the exploitation of smaller, more elusive game; sea otters and rabbits, for instance, were more important than they had been previously. Artifact assemblages are typified by large-stemmed points, mortars, pestles, handstones, and milling slabs. Shell beads include Olivella saucer (G-series) and saddle (F-series) types. Perhaps the most significant change in the artifact assemblage was the introduction of the circular shell fishhook. This artifact class is recovered more commonly on rocky coasts than in protected slough habitats where schooling fishes were likely captured through other means such as baskets, nets, or other trapping methods. Circular shell fishhooks no doubt facilitated an increase in the exploitation of fishes, but, at the same time, may have resulted in a decrease in dietary efficiency, a pattern that continues throughout the Holocene (Albion Environmental, 2013).

Trans-Sierran trade, especially in obsidian, appears to increase during the Middle Period. Casa Diablo obsidian, a source whose origin is east of the Sierra Nevada Mountains was the chief import in the vicinity of the Monterey Bay, whereas Coso obsidian is more common to the south. A high frequency of sea otter (*Enhydra lutris*) bones have been found at Middle Period sites, which he interprets as evidence of exchange in otter pelts. It was also during the Middle Period that a few researchers have suggested a major shift in population occurred in the Bay Area. This shift is usually viewed within an ethnolinguistic framework, whereby an indigenous Hokan-speaking population merged with or was displaced by a later Penutian-speaking population. Specifically, ca. 2,500 B.P. a distinct ethnic population speaking a Penutian language expanded into the Monterey Bay area. These new peoples were the precursors of the ethnohistoric Ohlone, or Costanoans. Their settlement-subsistence pattern was characterized by low mobility, logistical organization, and a more specialized subsistence regime based primarily on the exploitation of the acorn. The prior language group, which Breschini argued had characterized the area since approximately 4,000 years B.P., was organized more around a "forager" pattern. Breschini called this the "Sur Pattern" and argued that it was typified by high mobility and a generalized adaptive pattern geared toward the exploitation of a wide range of resources and environments (Albion Environmental, 2013).

The Middle/Late Transition (1,000-750 B.P.) is a short period of time when there appears to have been a time of rapid change in settlement organization. It is represented along the central California coast by Contracting-stemmed and double Side-notched projectile points. Small leaf-shaped points also occur alongside these larger points, though their numbers are few. Several types of Olivella shell beads, including split punched (D-series), are also found. Hopper mortars make their first appearance in the archaeological record and are found in tandem with bowl mortars and pestles, as well as handstones and milling slabs. Subsistence regimes during this time demonstrate substantial differences from the previous period. Marine resources, such as



fish and marine mammals, appear to have been largely dropped from native diets. Instead, populations emphasized terrestrial resources, especially small mammals and acorns. This stands in marked contrast to developments along the Santa Barbara Channel where prehistoric populations underwent increasingly progressive maritime adaptations, and fishing was a major subsistence pursuit (Albion Environmental, 2013).

As originally perceived, these changes were largely considered to have resulted from an overexploitation of coastal resources accompanying the increased demographic pressures that were initiated during the Middle Period. However, more recent evidence suggests that other factors, especially environmental degradation, played a more significant role. Coinciding with the Middle/Late Transition (1,000-750 B.P.), California and parts of western North America underwent a dramatic warming trend, known as the “Medieval Climatic Anomaly”. Researchers have identified three major environmental trends during this period: (1) changing sea temperatures; (2) warmer summer; and (3) decreased precipitation. This latter trend had especially serious consequences for prehistoric coastal populations (Albion Environmental, 2013).

Serious drought after A.D. 1000 (950 B.P.) caused such rapid, severe deterioration of the resource base that major subsistence problems developed, causing widespread settlement shifts and resource competition. Unlike the environmental changes of the early and Mid-Holocene, technological innovations could not mitigate the environmental problems, because they developed rapidly and were severe (Albion Environmental, 2013).

Central coast populations during this time underwent a process of “deintensification.” Population growth declined, diet breadth contracted, and interregional exchange systems collapsed. In Monterey County, for example, numerous coastal sites were abandoned and populations relocated to more interior settings. Populations also apparently declined, perhaps as a result of resources stress, and systems of trade and exchange collapsed. Obsidian, for instance, virtually disappears from the archaeological record (Albion Environmental, 2013).

Late Period (750 B.P. Historic) populations on the central coast apparently rebounded from the environmental stresses that characterized the previous period. However, unlike native groups farther south – such as the Chumash and the Gabrieleño – the inhabitants of the central coast did not undergo increasingly maritime adaptations. Their subsistence practices continued to demonstrate a terrestrial focus. Jones (1995), for example, indicates that the consumption of fish and other marine resources was less intensive and the extraction of mussels perhaps more selective than during the previous interval. From his analysis of several sites in Big Sur, Jones (1995) suggests that Late Period populations focused their subsistence activities on black-tailed deer (*Odocoileus hemionus*). This view has recently been challenged by the findings from CA-MNT-1942, where fish, including several species of clupeidae (such as anchovies and herrings), constitute significant portions of the overall faunal assemblage (Albion Environmental, 2013).

Nevertheless, it appears that Late Period habitation on the central coast shifted to inland localities, and many coastal sites occupied during the Middle Period were no longer used in the Late Period, or see less intensive use. Late period midden sites on the interior are often associated with bedrock mortars, and on the coast are more often shellfish processing sites. Population circumscription is suggested by a drop off in the diversity of obsidian sources and



its use as a raw material. In fact, a decrease in the presence of Franciscan chert relative to the more locally available Monterey chert has been identified in Late Period contexts, suggesting more restricted mobility. Additionally, sites at interior localities, such as in the Gilroy area show a significant decrease in coastal resources with a concomitant increase in locally available ones (Albion Environmental, 2013).

Ethnographic Background. Native American populations living on the Monterey Peninsula at the time of European contact are attributed to the Ohlone. The Ohlone occupied lands from the Monterey peninsula inland to San Juan Bautista, and north to Santa Cruz, the Santa Clara Valley, the Delta, San Francisco Peninsula and the East Bay. Organized as tribelets, the Ohlone were noted to have lived in approximately 50 autonomous villages. During the course of the year it is likely that families came and went from a particular village depending on the season and important resources available, though winter was a time when families often coalesced and made use of food stores as well as to partake in ceremonial activities. From the time of European contact and missionization, the Ohlone populations experienced a rapid decline from the 1770s to the mid-1800s. Though the population suffered much from disease and discrimination, important information regarding language, folkways and material culture has been preserved among the few survivors. Likewise other pieces of information have been able to piece together a generalized picture of pre-contact Ohlone culture (Albion Environmental, 2013).

As the Ohlone inhabited varied coastal and interior environments, their subsistence practices varied depending on where they were. They were hunter-gatherers who supported themselves through the hunting and harvesting of plants and animal. They were noted to rely on acorn as a staple food, though other seeds, berries and roots, as well as kelp were regularly partaken of. Important terrestrial animals included deer, pronghorn and tule elk, though small game including squirrel, woodrats, and mice were also taken (Albion Environmental, 2013).

Shellmounds common to the Bay Area attest to the importance of shellfish to the Ohlone diet. Mussels, abalone, clam and oyster were among important shellfish species eaten. These, in addition to sea lions, seals and sea otters were important coastal resources, along with fish and waterfowl in both coastal and inland contexts (Albion Environmental, 2013).

While the Ohlone reportedly inhabited the coastal area where CA-MNT-143 is located, further south in the Carmel River Valley were the Esselen, their neighbors to the south. Little is known of the Esselen, likely due to their territory being largely comprised of thickly wooded mountainous habitats in the Carmel Valley down to Point Lopez. It is likely that the two groups interacted, and that socio-political boundaries may have shifted at different points in prehistory (Albion Environmental, 2013).

Spanish-Mexican Period. The Carmel River was named El Rio de Carmelo by the order of the friars who “discovered” it during Vizcaíno’s expedition in 1603. European occupation of Carmel begins with the establishment of the Misión San Carlos Borroméo de Carmelo. The Carmel Mission, founded by Padre Junípero Serra in 1770, was the 2nd Franciscan mission in Alta California. Originally located at the Presidio of Monterey and called Misión San Carlos Borroméo de Monterey, it was moved to the Carmel River area a year later and renamed. The Mission church is the final resting place of Padre Serra. The Rumsen group of Ohlone inhabited



the area at the time of colonization. There were five principal villages known to the missionaries: Ichxenta, located somewhere south of the mouth of the Carmel River, Achasta located at the current Carmel Mission site, Tucutnut located on the Carmel River about three miles from the ocean, Soccorronda near the Carmel Valley Village, and Echilat on the San Francisquito Flat. Tucutnut is mentioned in the early records of the Carmel Mission as being near the margins of the Carmel River. The site is probably located where Potrero Creek meets the Carmel River and claims the large archaeological site near the Quail Lodge Golf Course is the site of Tucutnut.

After secularization during the formation of the Mexican Republic in 1822, the Roman Catholic Church petitioned for return of Church lands. Nine acres were granted in 1855 and included many structures, cemeteries, vineyards, orchards, and grazing lands. The present Mission church, located on the southwest corner of Lasuen Drive and Rio Road, was built between 1793 and 1797, destroyed in the mid-1800s, restored in 1884 and again in 1920. In 1960, Pope John XXIII elevated the Carmel Mission to the rank of Minor Basilica which implies special historical and religious importance taking precedence over all other churches except cathedrals (Albion Environmental, 2013).

American Period. Pacific Grove is a historically significant area once known as the Methodist Christian Seaside Retreat, established in 1875 by David Jacks (City of Pacific Grove General Plan). The seaside retreat marked the birth of Pacific Grove, one of the few towns in California to be established for primarily religious purposes. Early settlement included small lots in which seasonal visitors pitched tents. Over the next several decades a permanent population began to grow within the area as well as permanent dwellings. Under pressure of overcrowding and lack of utilities Pacific Grove incorporated in 1889.

b. Project Site Setting. The Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project is comprised of five associated component sites located primarily in the City of Pacific Grove, with a portion of one component located in the City of Monterey. The portion of the component located in Monterey is located in the area known as “New Monterey,” which borders the City of Pacific Grove. All five components are located on the Monterey Peninsula, which is located approximately 30 miles southwest of Salinas and approximately 120 miles south of San Francisco. Specific locations for the five project components are:

- 1) *The former David Avenue Reservoir, adjacent to the intersection of David Avenue, Terry Street, and Carmel Avenue;*
- 2) *The Pine Avenue right-of-way between 7th Street and 18th Street;*
- 3) *The Ocean View Boulevard right-of-way from Forest Avenue west to the former Pacific Grove Wastewater Treatment Plant at the Point Pinos Lighthouse Reservation;*
- 4) *The former Pacific Grove Wastewater Treatment Plant (PGWTP) and adjacent Crespi Pond, which is located on the Pacific Grove Golf Links; and*
- 5) *The Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue (diversions to the Monterey Regional Water Pollution Control Agency [MRWPCA] Treatment Plant in Marina).*



According to the Pacific Grove General Plan Historic and Archaeological Resources Element (1994), the entire Pacific Grove Coastal Zone is designated as an archaeological sensitive area. In addition, there are archaeological resources throughout the non-coastal portions of the City. The likelihood of encountering resources at all five of the project component sites is therefore high.

There are a number of officially designated historic buildings in Pacific Grove. The following are listed on the National Register of Historic Places:

- *F. L. Buck House;*
- *Oliver Smith Trimmer House;*
- *Centrella Hotel;*
- *Chautauqua Hall;*
- *Gosby House; and*
- *Pt. Pinos Lighthouse.*

Chautauqua Hall is also a California Registered Historical Landmark, and the Oliver Smith Trimmer House is a California Point of Historical Interest. As per the City of Pacific Grove General Plan, an additional six historic buildings, also listed on the National Register of Historic Places, are located at the Asilomar State Beach and Conference Grounds. They are: the Crocker Building, Dodge Memorial Chapel, Phoebe A. Hearst Social Hall, Merrill Hall, Scripps Hall, and Visitors Lodge. None of these structures are located on the project component sites.

c. Cultural Resources Inventory and Evaluation Results. A cultural resources inventory for the project area, based on a records search and field study, has been prepared for the proposed project based on the *Preliminary Archaeological Reconnaissance for the ASBS Stormwater Management Project* prepared by Archaeological Consulting (AC) (2013), the *Archaeological Assessment for the Satellite Recycled Water Treatment Plant at the Former Point Pinos Wastewater Treatment Plant* prepared by Albion Environmental, Inc. (2013), and the *Former Point Pinos Wastewater Treatment Plant – Pacific Grove (Historical Memorandum)* prepared by Archives and Architecture, LLC (n.d) (refer to Appendix E). The results of the cultural resources inventory are summarized below.

Records Search. A background search of files located at the Northwest Information Center and a review of AC's records found no recorded cultural resources in or directly adjacent to the project areas at the David Avenue Reservoir or along Pine Avenue Conveyance components of the project. However, there are at least 27 recorded archaeological resources located within one kilometer of the impact areas at Caledonia Park (part of the Ocean View Boulevard Conveyance component) and along Ocean View Boulevard between Lovers Point and the Point Pinos Stormwater Treatment Facility (also part of the Ocean View Boulevard Conveyance component of the project). There are no previously identified resources recorded at the Point Pinos Stormwater Treatment Facility and Crespi Pond or Diversions to MRWPCA components of the project.

Several sites are found in the proposed pump station locations, including CA-MNT-111 at Lovers Point parking lot, CA-MNT-113C at the foot of Sea Palm, CA-MNT-120 at Coral Street Pump Station and CA-MNT-127 near the proposed Point Pinos Stormwater Treatment Facility.



A portion of CA-MNT-831 is located just north of Caledonia Park. All of these known resources would be located within the Ocean View Boulevard Conveyance component of the project.

CA-MNT-111 was studied prior to the development of the Pacific Grove- Monterey Consolidation Project of the Regional Sewer System (Archaeological Consulting, 2013). One test unit and three mitigation units were excavated in the parking lot where the current project proposes installation of the new pump station. Test unit 3 was placed in the landscaped area on the south side of the parking lot. Three mitigation units were placed within the parking lot. All of these units encountered between 30 to 90 centimeters of intact midden. Three of the units discovered abalone shell concentrations with associated artifacts such as battered and pitted granitic cobbles, whalebone pries and fire-cracked rock typical of hearths. One of the units produced a large amount of sea and land mammal bones as well as fish bones. One unit produced a bone awl fragment. Radiocarbon dating of charcoal from the bottom of a pit feature in Unit 5 yielded an age of 1000 ± 100 years B.P. and a calibrated date of Cal AD 1021. Haliotis (abalone) shell recovered at a depth of 70 centimeters (cm) in a sewer trench in the parking lot produced a measured age of 570 ± 50 years B.P., calibrated to a date of Cal AD 1516. A project south of Ocean View Boulevard produced a calibrated date on Haliotis shell recovered from a small abalone feature of Cal AD 1261 with a measured age of 950 ± 60 years B.P. These are all dates from the Late Period of Prehistoric Occupation on the Monterey Peninsula.

CA-MNT-113C (formerly CA-MNT-115) located east of Sea Palm to Clyde Street was also tested in 1981 for the sewer project. Only one of their units was in close proximity to the proposed Sea Palm pump station. That unit, #6, produced midden at depths between 50-80 centimeters. It did not produce artifacts or evidence of the shell concentrations found in many other, deeper parts of the site. Haliotis shell from other units closer to Moss Avenue, Units 8 and 10, produced measured ages of 1780 ± 110 and 2140 ± 110 years B.P. With 2 Sigma calibration, intercept dates of AD 414 and 13 BC were obtained. These dates are within the Middle Period of Prehistoric Occupation on the Monterey Peninsula, a time period about which little has been determined from the archaeological record due to the scarcity of identified sites.

The CA-MNT-113C midden has been radiocarbon dated during three other projects. Another date on Haliotis shell from an excavation near Mermaid and Moss at a depth of 45 cm produced a calibrated date of BC 155. Mytilus (mussel) shell fishhooks from excavation units south of Ocean View Boulevard between depths of 20-30 cm and 40-50 cm produced ages of 2060 ± 50 , 2260 ± 50 and 2290 ± 50 years B.P. These ages calibrate to Middle Period dates of AD 95, 130 BC and 166 BC. Bone of northern fur seal (90 to 100 cm) and sea otter (25 to 50 cm) produced calibrated radiocarbon dates of AD 79 and 31 BC.

CA-MNT-120 was originally recorded on Lucas Point between Coral Street and Beacon Avenue. It has since been followed eastward past the Esplanade and inland up the Esplanade past Balboa. Dietz and Jackson did extensive testing and mitigation at this site in 1981 because of the placement of the Coral Street Sewer pump station. Four of their units were placed near the proposed new pump station, test Unit 1 and mitigation Units 6, 10, and 22. Test Unit 1 produced an abalone shell concentration between 10-40 centimeters. The other three mitigation units also revealed the large areal extent of the abalone feature found directly on granitic bedrock. Artifacts from these units include several chert scrapers, a chert graver, chert cores, and a pecked granitic cobble. Three radiocarbon dates have been obtained from single specimen



samples of *Haliotis* shell in two areas of the CA-MNT- 120 midden. These shells have produced ages of 460±90, 590±90 and 850±60 years B.P., which calibrate to Cal AD 1652, 1498 and 1334, respectively.

CA-MNT-127 was originally surveyed by Fisher in 1935 and was recorded by Pilling in 1949 on Point Pinos, extending southward to the proposed Point Pinos Stormwater Treatment Facility. A single radiocarbon date obtained during a monitoring project within the site produced a Measured Radiocarbon Age of 920±60 years B.P. 2 Sigma calibration provides an intercept date of AD 1295, well into the Late Period of Prehistoric Occupation of the Monterey Peninsula.

The project area lies within the currently recognized ethnographic territory of the Costanoan (often called Ohlone) linguistic group. Discussions of this group and their territorial boundaries can be found in Breschini, Haversat, and Hampson (1983), Kroeber (1925), Levy (1978), Margolin (1978), and other sources. In brief, the group followed a general hunting and gathering subsistence pattern with partial dependence on the natural acorn crop. Habitation is considered to have been semi-sedentary and occupation sites can be expected most often at the confluence of streams, other areas of similar topography along streams, or in the vicinity of springs. These original sources of water may no longer be present or adequate to support a population. Also, resource gathering and processing areas and associated temporary campsites are frequently found on the coast and in other locations containing resources utilized by the group. Factors that may influence the locations of these sites include the presence of suitable exposures of rock for bedrock mortars or other milling activities, ecotones, the presence of specific resources (oak groves, marshes, quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. Temporary camps or other activity areas can also be found along ridges or other travel corridors.

Field Research. None of the materials frequently associated with prehistoric cultural resources in this area (dark midden soil, shell fragments, flaked or ground stone, bone fragments, fire-affected rock, etc.) were observed on the surface in or adjacent to the upper parts of the project at the reservoir and along Pine Street. Only two small abalone shell fragments were noted in the extreme northern part of Caledonia Park. Other project impact areas have provided substantial evidence of cultural resources, both on the surface and during previous archaeological projects. Midden and a bedrock mortar are visible in the planting area of Lovers Point parking lot. Midden is also visible at the foot of Sea Palm Avenue, around the Coral Street pump station and near the proposed Point Pinos Stormwater Treatment Facility.

d. Regulatory Setting.

Federal.

National Register of Historic Places. Federal regulations for cultural resources are primarily governed by Section 106 of the National Historic Preservation Act (NHPA) of 1966, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the National Register of Historic Places (National Register or NRHP). The criteria for determining NRHP eligibility are found in Title 36 Code of Federal Regulations (CFR) Part 60. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic



properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in Title 36 CFR Part 800.

The NRHP is the official list of the nation's historic places worthy of preservation. Authorized under the NHPA, it is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect the country's historic and archeological resources. The National Register is administered by the National Park Service under the Secretary of the Interior. Properties listed in the National Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. Property owners must agree to such listing. The National Register includes:

- *All historic areas in the National Park System;*
- *National Historic Landmarks that have been designated by the Secretary of the Interior for their significance to all Americans; and*
- *Properties significant to the nation, state, or community which have been nominated by state historic preservation offices, federal agencies, and tribal preservation offices, and have been approved by the National Park Service (2013).*

To be considered eligible, a property must meet the National Register Criteria for Evaluation, found in Title 36 CFR Part 60.4. This involves examining the property's age, integrity, and significance as follows:

- *Age and Integrity. Is the property old enough to be considered historic (generally at least 50 years old) and does it still look much the way it did in the past?*
- *Significance. Is the property associated with events, activities, or developments that were important in the past? With the lives of people who were important in the past? With significant architectural history, landscape history, or engineering achievements? Does it have the potential to yield information through archeological investigation about our past?*

Archaeological site evaluation is used to assess the potential of sites to meet one or more of the criteria for NRHP eligibility based on visual surface and subsurface evidence (if available) at each site's location, information gathered during the literature and records searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

American Indian Religious Freedom Act. The American Indian Religious Freedom Act, Title 42 U.S. Code Section 1996, protects Native American religious practices, ethnic heritage sites, and land uses.

National Historic Landmarks. National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, fewer than 2,500 historic places bear this national distinction. National Historic Landmarks are places where nationally significant historic events occurred, that are associated with prominent Americans that represent those pivotal ideas that shaped the nation, that teach Americans about their ancient past, or that are premier examples of design or construction. While many historic



places are important locally or at a state level, a lesser number have meaning for all Americans. National Historic Landmarks are places that “possess exceptional value or quality in illustrating and interpreting the heritage of the United States” (2013).

State.

California Register of Historical Resources. The California Register of Historical Resources (California Register or CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The California Register helps government agencies identify, evaluate, and protect California’s historical resources, and indicates which properties are to be protected from substantial adverse change [Pub. Resources Code, Section 5024.1(a)]. The California Register is administered through the State Office of Historic Preservation (SHPO) that is part of the California State Parks system.

A cultural resource is evaluated under four California Register criteria to determine its historical significance. A resource must be significant at the local, state, or national level in accordance with one or more of the following criteria set forth in the *State CEQA Guidelines* at Section 15064.5(a)(3):

- 1) *It is associated with events that have made a significant contribution to the broad pattern of California’s history and cultural heritage;*
- 2) *It is associated with the lives of persons important in our past;*
- 3) *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
- 4) *It has yielded, or may be likely to yield, information important in prehistory or history.*

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time must have passed to allow a “scholarly perspective on the events or individuals associated with the resource.” Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource according to SHPO publications. The California Register also requires a resource to possess integrity, which is defined as “the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.” Archaeological resources can qualify as “historical resources” [*State CEQA Guidelines*, Section 15064.5(c)(1)]. In addition, Public Resources Code Section 5024 requires consultation with SHPO when a project may impact historical resources located on State-owned land.

Two other programs are administered by the state: California Historical Landmarks and California “Points of Interest.” California Historical Landmarks are buildings, sites, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Interest are buildings, sites, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value.



Native American Consultation. Prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, Government Code Sections 65352.3 and 65352.4 require a city or county to consult with local Native American tribes that are on the contact list maintained by the Native American Heritage Commission. The purpose is to preserve or mitigate impacts to places, features, and objects described in Public Resources Code Sections 5097.9 and 5097.993 (Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property) that are located within a city or county's jurisdiction. As the proposed project does not entail a General Plan amendment, no such consultation is required.

Human Remains. Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. *State CEQA Guidelines* Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native American MLD for the treatment and disposition of the remains.

Public Resources Code Section 5097.5. California Public Resources Code Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

California Environmental Quality Act (CEQA). The *State CEQA Guidelines* Section 15064.5 definition of a "historical resource" is presented in Section 4.4.3(a) (Methodology and Significance Thresholds). CEQA requires that historical resources and unique archaeological resources be taken into consideration during the CEQA review process (Public Resources Code, Section 21083.2). If feasible, adverse effects to the significance of historical resources must be avoided, or significant effects mitigated [*State CEQA Guidelines* Section 15064.5(b)(4)].

If the cultural resource in question is an archaeological resource, *State CEQA Guidelines* Section 15064.5(c)(1) requires that the lead agency first determine if the resource is a historical resource as defined in Section 15064.5(a). If the resource qualifies as a historical resource, potential adverse impacts must be considered in the same manner as a historical resource. If the archaeological resource does not qualify as a historical resource but does qualify as a "unique archaeological resource," then the archaeological resource is treated in accordance with Public Resources Code Section 21083.2 [see also *CEQA Guidelines* Section 15069.5(c)(3)]. "Unique archaeological resource" means an archaeological artifact, object, or site about which it can be



clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

In practice, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource.

Treatment options under Public Resources Code Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a “unique archaeological resource”).

Local.

Pacific Grove General Plan. The Historic and Archaeological Resources Element of the Pacific Grove General Plan includes specific goals, policies and programs to identify and protect archaeological, paleontological, and historical resources. The policies encourage avoidance of impacts to significant resources, protection of Native American cemeteries, and preservation of shrines and sacred places to the greatest extent feasible. Where avoidance and preservation in place are not feasible, the General Plan requires that Phase 2 and Phase 3 archaeological studies be carried out, as appropriate, and notes that the requirements of CEQA and other state laws will apply. The objectives and policies applicable to this project are discussed in greater detail in Section 4.9, *Land Use and Planning*.

Pacific Grove Municipal Code. The Pacific Grove Zoning Ordinance (Title 23 of the Pacific Grove Municipal Code) provides development standards which help to ensure the protection and appropriate treatment of historical sites. Title 23.76 includes requirements for the development and alteration of designated historic structures in the City’s historic resources inventory.

Monterey General Plan. Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. Construction of these improvements would require approval of a Use Permit, a Street Opening Permit, a Building Permit, and potentially a Tree Removal Permit (if trees would be removed in the final design) from the City of Monterey. In addition, as a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR. Therefore, the project would be subject to City of Monterey policies and programs. The General Plan Historic Preservation Element protects historic and cultural resources in the City.



4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. This analysis is based the *Historic and Cultural Resource* chapter of the City of Pacific Grove General Plan, an *Archaeological Assessment for the Satellite Recycled Water Treatment Plant at the Former Point Pinos Wastewater Treatment Plant* prepared by Albion Environmental, Inc. (2013), and a *Preliminary Archaeological Reconnaissance for the ASBS Stormwater Management Project* prepared by Archaeological Consulting (2013). These documents are included as Appendix E to this EIR.

In accordance with Appendix G of the *State CEQA Guidelines*, a significant impact could occur if the proposed project would result in any of the following:

- 1) Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5;
- 2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- 3) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value; and/or
- 4) Disturb any human remains, including those interred outside of formal cemeteries.

The proposed project would not disturb historical resources. Further discussion regarding Issue 1 can be found in Section 4.13, *Effects Found not to be Significant*. Therefore, the discussion below focuses on items 2 through 4 above.

b. Project Impacts and Mitigation Measures.

Impact CR-1 Construction of the proposed project would involve surface excavation, which has the potential to unearth or adversely impact identified prehistoric or archaeological cultural resources. Impacts would be Class II, significant but mitigable.

David Avenue Reservoir. No prehistoric or archaeological cultural resources were found, or are known to occur, at or near the David Avenue Reservoir. Therefore, this project component would not damage any known archeological resources in the area.

Pine Avenue Conveyance. No prehistoric or archaeological cultural resources were found, or are known to occur, at or near the Pine Avenue Conveyance. Therefore, this project component would not damage any known archeological resources in the area.

Ocean View Boulevard Conveyance. The *Preliminary Archaeological Reconnaissance for the ASBS Stormwater Management Project* completed for the proposed project (AC, November 2013) concluded that, based upon the background research and the field reconnaissance, portions of the Ocean View Boulevard Conveyance, which lies partially within the recorded boundaries of archaeological sites CA-MNT-111, CA-MNT-113C, CA-MNT-120 and CA-MNT-127, contain surface evidence of potentially significant cultural resources. Previous radiocarbon dating has placed three of these sites within the Late Period of Prehistoric Occupation. CA-MNT-113C, although a more substantial site because of the scarcity of finds from the Middle Period, was found to be thin and unproductive along its extreme western edge, the current project area.



The current paved environment precludes further examination of the areas of direct project impact within the archaeological site boundaries. Previous sewer and drainage trenching has caused substantial previous disturbance in the current project areas. However, excavations for pipelines and pump stations may disturb remnants of previously undisturbed midden soil within the identified archaeological sites. As a result, potential impacts to prehistoric or archaeological cultural resources would be potentially significant and mitigation is required.

Point Pinos Stormwater Treatment Facility and Crespi Pond. No prehistoric or archaeological cultural resources were found, or are known to occur, at or near the proposed Point Pinos Stormwater Treatment Facility. Therefore, this project component would not damage any known archeological resources in the area.

Diversions to MRWPCA. No prehistoric or archaeological cultural resources were found, or are known to occur, at or near the Diversions MRWPCA component of the project. Therefore, this project component would not damage any known archeological resources in the area.

Mitigation Measures. The following mitigation measures are required for the Ocean View Boulevard Conveyance component of the project. No mitigation is required for the remaining project components, as no known resources are located in these areas.

CR-1(a) Phase II Archaeological Assessment. Prior to the issuance of any building or grading permits for the Ocean View Boulevard Conveyance component, a Phase II Archaeological Assessment shall be completed for that portion of the project by a licensed archaeologist. This assessment shall be submitted for review and approval by the City of Pacific Grove. Any recommendations given in the Assessment shall be included as notes on any grading or building permit issued for the project site. Such recommendations may include, but would not be limited to: avoidance measures, capping the resource area using cultural sterile and chemically neutral fill material, and/or completion of a Phase III data recovery program.

CR-1(b) Archaeological Monitor. The following notes shall appear on all grading permits issued for the Ocean View Boulevard Conveyance improvements:

- A qualified archaeological monitor shall be present during all project excavations for the pump stations within the boundaries of the archaeological sites at Lovers Point, the foot of Sea Palm Avenue, and the Coral Street Pump Station. The monitor shall document and recover any potentially significant cultural materials that may be found in the excavated soil. Excavated soil may be screened to assist in such data recovery.



- If, at any time, intact midden containing potentially significant cultural materials or features is encountered, work shall be halted until the monitor and/or the principal archaeologist has evaluated the discovery. If the find is determined to be significant, appropriate data recovery mitigation shall be developed, with the concurrence of the City of Pacific Grove, and implemented.

Significance After Mitigation. Implementation of the above mitigation measures would reduce impacts to known archaeological resources to a less than significant level.

Impact CR-2 Construction of the proposed project would involve surface excavation. Although unlikely, construction activities have the potential to unearth or impact previously unidentified prehistoric or archaeological cultural resources. Impacts would be Class II, significant but mitigable.

Project construction activities, including ground clearing, grading and excavation, could have adverse impacts on previously unidentified prehistoric or archaeological cultural resources. Pre-construction reconnaissance can only confidently assess the potential for encountering surface prehistoric or archaeological cultural resource remains. As discussed in Section 4.4.1(b), above, the entire Pacific Grove Coastal Zone is designated as an archaeological sensitive area. In addition, there are archaeological resources throughout the non-coastal portions of the City. Therefore, the possibility remains for encountering previously unidentified subsurface prehistoric or archaeological cultural resources during construction activities.

Mitigation Measures. The following mitigation measures are required to reduce impacts to previously unidentified prehistoric and archaeological cultural resources.

CR-2(a) Archaeological Resource Construction Monitoring. Prior to the commencement of construction activities for each component of the project, an orientation meeting shall be conducted by an archaeologist, general contractor, subcontractor, and construction workers associated with earth disturbing activities. The orientation meeting shall describe the potential of exposing archaeological resources, the types of cultural materials may be encountered, and directions on the steps that shall be taken if such a find is encountered.

A qualified archaeologist shall be present during all initial earth moving activities for each component. In the event that unearthed prehistoric or archaeological cultural resources or human remains are encountered during project construction, mitigation measure CR-2(b) shall take effect.

CR-2(b) Unearthed Prehistoric or Archaeological Cultural Remains. If prehistoric or archaeological cultural resource remains are encountered



during construction or land modification activities, work shall stop and the City of Pacific Grove shall be notified at once to assess the nature, extent, and potential significance of any prehistoric or archaeological cultural remains. The City shall implement a Phase II subsurface testing program to determine the resource boundaries within the project component/impact area, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts.

If the site is determined significant, the City may choose to cap the resource area using culturally sterile and chemically neutral fill material. A qualified archaeologist shall be retained to monitor the placement of fill upon the site. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant prehistoric or archaeological cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping and or further archaeological investigation shall be required. The results and recommendations of the Phase II study shall determine the need for construction monitoring.

Significance After Mitigation. Implementation of mitigation measures CR-2(a) and CR-2(b) would reduce impacts to previously unidentified prehistoric or archaeological cultural resources to a less than significant level.

Impact CR-3 Construction of the proposed project would involve surface excavation, which has the potential to unearth or adversely impact previously unidentified human remains. Pursuant to compliance with California Health and Safety Code Section 7050.5 requirements, impacts would be Class III, less than significant.

No cemeteries are known to occur within or adjacent to any of the project components, and no evidence of a cemetery or burial area was identified within or adjacent to the project components during the data research and fieldwork performed by AC for the *Preliminary Archaeological Reconnaissance for the ASBS Stormwater Management Project* (November 2013) and Albion Environmental for the *Archaeological Assessment For The Satellite Recycled Water Treatment Plant At The Former Point Pinos Wastewater Treatment Plant*. Thus, discovery of buried human remains is not likely to occur during construction of the proposed project. Nonetheless, excavation and soil removal of any kind, irrespective of depth, would have the potential to encounter human remains. While not considered likely, construction would require excavation, trenching, and related earthwork that could uncover human remains.



California Health and Safety Code Section 7050.5 requires that:

...in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlay adjacent remains, until the County Coroner has examined the remains. If the Coroner determines the remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall contact by telephone within 24 hours the NAHC. In addition, any person who mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor.

Compliance with these existing requirements would reduce impacts to a less than significant level.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact CR-4 Construction of the proposed project would involve surface excavation. Although unlikely, these activities have the potential to unearth and/or impact paleontological resources. Impacts would be Class II, significant but mitigable.

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits (formations) within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit.

The geologic units underlying the David Avenue Reservoir and Pine Avenue Conveyance components of the project may contain paleontological resources. These areas are mapped as Miocene aged Marine Sandstone (Tus) by Dibblee and Minch (2007) (this unit equals the Temblor Fm of Trask [1926] and the Los Laureles Sandstone member of the Monterey Fm of Bowen, [1965]). Miocene aged marine sediments in California are known to contain foraminifera, pelecypods, and marine vertebrates including sharks teeth, other fish fossils and marine mammals. Therefore, this unit is considered to have a high paleontological sensitivity

Excavations and grading that extends beyond the depth of surface soils (typically 3 to 5 feet) have a likelihood of disturbing geologic units with high paleontological sensitivity. Based on the above information, the David Avenue Reservoir and Pine Avenue Conveyance components are located in an area with high paleontological sensitivity; therefore, there is a potential to disturb scientifically significant paleontological resources. As a result, project construction, including ground clearing, grading and excavation, could have adverse impacts on paleontological resources.



The remaining three components of the project are mapped as overlying granitic rocks (Dibblee and Minch, 2007), which have no paleontological sensitivity. Impacts from these components would therefore be less than significant.

Mitigation Measures. The following mitigation measures are required.

CR-4 Paleontological Resource Construction Monitoring. Any excavations exceeding three feet in depth at the David Avenue Reservoir or Pine Avenue Conveyance components of the project shall be monitored on a full-time basis by a qualified paleontological monitor. Ground disturbing activity that does not exceed three feet in depth shall not require paleontological monitoring. If no fossils are observed during the first 50 percent of excavations exceeding three feet in depth, paleontological monitoring shall be reduced to weekly spot-checking under the discretion of the qualified paleontologist.

If fossils are discovered, the qualified paleontologist (or paleontological monitor) shall recover them. Typically fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection, along with all pertinent field notes, photos, data, and maps.

Significance After Mitigation. Implementation of the above mitigation measures would reduce impacts to a less than significant level.

c. Cumulative Impacts. Cumulative projects evaluated as part of this section include projects listed in Section 3.6 (Cumulative Setting) within this EIR. The proposed project, in conjunction with other cumulative projects in the City of Pacific Grove, would have the potential to adversely impact additional cultural resources. However, as noted previously, implementation of required mitigation measures would reduce project-specific impacts to a less than significant level. The proposed ASBS Stormwater Management Project would not contribute to any significant cumulative impacts, and cumulative construction impacts related to known and unknown archaeological resources would be similar to that which is described for project-specific impacts and would be addressed on a project-by-project basis. Due to existing laws and regulations in place to protect historical and cultural resources and prevent significant impact to paleontological resources, the potential incremental effects of the proposed project would not be cumulatively considerable.



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4.5 GEOLOGY/SOILS

4.5.1 Setting

a. Topography and Geology.

Topography. The topography of Pacific Grove peaks near the City boundary with the Presidio of Monterey and slopes gently north and west toward Monterey Bay and the Pacific Ocean. Only a relatively small portion of the city contains slopes over 30 percent: Calabrese Canyon, some coastal bluffs, Benito Avenue, Piedmont Avenue, Hillside Avenue, Adobe Lane, and Syida Drive. The ocean and bay shore on the north and west of the City are subject to weathering, erosion, and deposition of rocks and sand from both ocean winds and waves. Those portions of Ocean View Boulevard adjacent to any steep drop to sea level are protected by retaining walls (City of Pacific Grove, 1994).

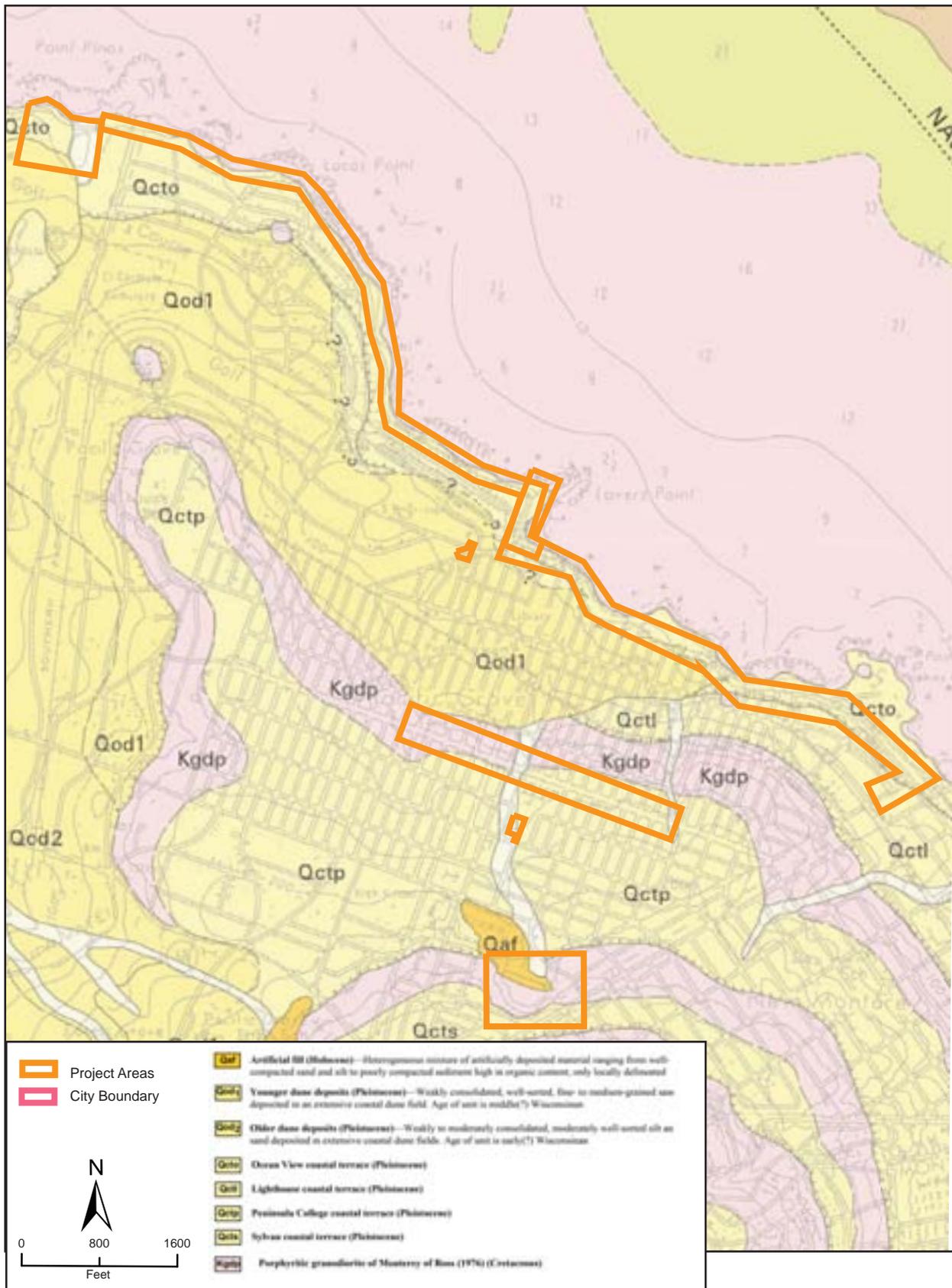
The project site's elevation ranges from approximately 225 feet above mean sea level (amsl) at the David Avenue Reservoir to approximately 25 feet amsl at the site of the proposed Point Pinos Stormwater Treatment Facility. The regional landscape is predominantly residential in character with commercial, recreational, and open space uses in the immediate vicinity of project components.

Geology. California is divided into eleven natural geomorphic provinces that are recognized based on geology, landscape or landform, topographic relief, and climate. Based on the provinces defined by the California Geological Survey (CGS), the project site is located within the Coast Ranges Geomorphic Province of California (CGS, 2002). Pacific Grove's shoreline is mostly dominated by exposed granitic rock that forms a relatively stable and durable barrier to protect shoreline development from the constant barrage of ocean waves. Although wave activity can become intense during winter storms, the Pacific Grove shore has not retreated significantly (City of Pacific Grove, 1994).

The Coast Ranges are northwest-trending mountain ranges and valleys that subparallel the San Andreas Fault. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary rocks. Figure 4.5-1 shows geologic formations in the project vicinity. The David Avenue Reservoir site is situated on Porphyritic Grandiorite of Monterey of Ross (Kgdp) as well as artificial fill (Qaf). The Pine Avenue Conveyance component is situated on Peninsula College Terrace (Qctp) and Kgdp. The Ocean View Boulevard Conveyance component is situated on Ocean View Terrace (Qcto). The Point Pinos Stormwater Treatment Facility and Crespi Pond component is located on Older Dune Deposits (Qod2) and Qcto. The Diversions to the Monterey Regional Water Pollution Control Agency (MRWPCA) component is located on Qcto, Younger Dune Deposits (Qod1), and Lighthouse Coastal Terrace (Qctl).

Monterey County is situated in a seismically active area, as shown on Figure 4.5-2. A number of faults traverse the county near the Monterey Peninsula, including the San Andreas Fault, which runs north-south about 28 miles east of Pacific Grove. The San Andreas Fault is considered capable of producing an earthquake with a magnitude of up to 8.5 on the Richter scale (City of Pacific Grove, 1994). The U.S. Geological Survey in 1990 estimated that there is a 67 percent

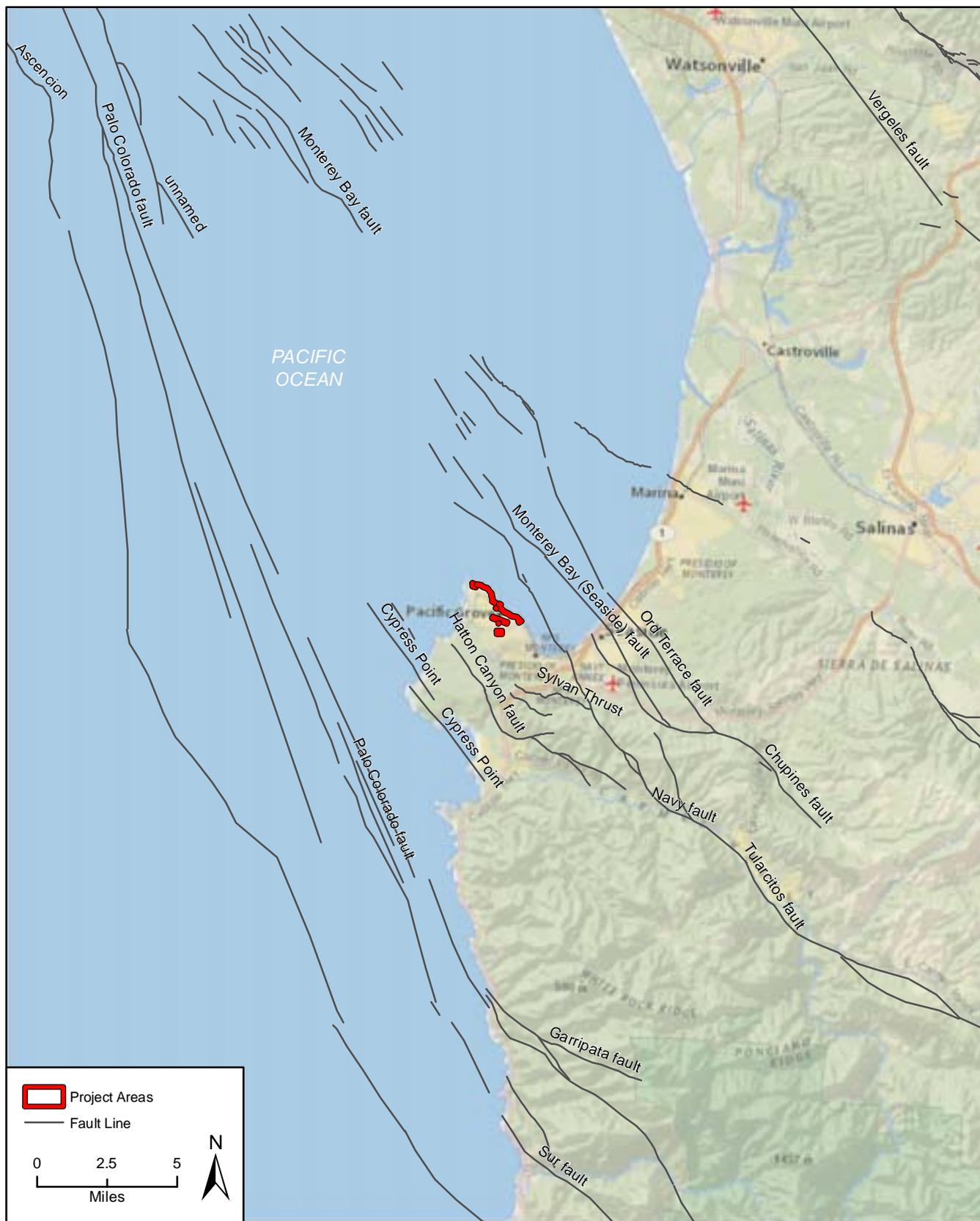




Drawing source: Geologic Map of the Monterey and Seaside 7.5-Minute Quadrangles, Monterey County, California: A Digital Database, by Joseph C. Clark, William R. Dupre, and Luis I. Rosenberg, 1997.

Geology

Figure 4.5-1
 City of Pacific Grove



Imagery provided by ESRI and its licensors © 2013. Additional data provided by Bryant, W.A. (compiler), 2005, Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, version 2.0: California Geological Survey Web Page, <http://www.consrv.ca.gov/CGS/information/publications/QuaternaryFaults_ver2.htm>; (1/31/07), Fall Creek Engineering and the City of Pacific Grove, 2013.

Faults

Figure 4.5-2

chance of a magnitude 7 or larger earthquake in the San Francisco Bay Area during the next 30 years with an epicenter somewhere between San Jose and Santa Rosa (*ibid*). Two other active fault zones affecting Pacific Grove are the Monterey Bay and the Palo Colorado-San Gregorio Fault Zones. These two areas, both of which have experienced movement along individual fault segments, are separated by the submerged Monterey Canyon. The Monterey Bay Fault Zone is located offshore in the northern and southern areas of the Monterey Bay. The maximum magnitude earthquake likely to be generated by this fault zone is about 6.5, which could generate tsunamis on the Pacific Grove coastline (*ibid*). The Palo Colorado-San Gregorio Fault Zone is a northwest-trending zone located six miles west and south of Pacific Grove. This active fault zone connects the Palo Colorado Fault near Point Sur, south of Monterey, with the San Gregorio Fault near Point Año Nuevo, where it intersects the San Andreas Fault System. The Palo Colorado-San Gregorio Fault has the capability of producing an earthquake with an estimated maximum magnitude of 7.5 on the Richter scale (*ibid*). Besides these three active fault zones, there are another 15 potentially active faults within Monterey County (refer to Figure 4.5-2). Those closest to Pacific Grove are the Navy Fault and Cypress Point Fault. The Navy Fault is a northwest-trending fault that runs through the center of the City of Monterey into Monterey Bay. The Cypress Point Fault also trends northwest, running through the southwestern portion of the Monterey Peninsula, just northeast of Pescadero and Cypress Points. Most faults in Monterey County run parallel to the San Andreas Fault in a northwest direction, and are considered sub-units of the San Andreas Fault System (*ibid*).

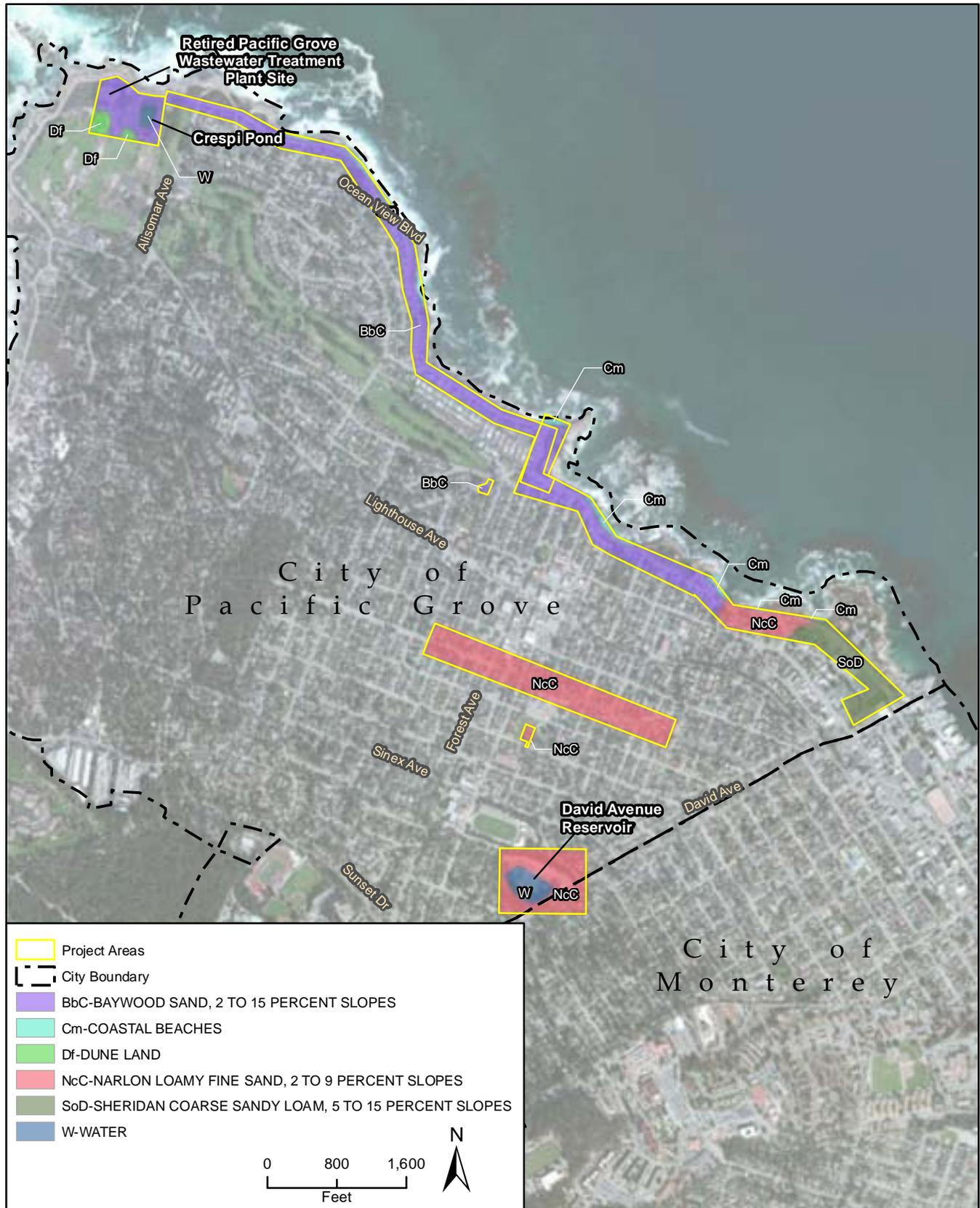
San Andreas Fault. The San Andreas Fault is a major structural feature of California. The fault zone is a major strike-slip fault zone that extends for about 684 miles along the western side of California that collectively accommodates the majority of relative north-south motion between the Pacific and North American plates. The San Andreas Fault is capable of producing earthquakes that would cause strong ground shaking at the site.

Monterey Bay Fault. The Monterey Bay Fault Zone is located offshore in the northern and southern areas of Monterey Bay. The maximum magnitude earthquake likely to be generated by this fault zone is about 6.5, which could generate tsunamis on the Pacific Grove coastline.

Palo Colorado-San Gregorio Fault. The Palo Colorado-San Gregorio Fault Zone is a northwest-trending zone located six miles west and south of Pacific Grove. This active fault zone connects the Palo Colorado Fault near Point Sur, south of Monterey, with the San Gregorio Fault near Point Año Nuevo, where it intersects the San Andreas Fault System. The Palo Colorado-San Gregorio Fault has the capability of producing an earthquake with an estimated maximum magnitude of 7.5 on the Richter scale.

Soils. Soils at the locations of the five project components are mapped and shown on Figure 4.5-3; however, these areas are already developed and have likely been altered through grading, compaction and deposition of imported fill. The Soil Survey Geographic Database (SSURGO) was used as the source for soil classification. Native soils at the David Avenue Reservoir are Pine Avenue Conveyance components are mapped as Narlon Loamy Fine Sand with 2 to 9 percent slopes. Soils along the Ocean View Boulevard Conveyance component are characterized as Baywood Sand with 2 to 15 percent slopes. Soils at the Point Pinos Stormwater Treatment Facility and Crespi Pond are mapped as Baywood Sand with 2 to 15 percent slopes and Dune Land. Soils at the Diversions to MRWPCA component are mapped as Baywood Sand





Imagery provided by ESRI and its licensors ©2013. Additional data provided by U.S. Department of Agriculture, Natural Resources Conservation Service, 2004, Fall Creek Engineering and the City of Pacific Grove, 2013.

Soil Types

Figure 4.5-3

2 to 15 percent slopes, Narlon Loamy Fine Sand, 2 to 9 percent slopes, and Sheridan Coarse Sandy Loam, 5 to 15 percent slopes. The Diversions to MRWPCA component also has some isolated mapped pockets of Coastal Beaches.

b. Geologic Hazards.

Faulting and Seismically Induced Ground Shaking. The United States Geological Survey (USGS) defines active faults as those that have had surface displacement within Holocene time (approximately within the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Active faults as defined by the State Geologist have been designated as Alquist-Priolo Fault Zones and require special regulation and study for projects proposed in these zones. Further discussion of the Alquist-Priolo Earthquake Fault Zoning Act is provided in Section 4.5.1(c) (Regulatory Setting). Potentially active faults are those that have had surface displacement during Quaternary time (the last 1.6 million years). Inactive faults have not had surface displacement within the last 1.6 million years.

Faults generally produce damage in two ways: ground shaking and surface rupture. Ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. Surface rupture is limited to very near the fault. The project components are located in a seismically active region and a number of potentially active and active faults are located within proximity. None of the proposed project components, however, are located within an Alquist-Priolo Earthquake Fault Zone. No active faults are known to transect the individual project components. The San Andreas Fault is located approximate 28 miles east of Pacific Grove. Two other active fault zones affecting Pacific Grove are the Monterey Bay and the Palo Colorado-San Gregorio Fault Zones, located east and west of the project area respectively (see Figure 4.5-2).

Landslides. Landslides and other forms of mass wasting, including mud flows, debris flows, soil slips, and rock falls occur as soil or rock moves down slope under the influence of gravity. Intense rainfall or seismic shaking could trigger landslides. The project component sites are mostly within developed right-of-way areas or already developed sites. The only site with potential for landslides would be the David Avenue Reservoir site. This site is shaped like a bowl and the sides of the bowl could provide a substrate that would slide if there were a failure.

Erosion. Erosion and deposition are common natural geologic processes that result from gullyng, rilling, ravelling, and bank cutting. In areas undisturbed by human activity, these processes may or may not pose a hazard. They may, however, be accelerated by concentrating natural surface flows into culverts or by removing vegetative cover, which would increase the chances of hazardous conditions. The area with the greatest potential for erosion is the David Avenue Reservoir, due to its bowl shape and sloped sides. The remaining project component locations are relatively flat or within a right-of-way and covered with asphalt, thereby having a low potential for erosion. The grading of sites can, nevertheless, present an erosion hazard which can affect not only the property being developed but also adjacent and downslope properties. Sediment traveling from eroded areas usually affects an area much larger than the site under construction.



Land Subsidence and Liquefaction. Land subsidence can occur as a result of soil consolidation subsequent to groundwater withdrawal. The proposed project does not include any groundwater extraction and is not proposed on sites where groundwater extraction occurs, thus, subsidence is not expected. However, subsidence can also occur following liquefaction as the soil particles are rearranged during liquefaction to reduce the overall pore space, which results in subsidence.

Liquefaction is the loss of soil strength due to seismic forces acting on water-saturated granular soils. This loss of strength leads to a “quicksand” condition in which objects can either sink or float depending on their density. The potential for liquefaction in Pacific Grove exists primarily in beach and sand dune areas, and in fill areas close to the shoreline. The General Plan indicates the potential for liquefaction is greatest in the Spanish Bay and Asilomar areas. The potential for liquefaction at the project component sites is present at the David Avenue Reservoir site (Converse, 1989) and at the Crespi Pond site (Pacific Geotechnical Engineering, August 2013). Because the improvements are being constructed along Ocean View Boulevard and Pine Avenue within the existing right-of-way and within engineered fill, the potential for liquefaction is low.

Expansive Soils. Expansive soils shrink and swell depending on moisture level as the clay minerals in the soil deposits expands and contracts. Soils with moderate or high expansion potential are susceptible to shrinking and swelling due to fluctuations in moisture content. This can cause foundation deterioration, pavement damage, crack of concrete slabs, and shifting of underground utilities. Soil expansion and shrinkage can cause damage to lightly loaded foundations. The native soils are mapped on Figure 4.5-3. According to the Monterey Soil Survey, Baywood Sand, Coastal Beaches, and Dune Land soil types have low shrink-swell potential. The Narlon Loamy Fine Sand soil type has a low shrink swell potential from depths of 0 to 13 inches, but has a high shrink-swell potential at depths of 13 to 53 inches. The David Avenue Reservoir, Pine Avenue Conveyance, and Diversions to MRWPCA components of the project are mapped with Narlon Loamy Fine Sand as the native soil. The Sheridan Coarse Sandy Loam soil type has moderate shrink-swell potential. The Diversions to MRWPCA component of the project is mapped with Sheridan Coarse Sandy Loam as a native soil.

Lurch Cracking and Lateral Spreading. Lurch cracking refers to fractures, cracks, and fissures from a few inches to many feet in length produced by groundshaking, settling, compaction of soil, and sliding. In a major earthquake, lurch cracking could result in rippling and fracturing of pavements and curbs, and damage to sewer, gas, and water lines.

Lateral spreading is the horizontal movement or spreading of soil toward an open face such as a stream bank or the open side of fill embankments. In Pacific Grove’s Planning Area, the most likely locations to be affected are improperly engineered fill areas or steep, unstable banks. But because Pacific Grove is situated on stable bedrock, the potential for significant damage from either lurch cracking or lateral spreading is low. Because the project components are situated on relatively flat or already developed areas underlain by bedrock, the potential for lateral spreading and lurch cracking would be low. However, the 20-foot tall banks at the David Avenue Reservoir could be subject to instability in the event of an earthquake (Converse Consultants, 1989; Fall Creek Engineering, Inc. [FCE], July 2013).



Settlement. Settlement is the vertical compaction of soils and alluvium caused by groundshaking. It may range from a land surface drop of a few inches to several feet, and may occur as far as 75 to 80 miles from the epicenter of an earthquake. Because the project components are situated on relatively flat or already developed areas underlain by bedrock, the potential for lateral spreading and lurch cracking would be low. The greatest potential for settlement is at the David Avenue Reservoir, where the 20-foot tall banks could be subject to instability in the event of an earthquake (Converse Consultants, 1989; FCE, July 2013).

c. Regulatory Setting.

Federal.

International Building Code. Published by the International Code Council (ICC), the scope of this code covers major aspects of construction and design of structures and buildings, except for three-story one and two-family dwellings and town homes. The 2006 International Building Code replaces the 1997 Uniform Building Code and contains provisions for structural engineering design. Published by the International Conference of Building Officials, the 2006 International Building Code addresses (IBC) addresses the design and installation of structures and building systems through requirements that emphasize performance. The IBC includes codes governing structural as well as fire- and life-safety provisions covering seismic, wind, accessibility, egress, occupancy, and roofs.

Environmental Protection Agency – Clean Water Act. Stormwater runoff from construction activities can have a significant impact on water quality. As stormwater flows over a construction site, it picks up pollutants like sediment, debris, and chemicals. Polluted stormwater runoff can harm or kill fish and other wildlife. Sedimentation can destroy aquatic habitat and high volumes of runoff can cause stream bank erosion. Under the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) Stormwater program requires operators of construction sites one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain authorization to discharge stormwater under an NPDES construction stormwater permit, and the development and implementation of stormwater pollution prevention plans (SWPPPs) is the focus of NPDES stormwater permits for regulated construction activities.

Most states are authorized to implement the NPDES Stormwater permitting program. EPA remains the permitting authority in a few states, territories, and on most tribal land. For construction (and other land disturbing activities) in areas where the EPA is the permitting authority, operators must meet the requirements of the EPA Construction General Permit (CGP). In California, Stormwater NPDES General Construction permits are regulated by the State Water Resources Control Board and administered through the local Regional Water Quality Control Board. On non-tribal and non-federal land NPDES actions are overseen by the State of California EPA.

A SWPPP must include a site description, including a map that identifies sources of stormwater discharges on the site, anticipated drainage patterns after major grading, areas where major structural and nonstructural measures will be employed, surface waters including wetlands, and locations of discharge points to surface waters. The SWPPP also describes measures that



will be employed, including at least protection of existing vegetation wherever possible, plus stabilization of disturbed areas of site as quickly as practicable, but no more than 14 days after construction activity has ceased.

State.

Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act). The Alquist-Priolo Act provides for special seismic design considerations if developments are planned in areas adjacent to active or potentially active faults.

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act addresses geo-seismic hazards, other than surface faulting, and applies to public buildings and most private buildings intended for human occupancy. The City of Pacific Grove applies these requirements through the Pacific Grove General Plan. The Seismic Hazards Mapping Act identifies and maps seismic hazard zones to assist cities and counties in preparing the safety elements of their general plans and encourages land use management policies and regulations that reduce seismic hazards. The Act mandated the preparation of maps delineating “Liquefaction and Earthquake-Induced Landslide Zones of Required Investigation.”

California Building Code (CBC). The CBC requires, among other things, seismically resistant construction and foundation and soil investigations prior to construction. The CBC also establishes grading requirements that apply to excavation and fill activities, and requires the implementation of erosion control measures. The City of Pacific Grove is responsible for enforcing the 2010 CBC.

Division of Safety of Dams. The Division of Safety of Dams (DSOD) regulates dams within the State of California with a dam height greater than 25 feet as measured from the downstream toe, or base of the barrier, to the maximum storage elevation of the dam or store more than 50 acre-feet (AF) of water. The proposed David Avenue Reservoir would store 49.15 AF of water and is only 20 feet in height, and is thus just below the threshold requiring regulation by the DSOD; however, the cities of Monterey and Pacific Grove would prefer that the dam to continue to be regulated by the DSOD (Pacific Geotechnical Engineering, November 25, 2013). The DSOD engineers and engineering geologists review and approve plans and specifications for the design of dams and oversee their construction to ensure compliance with the approved plans and specifications. Reviews include site geology, seismic setting, site investigations, construction material evaluation, dam stability, hydrology, hydraulics, and structural review of appurtenant structures. In addition, Division engineers inspect over 1,200 dams on a yearly schedule to insure they are performing and being maintained in a safe manner.

Local.

City of Pacific Grove. Section 24.06.020 of Pacific Grove’s Subdivision Ordinance is intended to control the erosion-inducing effects of development. The City also requires that temporary cover or mulching be used to protect bare soil and slopes to mitigate erosion hazards during construction in rainy periods. Infrastructure improvements beneath city roadways would be made in road base, which has been engineered to accommodate utilities and roadways according to standard specifications of the State of California, Department of



Transportation pursuant to *City of Pacific Grove Department of Public Works Standard Details for Street Improvements* (2010). Policy 1 of the Health and Safety Element directs the City to “Design underground utilities, including water and natural gas mains, to withstand seismic forces.” Consistency with specific Health and Safety Policies that apply to the project is evaluated in Section 4.9, *Land Use and Planning*.

City of Monterey. Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. Construction of these improvements would require approval of a Use Permit, a Street Opening Permit, a Building Permit, and potentially a Tree Removal Permit (if trees would be removed in the final design) from the City of Monterey. In addition, as a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR. Therefore, the project would be subject to City of Monterey policies and programs. The General Plan Safety Element is intended to: (1) identify and describe the nature of potential hazards within the planning area, and (2) streamline the environmental impact reporting process by using the Element as a guide to the level of detail and types of environmental data needed. The Safety Element contains goals and policies related to seismic, geologic, flood, and fire hazards.

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds. This evaluation is based in part on a *Geotechnical Investigation* prepared for the Point Pinos Stormwater Treatment Facility and Crespi Pond (Pacific Geotechnical Engineering, August 2013), a memorandum entitled *Response re Monitoring and Emergency Response Measures* prepared for the David Avenue Reservoir (Pacific Geotechnical Engineering, November 25, 2013), and a *Seismic Safety and Hydrologic Investigation* of the David Avenue Reservoir (Converse Consultants, 1989). These documents are included in Appendix F of this EIR. The analysis also included a review of existing information and other available regional sources, including data from the California Division of Mines and Geology (CDMG) and the Soil Survey Geographic Database. Lastly, the *Revised Draft Engineering Report* for the project (FCE, July 2013) was used, particularly Attachment B, *David Avenue Reservoir Analysis: Background Information and Geotechnical Considerations*. This report is included in Appendix G of this EIR.

In accordance with Appendix G of the *State CEQA Guidelines*, impacts would be considered potentially significant if the proposed project would:

- 1) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 - i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;*
 - ii. *Strong seismic shaking*
 - iii. *Seismic-related ground failure, including liquefaction,*
 - iv. *Landslides;*
- 2) *Result in substantial soil erosion or the loss of topsoil;*
- 3) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a*



result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

- 4) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; and/or*
- 5) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.*

The proposed project does not proposed installation of a septic system and would not generate an increase in wastewater. In addition, the project component sites are not situated on any faults. Therefore, there is no potential for surface rupture. Issues 1(i) and 5 are not discussed further in this section (refer to Section 4.13, *Effects Found not to be Significant*, for further discussion of these issues). Items 1(ii) through 4 are discussed below.

b. Project Impacts and Mitigation Measures.

Impact GEO-1 **Although the project would not introduce people or new habitable structures to areas exposed to geologic hazards, the project could expose existing populations or structures to substantial adverse effects involving strong seismic shaking or seismic-related ground failure, including liquefaction, landslides, subsidence, lurch cracking, and lateral spreading. Impacts would be Class II, significant but mitigable.**

The project is located in a seismically active area, as shown on Figure 4.5-2. As discussed in the setting, the greatest potential for groundshaking from earthquakes is from the San Andreas Fault, the Monterey Bay Fault, and the Palo Colorado Fault. The proposed project includes five separate component sites, each of which has a different potential for adverse effects from groundshaking and seismic related ground failure. The potential for adverse effects at each component site is evaluated below.

David Avenue Reservoir. The David Avenue Reservoir component site is currently used as a California American Water (CalAm) storage and maintenance area, with a few administrative buildings and a paved parking area located in the southeast corner of the site (outside of the proposed inundation area). The reservoir restoration would encompass approximately six acres of disturbance that includes grading, trenching, and material and equipment storage. The majority of the project disturbance would be on the David Avenue Reservoir site itself, with some trenching in Carmel Avenue/Terry Street, west of the reservoir.

A seismic safety and hydrologic analysis of the existing reservoir was completed by Converse Consultants for Cal Am in 1989 (refer to Appendix F). The investigation consisted of a field investigation, laboratory testing, review of existing data, review of geology and seismicity, stability analyses of embankment under static and seismic conditions, and hydrologic and hydraulic analyses of reservoir flood storage capacity. The report concluded that the reservoir and dam were judged to be stable under static conditions and would also be stable under maximum considered earthquake (MCE) seismic loading, but that deformation of the shell would be expected. The deformation would include settlement on the order of one to two inches in the downstream portion of the dam, and on the upstream slope there would be initial



liquefaction that would result in settlement or slumping on the order of five to six feet. The report clarified that the existing crest was wide enough to maintain storage capacity even with the slumping.

An evaluation of the reservoir and of the Converse (1989) *Geotechnical Report* by was completed by FCE and included as Attachment B to their *Revised Draft Engineering Report* (FCE, July 2013). FCE concluded that the dam is located in a dense urban setting with two houses located directly at the downstream toe of the dam (381 Hillcrest Avenue and 818 Carmel Avenue) and a subdivision and school located further downstream. Safety and stability of the dam is critical due to the consequences of dam failure and the risk to loss of life and property. The stability and safety of a dam is dependent on a number of elements, the most important of which are the stability of the embankment itself, the stability of the foundation materials underneath the dam, and adequate design of the inlet and outlet structures to handle design storm flows. Stability must be evaluated for both the static, long-term conditions, as well as for seismic conditions during a major earthquake. Seepage of water through or underneath the dam is the major cause of dam failures and plays a significant role in dam stability.

FCE indicated that it would be very difficult to verify that the existing dam structure is stable and not subject to seepage through or under the dam. The Converse borings showed that the dam shell is poorly compacted, which is consistent with the age of the dam (which was constructed in the 1880s). Additionally, there is no firm evidence that an impermeable (“puddle”) core exists in the center of the dam, or that a water cut off that penetrates through the alluvial materials was constructed under the dam. If a clay core does exist, there is a concern that the last 25 years of in-operation may have dried out and cracked the clay core, leaving it permeable and jeopardizing the stability of the dam (FCE, July 2013).

The secondary liquefaction/subsidence hazard is dependent on saturation of the soil embankments that surround the reservoir. To solve the leak and permeability issues associated with the existing condition, the entire reservoir and forebay would be covered with a double layer of geosynthetic liner material with a leak detection system. The double layer geosynthetic liner is designed to prevent water impounded in the reservoir from infiltrating into the soils at the site. In addition, any groundwater beneath the reservoir would be drained by the underdrain and sump pump system that would be installed to collect groundwater from below the site and convey it to the existing Pacific Grove storm drain system. Additionally, the reservoir would have controls that allow the water to be drained and diverted for maintenance, emergencies, to meet downstream demands and in anticipation of storm events. Provisions for draining the reservoir would include an outlet pipe with a control gate at an elevation approximately four feet below the bottom of the reservoir. The bottom four feet of the reservoir would drain using a pump system. In addition, the forebay would periodically be excavated and cleared to facilitate continued sediment deposition.

Given that the existing reservoir had the potential for adverse effect related to liquefaction, settlement, and slumping, it is reasonable to conclude that the proposed design could likewise be subject to similar secondary seismic effects. Mitigation measures are required to reduce impacts to a less than significant level.



Pine Avenue Conveyance. The expanse of Pine Avenue where the Pine Avenue Conveyance component would occur is a four-lane public roadway lined with single and multi-family residences, commercial development in the form of professional offices, and an elementary school. Proposed project activities of the Pine Avenue Conveyance component would be located below-grade, either within or immediately adjacent to the Pine Avenue right-of-way, or within the playing fields of the Robert Down Elementary School.

The potential for adverse effects to these buried infrastructure components from seismic shaking or seismic-related ground failure, including liquefaction, landslides, subsidence, and lateral spreading, would be limited, as these components would all be buried below grade and likely within compacted engineered fill. However, in a major earthquake, lurch cracking could result in rippling and fracturing of pavements and curbs, and damage to sewer, gas, and water lines. The City of Pacific Grove Standard Specifications would guide development of trench excavation, bedding, and backfill, and adherence to these policies and standards would reduce the potential for adverse effects to a level that is less than significant.

Ocean View Boulevard Conveyance. Proposed project activities of the Ocean View Boulevard Conveyance component would be located below-grade, either within or immediately adjacent to the Ocean View Boulevard right-of-way. As with the Pine Avenue Conveyance component, the City of Pacific Grove Standard Specifications would guide development of trench excavation, bedding, and backfill, and would be expected reduce the potential for adverse effects to a level that is less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The proposed Point Pinos Stormwater Treatment Facility would be located entirely within the retired PGWTP site footprint. Site grading would be necessary in this area where excavated material has been placed. Other minor ground disturbances would occur to accommodate treatment facility components along the western portion of the site and new piping linking the new treatment facility with Crespi Pond. At Crespi Pond, some vegetation removal would be required to install the inlet energy dissipation structure in the northwest portion of the pond.

The *Geotechnical Report* prepared for this component site (Pacific Geotechnical Engineering, August 2013) indicates that the Point Pinos Stormwater Treatment Facility site has low potential for liquefaction because water does not accumulate above the bedrock, but rather drains away rapidly. Conversely, the Crespi Pond site does appear to have potential for liquefaction induced ground settlement ranging from 1/4 to 1/3 inch. The report further states that case studies show that actual liquefaction induced settlements are 50 to 200 percent of the estimated value, thus it can be inferred that there is potential for settlement from 1/8 to 2/3 of an inch. The *Geotechnical Report* makes recommendations for earthwork, subgrade preparation, engineered fill, cut and fill slopes, utility trench excavation, wet weather construction, water tank foundations, concrete slabs on grade and surface drainage. Mitigation measures are required to reduce impacts to a less than significant level.

Diversions to MRWPCA. The segment of Ocean View Boulevard where the Diversions to MRWPCA component would occur is a two-lane public roadway which has primarily single-family residences on one border and open space used for recreational purposes on the other.



Proposed project activities of the Diversions to MRWPCA component would be located below-grade, either within or immediately adjacent to the Ocean View Boulevard right-of-way. As with the Pine Avenue Conveyance and the Ocean View Boulevard Conveyance components, the City of Pacific Grove Standard Specifications would guide development of trench excavation, bedding and backfill, and would be expected to reduce the potential for adverse effects to a level that is less than significant.

Summary. As detailed in the discussion above, the David Avenue Reservoir would result in significant but mitigable impacts related to seismically induced ground failure. In addition, the Point Pinos Stormwater Treatment Facility and Crespi Pond project component need to be constructed in accordance with geotechnical recommendations. The Pine Avenue Conveyance, Ocean View Boulevard Conveyance, Point Pinos Stormwater Treatment Facility and Crespi Pond, and Diversions to MRWPCA would have less than significant effects due to adherence with local policies, standards.

Mitigation Measures. Mitigation measure GEO-1(a) requires the City of Pacific Grove to designate the DSOD as the oversight agency for the David Avenue Reservoir component of the project. If the DSOD declines, the City of Pacific Grove would oversee the design, construction, maintenance, and operation of the reservoir and mitigation measures GEO-1(c) through GEO-1(e) would be required. Mitigation measure GEO-1(b) would apply to this component of the project regardless of the oversight agency.

Mitigation measure GEO-1(f) is required for the Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project.

- GEO-1(a) DSOD Oversight.** The City of Pacific Grove shall designate the DSOD the applicable oversight agency with respect to design, construction, maintenance, operation, emergency response and eventual inoperation and/or removal. The DSOD shall accept oversight pursuant to *Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs* (DSOD, n.d.). Compliance shall be verified by the City Engineer. If the DSOD declines to regulate the reservoir, mitigation measures GEO-1(c) through GEO-1(e) shall be implemented.
- GEO-1(b) Emergency Action Plan (EAP).** An EAP shall be developed to address site specific scenarios following the Department of Water Resources DSOD Sample EAP (Pacific Geotechnical, November 25, 2013) contained in Appendix F. The EAP shall be distributed to emergency managers and law enforcement as well as dam operators and oversight agencies. The EAP shall be designed to facilitate and organize actions during emergencies. The EAP shall include notification requirements and actions for different types and levels of emergencies specific to the proposed David Avenue Reservoir design and operation. The EAP shall also contain dam operator staff training guidance, EAP annual review guidance, and a process for incorporating revisions as necessary to ensure



the EAP covers applicable emergency scenarios. EAP preparation and consistency with the Sample EAP shall be verified by the City Engineer.

GEO-1(c) Preliminary Geotechnical Study. If the DSOD declines to regulate the reservoir, prior to finalizing the preliminary design of the David Avenue Reservoir, the initial phase of geotechnical investigation shall consist of a sufficient number of exploratory borings and cone penetration tests to adequately characterize the extent of past grading and depth of fill as well as the underlying native materials. Secondly, the preliminary seismic analysis to determine seismic loading shall be conducted based on current seismic parameters for the site and current code standards. Liquefaction potential of the foundation materials shall be re-analyzed using current seismic parameters. The preliminary investigation shall include but not be limited to:

- *Geologic mapping.*
- *Analysis and subsurface mapping to define the extent of past grading at the site.*
- *Areal extent and depth of fill currently at the site.*
- *Hydrologic characteristics of the bedrock and alluvial materials to better understand the groundwater flow regime and how it would affect the proposed design.*

The results of this investigation shall be utilized to determine the critical design considerations and shall be followed in the design process. Compliance shall be verified by the City Engineer.

GEO-1(d) Design-Level Geotechnical Study and Oversight. If the DSOD declines to regulate the reservoir, after an initial investigation has addressed the liquefaction hazard and seismic setting of the David Avenue Reservoir site, subsequent phases of investigation shall be geared towards final design. The City of Pacific Grove Public Works Division shall be consulted when determining the scope and requirements for the Design-Level Geotechnical Investigation. At a minimum, the Design-Level Geotechnical Investigation shall include:

- *Liquefaction and subsidence potential*
- *Seismic stability*
- *Static Stability*

The results of the Design-Level Geotechnical Investigation shall be utilized to refine the final design such that the proposed design would be stable under static and seismic conditions pursuant to current code standards and applicable standards of the DSOD. All



earthwork operations, including site preparation and grading, shall be performed in accordance with the recommendations and the project specifications set forth in the design-level geotechnical report. Earthwork recommendations may include, but would not be limited to, the following:

- *Removal of unsuitable soil materials*
- *Recommendations for compaction*
- *Recommendations for outflow and drainage*
- *Recommendations for installation of the liner*
- *Recommendations for key-ins*

All earthwork operations shall be performed under the observation of a Professional Geologist to ensure that the site is properly prepared, the selected fill materials (if used) are satisfactory, and placement and compaction of the fill has been performed in accordance with the report recommendations and project specifications. Sufficient notification prior to earthwork shall be given. Compliance shall be verified by the City Engineer.

GEO-1(e) Safety Measures. If the DSOD declines to regulate the reservoir, safety measures applicable to the David Avenue Reservoir shall be incorporated into the design components, operational directives, and maintenance directives as indicated below to protect life and property. These design components, operational directives and maintenance directives shall be consistent with applicable standards of the Division of Safety of Dams under the oversight of a Professional Geologist and Registered Civil Engineer specializing in the design and maintenance of dams and reservoirs. Compliance shall be verified by the City Engineer. Design components, operational directives and maintenance directives consistent with the proposed double lined pond system could include but would not be limited to the following:

- *Design Components*
 - *Settlement monuments mounted within the embankment to monitor stability.*
 - *Vibrating wire piezometers beneath the liner and standpipe piezometers along the crest of the embankment to monitor pore water pressure.*
 - *Pumping system with automated level controls to prevent build-up of water on the lower liner.*
 - *A strobe light and alarm on the control system panel to indicate if the water within the sump is too high, providing an indication that the pumping system is not working properly, or if a significant breach of the primary liner has occurred.*



- *Flow meter with a totalizing function to indicate the amount of solution that has been pumped.*
- *Continuous monitoring at specific intervals with real time monitoring from a remote location if desired.*
- *Operational Directives*
 - *First Month of Initial Operation*
 - *Monitoring of the settlement monuments and piezometers (if installed) on a weekly basis during the initial filling or whenever the reservoir is filled quickly.*
 - *Upon initial filling, check the sump daily for proper operation and to determine if there is any leakage.*
 - *Quarterly*
 - *Settlement monuments and piezometers (if installed) and the sump system should be monitored quarterly and immediately after each significant seismic event (site acceleration over 0.1g).*
 - *Visual inspection of the embankment and lined area.*
- *Maintenance Directives*
 - *Precautionary Maintenance*
 - *If there are any indications of the embankment and liner system being compromised, the reservoir shall be drained and examined for deficiencies.*
 - *Leakage through the primary liner that does not exceed 1,000 gallons per acre of reservoir area shall be pumped out via sump.*
 - *If leakage through the primary liner exceeds 1,000 gallons per acre of reservoir area, or the sump is not able to pump as much as is leaking, the reservoir shall be drained as soon as practical during a dry part of the year, the leaks located, and the primary liner repaired.*
 - *Deficiency Response*
 - *Each deficiency shall be examined for the potential cause and risk level. For high hazards such as slope failure or liner breach, the municipality shall be notified immediately and emergency actions shall be taken.*
 - *For lesser hazards, the municipality shall be notified verbally immediately upon completion of the inspection and a formal report filed with recommended actions provided within one week.*
 - *The EAP shall be implemented and followed in response to any deficiencies identified during operation and maintenance of the reservoir (refer to Mitigation Measure GEO-1[b]).*

GEO-1(f)

Compliance with Geotechnical Recommendations. If the DSOD declines to regulate the reservoir, geotechnical recommendations shall be utilized to finalize the design of the Point Pinos Stormwater Treatment Facility and Crespi Pond. All earthwork



operations at the Point Pinos Stormwater Treatment Facility and Crespi Pond site, including clearing and grubbing, excavations and shoring, subgrade preparation, engineered fill, utility trench excavation, cut and fill slopes, wet weather construction and foundations, shall be performed in accordance with the recommendations set forth in the geotechnical report (Pacific Geotechnical Engineering, August 2013). Compliance shall be verified by the City Engineer.

Significance After Mitigation. If the DSOD decides to regulate the reservoir, mitigation measure GEO-1(a) would grant oversight to the DSOD and the proposed design would be subject to their review and approval, and subject to applicable California statutes and regulations. Well-developed emergency plans and proper training result in fewer accidents and less severe damage during emergencies. Thus, the DSOD standards and oversight, in addition to development and implementation of an EAP required under GEO-1(b), would reduce the potential for adverse effects to a less than significant level.

If the DSOD decides not to regulate the reservoir, the City of Pacific Grove would oversee the design, construction, maintenance and operation, and eventual inoperation and/or removal of the reservoir. If this circumstance, mitigation measure GEO-1(c) through GEO-1(e) would be required, which would assure that the reservoir is rehabilitated in accordance with oversight from geotechnical and engineering professionals specializing in the design, construction, and operation of reservoirs and dams. This oversight, in addition to development and implementation of an Emergency Action Plan required under GEO-1(b), would reduce the potential for adverse effects to a level that is insignificant.

Impact GEO-2 Project construction and development could result in soil erosion or loss of topsoil, and project components located along Ocean View Boulevard may be susceptible to coastal erosion. However, compliance with existing regulations would reduce impacts to a Class III, *less than significant*, level.

During construction of the proposed project, soil may erode due to wind entrainment and sediment may travel into storm drainage facilities and the Monterey Bay. The potential for construction related erosion at each component site follows. Additional discussion of erosion is located in Section 4.8, *Hydrology and Water Quality* under Impact HYD-1.

David Avenue Reservoir. The reservoir restoration would encompass approximately six acres of disturbance that includes grading, trenching, and material and equipment storage. The majority of the project disturbance would be on the David Avenue Reservoir site itself, with some trenching in Carmel Avenue/Terry Street, west of the reservoir. The site is mapped as Narlon Loamy Fine Sand with 2 to 9 percent slopes. Borings from the *Seismic Safety and Hydrologic Investigation* (Converse, 1989) indicate a variety of soil textures with silty and clayey textures overlying sands. This would be expected at a reservoir site where sediment accumulates and engineered fill is used to stabilize the embankments that form the sides of the reservoir. Generally speaking, silty textured soils have greater potential for erosion as compared



with sandy soils which have heavier grains and clay textured soils that have better adhesion properties. However, the earthwork that accompanies construction activities loosens the particles and facilitates erosion by both wind and water.

As the project encompasses more than one acre, a SWPPP would be required pursuant to the Clean Water Act. In addition, the City of Pacific Grove Storm Water Management and Discharge Control Ordinance (Section 9.30 of the Municipal Code) permits the City Public Works Department to identify construction BMPs. These construction BMPs require that every construction project have an erosion and sediment control plan to prevent soil and materials from leaving the site. Construction activities must be scheduled so that soil is not exposed for long periods of time, and key sediment control practices must be installed. These practices may include, but are not limited to: perimeter control (use of gravel bags, silt fences, and straw wattles); construction material storage (covered when not in use); dirt and grading measures (daily watering of dirt and travel mounds; covering during the rainy season [October 15 – April 15]); and storm drain measures (use of perimeter controls). Compliance with the SWPPP and applicable City requirements would reduce construction-related erosion impacts to a less than significant level.

Upon completion, the forebay would be vegetated in accordance with a landscaping plan, and is anticipated to include emergent vegetation appropriate for inundation and fluctuating water levels. The reservoir would be filled with water and the exterior of the banks are already vegetated. Thus, the potential for long term erosion would be less than significant.

Pine Avenue Conveyance. Soils in the area of the Pine Avenue Conveyance component are mapped as Narlon Loamy Fine Sand 2 to 9 percent. As previously indicated, the component site is located within already developed areas of the Pine Street roadway as well as beneath the school athletic field. Soil types could vary due to placement of engineered fill. Nevertheless, the earthwork that accompanies construction activities loosens the particles and facilitates erosion by both wind and water.

This project component would require over one acre of disturbance. Therefore, a SWPPP would be required, similar to the David Avenue Reservoir. In addition, construction BMPs established by the City of Pacific Grove Public Works Department would be required. These practices may include, but are not limited to: perimeter control (use of gravel bags, silt fences, and straw wattles); construction material storage (covered when not in use); dirt and grading measures (daily watering of dirt and travel mounds; covering during the rainy season [October 15 – April 15]); and storm drain measures (use of perimeter controls). Compliance with these existing requirements would reduce construction-related erosion impacts to a less than significant level.

Upon completion, the Pine Avenue roadway would be repaved and the athletic field would be re-vegetated. Thus, the potential for long-term erosion would be less than significant.

Ocean View Boulevard Conveyance. Proposed project activities of the Ocean View Boulevard Conveyance component would be located below-grade, either within or immediately adjacent to the Ocean View Boulevard right-of-way. The disturbance associated with this project component would be less than one acre; therefore, a SWPPP would not be required. However, construction BMPs established by the City of Pacific Grove Public Works Department



would still be required, as described above. Compliance with these BMPs would reduce construction-related erosion impacts to a less than significant level.

Upon completion, Ocean View Boulevard would be repaved and the pocket park would be revegetated. The new pump stations would be located at the Lovers Point parking lot; in a median separating Ocean View Boulevard and a scenic turnout, north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. These already developed right-of-way areas are not anticipated to produce any long term erosional impacts as they are covered with impermeable surfaces. The pump stations would be below grade and would not be subject to coastal erosion. Though the electrical control panels would be above ground, they would be located in already developed areas upland from the shore. Thus, the potential for long-term erosion would be less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The Point Pinos Stormwater Treatment Facility and Crespi Pond improvements would disturb over one acre. Thus, a SWPPP would be required. In addition, construction BMPs established by the City of Pacific Grove Public Works Department would be required, as described above. Compliance with these existing requirements would reduce construction-related erosion impacts to a less than significant level.

Upon completion, the Point Pinos Stormwater Treatment Facility would have less potential for erosion as compared to the present condition, as there would be greater coverage of impermeable surfaces. Crespi Pond would receive additional flows of stormwater which would be discharged to the Ocean via the existing outfall; however, the proposed dissipation structure would reduce the potential for erosion effects from the water that is conveyed from the new stormwater recycling plant. Thus, the potential for long-term erosion would be less than significant.

Diversions to MRWPCA. This component of the project would disturb less than one acre; therefore, a SWPPP would not be required. However, construction BMPs established by the City of Pacific Grove Public Works Department would be required, as described above. Upon completion, the Ocean View Boulevard roadway would be repaved. The potential for long-term erosion would be less than significant.

Summary. As detailed in the discussions above, each of the five project components would have less than significant impacts related to short term construction related erosion due to requirements for implementing a SWPPP (where applicable) as well as Section 9.30 of the City of Pacific Grove Municipal Code. Long-term erosional impacts would likewise be less than significant due to the nature of the project sites, which are mostly in developed roadways, and upland from the shore. These characteristics in combination with revegetation efforts at the David Avenue Reservoir and the energy dissipation structure at Crespi Pond would result in less than significant long term erosional impacts.

Mitigation Measures. No mitigation measures are required.



Significance After Mitigation. The impact would remain less than significant without mitigation.

Impact GEO-3 Some of the project components would be located on soils with moderate or high shrink-swell potential. The impact would be Class II, significant but mitigable.

David Avenue Reservoir. The David Avenue Reservoir site is comprised of Narlon Loamy Fine Sand with 2 to 9 percent slopes. However, Figure 4.5-1 shows the site as containing artificial fill. The Narlon Loamy Fine Sand native soil has a low shrink swell potential from depths of 0 to 13 inches, but has a high shrink-swell potential at depths of 13 to 53 inches. Borings from the *Seismic Safety and Hydrologic Investigation* (Converse, 1989) indicate a variety of soil textures with silty and clayey textures overlying sands. This would be expected at a reservoir site where sediment accumulates and engineered fill is used to stabilize the embankments that form the sides of the reservoir. The report evaluating the seismic and hydrologic stability of the dam made no mention of expansive soils and contained no recommendations relating to expansive soils. Nevertheless, geotechnical investigation pursuant to mitigation measures GEO-1(c) and GEO-1(d) would reveal any potential for shrink-swell hazards and require design or engineering strategies to reduce the potential for adverse effects. Therefore, the impact would be significant but mitigable.

Pine Avenue Conveyance. This project component is mapped as containing Narlon Loamy Fine Sand with 2 to 9 percent slopes, as shown on Figure 4.5-3. The Narlon Loamy Fine Sand native soil has a low shrink swell potential from depths of 0 to 13 inches, but has a high shrink-swell potential at depths of 13 to 53 inches. Infrastructure improvements beneath Pine Avenue would be installed in road base, which has been engineered to accommodate utilities and roadways according to standard specification of the California Department of Transportation (Caltrans) pursuant to the *City of Pacific Grove Department of Public Works Standard Details for Street Improvements* (City of Pacific Grove, 2010). Compliance with these standards would reduce the potential for adverse effects a less than significant level. However, the underground stormwater equalization facility would be installed beneath an athletic field and it is likely that there are native soils that could affect the construction of the underground storage facility, depending on the type of containment system and whether it is flexible or rigid. Thus, the impact is considered significant but mitigable through adherence to design specifications resulting from a site-specific geotechnical investigation.

Ocean View Boulevard Conveyance. Figure 4.5-3 shows that native soils associated with this project component are Baywood Sand. According to the Monterey Soil Survey, Baywood Sand has a low shrink-swell potential. Thus, the potential for adverse effects due to shrink-swell potential for the Ocean View Boulevard component would be less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Figure 4.5-3 shows the soils associated with this project component are Baywood Sand and Dune Land. *Geotechnical Investigation* that was prepared for this site indicated that the near surface soils are sands with a low percentage of fines and that these soils generally have a low potential for expansion (Pacific Geotechnical Engineering, August 2013). Therefore, the impact with respect to shrink-swell potential at the Point Pinos Treatment Facility and Crespi Pond would be less than significant.



Diversions to MRWPCA. Figure 4.5-3 shows the soils beneath this portion of the project to be Baywood Sand, Narlon Loamy Fine Sand, and Sheridan Coarse Sandy Loam. As previously noted, the Baywood Sand has a low expansion potential, while the Narlon Loamy Fine sand has a low shrink swell potential from depths of 0 to 13 inches, but has a high shrink-swell potential at depths of 13 to 53 inches. The Sheridan Coarse Sandy Loam has moderate shrink-swell potential. Since all of the improvements for this component would occur in the right-of-way and no new pump stations or subterranean storage facilities would be constructed, the potential for adverse effects would be less than significant.

Summary. The potential for adverse effects at the David Avenue Reservoir and Pine Avenue Conveyance components of the project would be significant but mitigable. The potential for adverse effects at the Ocean Boulevard Conveyance, Point Pinos Stormwater Treatment Facility and Crespi Pond, and the Diversions to MRWPCA components would be less than significant without mitigation.

Mitigation Measures. Implementation of mitigation measures GEO-1(c) through GEO-1(d) would ensure that the David Avenue Reservoir site is designed and constructed in a manner that reduces the potential for adverse effects from shrink-swell potential as well as other static and seismic loading parameters. The following mitigation measure is required to reduce impacts associated with the Pine Avenue Conveyance component, specifically the underground stormwater equalization and storage facility in the vicinity of the Robert Down Elementary School.

- GEO-3 Robert Down Elementary School Geotechnical Study and Geotechnical Oversight.** A Geotechnical Study shall be performed by a licensed Professional Geologist to characterize the on-site soils and provide engineering recommendations that would facilitate construction of the equalization and storage facility proposed in the athletic field south of Robert Down Elementary School. The Geotechnical Study shall include recommendations that reduce the potential for adverse effects from expansive soils. Earthwork recommendations related to expansive soil conditions may include, but would not be limited to, the following:
- *Selective grading to avoid expansive soil;*
 - *Use of non-expansive fill material;*
 - *Treating expansive areas with additives to lower the expansion index; and/or*
 - *Specifying a flexible containment system for the equalization facility.*

All earthwork operations shall be performed under the observation of a Professional Geologist to ensure that the site is properly prepared, the selected fill materials (if used) are satisfactory, and placement and compaction of the fill has been performed in accordance with the report recommendations and project specifications. Sufficient notification prior to earthwork shall be given.



Significance After Mitigation. Mitigation measures GEO-1(c) through GEO-1(d) would reduce impacts at the David Avenue Reservoir to a less than significant level. Mitigation measure GEO-4 would reduce impacts for the Pine Avenue Conveyance component of the project.

c. Cumulative Impacts. A description of the cumulative analysis methodology and development scenario, including proposed development in the City of Pacific Grove and City of Monterey is included in Section 3.0, *Environmental Setting*. As noted in Section 3.0, cumulative projects include the following:

1. *A stormdrain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue (from 12th to 14th Streets).*
2. *Lovers Point stormdrain retrofit (Pine Avenue and 19th Street to Lovers Point).*
3. *The Pacific Grove Local Water Project (LWP) at Point Pinos.*

There is no potential for cumulatively considerable effects from surface rupture as there are no faults within the City of Pacific Grove. Primary and secondary seismic impacts (groundshaking and earthquake-induced ground failure including liquefaction, settlement, landslides, lurch cracking and lateral spreading) from the numerous local and regional faults comprise an impact of the geologic environment on individual projects and would not introduce cumulatively considerable impacts. Therefore, the seismic impacts would be site-specific, and not be cumulatively considerable. The Pacific Grove Local Water Project at Point Pinos would be constructed at the same site as the proposed Point Pinos Stormwater Treatment Facility, and is currently undergoing a separate environmental review. Any potential adverse effects related to infrastructure associated with that project would be reviewed and mitigated as appropriate. Thus, the potential for cumulatively considerable effects from primary and secondary seismic impacts would be less than significant.

Erosion and loss of topsoil associated with the construction projects above could contribute sediment to the storm drain system that is proposed for upgrade and treatment; however, compliance with BMPs imposed by the City and associated with SWPPPs as appropriate would assure that substantial amounts of sediment are not contributed to the storm drain system as a result of these cumulative projects. Thus cumulative impacts related to erosion and sedimentation would be less than significant.

Cumulative effects related to expansive soils would be addressed on a case by case basis for the above projects and would be site specific, thus not affecting the proposed Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project. As discussed under Impact GEO-3, soils at the Point Pinos Stormwater Treatment Facility where the Pacific Grove Local Water Project is proposed for co-location are not expansive and the potential for adverse cumulatively considerable effects would be less than significant.



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4.6 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

4.6.1 Setting

a. Climate Change and Greenhouse Gases. Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC, 2013), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC, 2013).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), and fluorinated gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Observations of CO₂ concentrations, globally-averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently observed increases in CH₄ and N₂O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and sulfur hexafluoride (SF₆) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the GHG



emitted, referred to as “carbon dioxide equivalent” (CO₂E), and is the amount of a GHG emitted multiplied by its GWP. CO₂ has a 100-year GWP of one. By contrast, CH₄ has a GWP of 25, meaning its global warming effect is 25 times greater than CO₂ on a molecule per molecule basis (IPCC, 2006).

The accumulation of GHGs in the atmosphere regulates the earth’s temperature. Without the natural heat trapping effect of GHGs, Earth’s surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide. The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO₂ are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (United States Environmental Protection Agency [USEPA], April 2012). CO₂ was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th century. Concentrations of CO₂ in the atmosphere have risen approximately 40 percent since the industrial revolution. The global atmospheric concentration of CO₂ has increased from a pre-industrial value of about 280 parts per million (ppm) to 391 ppm in 2011 (IPCC, 2007; Oceanic and Atmospheric Association [NOAA], 2010). The average annual CO₂ concentration growth rate was larger between 1995 and 2005 (average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates (NOAA, 2010). Currently, CO₂ represents an estimated 82.8 percent of total GHG emissions (Department of Energy [DOE] Energy Information Administration [EIA], August 2010). The largest source of CO₂, and of overall GHG emissions, is fossil fuel combustion.

Methane. CH₄ is an effective absorber of radiation, though its atmospheric concentration is less than that of CO₂ and its lifetime in the atmosphere is limited to 10 to 12 years. It has a global warming potential approximately 25 times that of CO₂. Over the last 250 years, the concentration of CH₄ in the atmosphere has increased by 148 percent (IPCC, 2007), although emissions have declined from 1990 levels. Anthropogenic sources of CH₄ include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (USEPA, April 2012).

Nitrous Oxide. Concentrations of N₂O began to rise at the beginning of the industrial revolution and continue to increase at a relatively uniform growth rate (NOAA, 2010). N₂O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N₂O emissions. The GWP of N₂O is approximately 298 times that of CO₂ (IPCC, 2007).



Fluorinated Gases. Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfurhexafluoride (SF₆), are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and are phased out under the Montreal Protocol (1987) and Clean Air Act Amendments of 1990. Electrical transmission and distribution systems account for most SF₆ emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO₂, CH₄, and N₂O, but these compounds have much higher GWPs. SF₆ is the most potent GHG the IPCC has evaluated.

b. Greenhouse Gas Emissions Inventory. Worldwide anthropogenic emissions of GHGs were approximately 40,000 million metric tons (MMT) CO₂E in 2004, including ongoing emissions from industrial and agricultural sources, but excluding emissions from land use changes (i.e., deforestation, biomass decay) (IPCC, 2007). CO₂ emissions from fossil fuel use accounts for 56.6 percent of the total emissions of 49,000 MMT CO₂E (includes land use changes) and CO₂ emissions from all sources account for 76.7 percent of the total CO₂E emitted. Methane emissions account for 14.3 percent of GHGs and N₂O emissions account for 7.9 percent (IPCC, 2007).

Total U.S. GHG emissions were 6,821.8 MMT CO₂E in 2009 (USEPA, April 2012). Total U.S. emissions have increased by 10.5 percent since 1990; emissions rose by 3.2 percent from 2009 to 2010 (USEPA, April 2012). This increase was primarily due to (1) an increase in economic output resulting in an increase in energy consumption across all sectors; and (2) much warmer summer conditions resulting in an increase in electricity demand for air conditioning. Since 1990, U.S. emissions have increased at an average annual rate of 0.5 percent. In 2010, the transportation and industrial end-use sectors accounted for 32 percent and 26 percent of CO₂ emissions from fossil fuel combustion, respectively. Meanwhile, the residential and commercial end-use sectors accounted for 22 percent and 19 percent of CO₂ emissions from fossil fuel combustion, respectively (USEPA, April 2012).

Based upon the California Air Resources Board (CARB) California Greenhouse Gas Inventory for 2000-2011 (CARB, October 2011), California produced 448 MMT CO₂E in 2011. The major source of GHG in California is transportation, contributing 38 percent of the state's total GHG emissions. Industrial activity is the second largest source, contributing 21 percent of the state's GHG emissions (CARB, October 2012). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The CARB has projected statewide unregulated GHG emissions for the year 2020 will be 507 MMT CO₂E (CARB, August 2013). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

c. Potential Effects of Climate Change. Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental



record, and the decade from 2000 through 2010 has been the warmest. The global combined land and ocean temperature data show an increase of about 0.89°C (0.69°C–1.08°C) over the period 1901–2012 and about 0.72°C (0.49°C–0.89°C) over the period 1951–2012 when described by a linear trend (IPCC, 2013). Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT as well as sea surface temperatures have increased. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC, 2013).

According to the CalEPA's 2010 *Climate Action Team Biennial Report*, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CalEPA, April 2010). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Sea Level Rise. According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report (2013) predicts a mean sea-level rise of 11-38 inches by 2100. This prediction is more than 50 percent higher than earlier projections of 7 to 23 inches, when comparing the same emissions scenarios and time periods. The previous IPCC report (2007) identified a sea level rise on the California coast over the past century of approximately eight inches. Based on the results of various global climate change models, sea level rise is expected to continue. The California Climate Adaptation Strategy (December 2009) estimates a sea level rise of up to 55 inches by the end of this century. Impacts related to sea level rise are addressed in Section 4.8, *Hydrology and Water Quality*.

Air Quality. Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Energy Commission [CEC], March, 2009).

Water Supply. Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast.



California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources [DWR], 2008; CCCC, May 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling, DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR, 2008).

Hydrology. As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.6 mm per year (World Meteorological Organization [WMO], 2013). As a result, sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO, 2013). Sea level rise may be a product of climate change through two main processes: expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to salt water intrusion. Increased CO₂ emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion annual agricultural industry that produces half of the country's fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC, 2006).

Ecosystems and Wildlife. Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the average global surface temperature could rise by 1.0-4.5°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) in the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem



processes, such as carbon cycling and storage (Parmesan, 2004; Parmesan, C. and H. Galbraith, 2004).

d. Local Effects of Climate Change. While the above discussion identifies the possible effects of climate change at a global and potentially statewide level, current scientific modeling tools are unable to predict with a similar degree of accuracy what local impacts may occur. In general, regional and local predictions are made based on downscaling statewide models (CalEPA, April 2010).

e. Regulatory Setting. The following regulations address both climate change and GHG emissions.

International. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was produced in 1992. The UNFCCC is an international environmental treaty with the objective of, “stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.” This is generally understood to be achieved by stabilizing global GHG concentrations between 350 and 400 ppm, in order to limit the global average temperature increases between 2 and 2.4°C above pre-industrial levels (IPCC, 2007). The UNFCCC itself does not set limits on GHG emissions for individual countries or enforcement mechanisms. Instead, the treaty provides for updates, called “protocols,” that would identify mandatory emissions limits.

Five years later, the UNFCCC brought nations together again to draft the *Kyoto Protocol* (1997). The Kyoto Protocol established commitments for industrialized nations to reduce their collective emissions of six GHGs (CO₂, CH₄, N₂O, SF₆, HFCs, and PFCs) to 5.2 percent below 1990 levels by 2012. The United States is a signatory of the Kyoto Protocol, but Congress has not ratified it and the United States has not bound itself to the Protocol’s commitments (UNFCCC, 2007). The first commitment period of the Kyoto Protocol ended in 2012. Governments, including 38 industrialized countries, agreed to a second commitment period of the Kyoto Protocol beginning January 1, 2013 and ending either on December 31, 2017 or December 31, 2020, to be decided by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its seventeenth session (UNFCCC, November 2011).

In Durban (17th session of the Conference of the Parties in Durban, South Africa, December 2011), governments decided to adopt a universal legal agreement on climate change as soon as possible, but not later than 2015. Work will begin on this immediately under a new group called the Ad Hoc Working Group on the Durban Platform for Enhanced Action. Progress was also made regarding the creation of a Green Climate Fund (GCF) for which a management framework was adopted (UNFCCC, December 2011; United Nations, September 2012).

Federal. The United States is currently using a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol’s mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (led by the Secretaries of Energy and Commerce) that is charged with carrying out the President’s National Climate Change Technology Initiative (USEPA, December 2007). However, the voluntary approach to address climate change and GHG emissions may be changing. The



United States Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the USEPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act.

The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The first annual reports for these sources were due in March 2011.

On May 13, 2010, the USEPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 metric tons (MT) CO₂E per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date. On November 10, 2010, the USEPA published the "PSD and Title V Permitting Guidance for Greenhouse Gases." The USEPA's guidance document is directed at state agencies responsible for air pollution permits under the federal Clean Air Act to help them understand how to implement GHG reduction requirements while mitigating costs for industry. It is expected that most states will use the USEPA's new guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other large pollution point sources.

On January 2, 2011, the USEPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 MT CO₂E per year. Under Phase 1, no sources were required to obtain a Title V permit solely due to GHG emissions. Phase 2 of the Tailoring Rule went into effect July 1, 2011. At that time new sources were subject to GHG Title V permitting if the source emits 100,000 MT CO₂E per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 MT CO₂E per year.

On July 3, 2012 the USEPA issued the final rule that retains the GHG permitting thresholds that were established in Phases 1 and 2 of the GHG Tailoring Rule. These emission thresholds determine when federal Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

State. California Air Resources Board (CARB) is responsible for the coordination and oversight of state and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects.

Assembly Bill (AB) 1493 (2002), referred to as "Pavley," requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025.



CARB estimates Pavley standards will reduce fleet average GHG emissions by 22 percent in 2012 and 30 percent in 2016. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, when the rules would be fully implemented, new automobiles would emit 34 percent fewer GHGs. Statewide CO₂E emissions would be reduced by 3 percent by 2020 and by 12 percent by 2025. The reduction increases to 27 percent in 2035 and even further to a 33 percent reduction in 2050 (CARB, 2013).

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, landfill methane capture, etc.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires the CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO₂E. The Scoping Plan was approved by the CARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms.

In early 2013, CARB initiated activities to update the AB 32 Scoping Plan. The 2013 Scoping Plan update will define CARB's climate change priorities and lay the groundwork to reach post-2020 goals set forth in EO S-3-05. The update will highlight California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan (2008). It will also evaluate how to align the state's longer-term GHG reduction strategies with other state policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (CARB, 2013)



EO S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard (“LCFS”) for transportation fuels be established for California to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020.

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

CARB Resolution 07-54 establishes 25,000 MT of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005 percent of California’s total inventory of GHG emissions for 2004.

Senate Bill (SB) 375, signed in August 2008, enhances the state’s ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from vehicles for 2020 and 2035. In addition, SB 375 directs each of the state’s 18 major Metropolitan Planning Organizations (MPO) to prepare a “sustainable communities strategy” (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, CARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Monterey Bay Area Governments (AMBAG) was assigned targets of a 0 percent reduction in GHGs from transportation sources from 2005 levels by 2020 and a 5 percent reduction in GHGs from transportation sources from 2005 levels by 2035. AMBAG is currently preparing a regional SCS, which will be incorporated into a new Metropolitan Transportation Plan, scheduled to be adopted in June of 2014.

In April 2011, Governor Brown signed SB 2X requiring California to generate 33 percent of its electricity from renewable energy by 2020.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

California Environmental Quality Act. Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. As noted previously, the adopted *State CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), the San Luis Obispo Air Pollution Control District (SLOAPCD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. On March 5, 2012 the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it



adopted the thresholds contained in the BAAQMD's 2010 CEQA Guidelines. In light of the court's order, it is recommended that lead agencies will need to determine appropriate air quality and GHG thresholds of significance based on substantial evidence in the record. The BAAQMD was ordered to set aside the thresholds and is no longer recommending that these thresholds be used as a general measure of a project's significant air quality impacts. In August 2013, the First District Court of Appeal overturned the trial court and held that the thresholds of significance adopted by the BAAQMD were not subject to CEQA review. However, no further recommendation by the BAAQMD has been issued as of November 15th, 2013.

Local. In November 2013, the Monterey County Board of Supervisors adopted the *Monterey County Municipal Climate Action Plan: Greenhouse Gas Reduction Plan for County Operations* (MCAP). The MCAP describes the County's efforts to reduce GHG emissions and provides three potential paths to achieving the County's goal of reducing GHG emissions from its operations to a level that is 15 percent below the 2005 emissions level before 2020. The MCAP was prepared pursuant to mitigation for potential GHG impacts from County operations described in the environmental impact report for the 2010 County General Plan. The third scenario in the MCAP is the most aggressive in terms of total GHG reductions, and is the assumed implementation scenario. This scenario includes implementation of specific public works audit report measures (primarily HVAC and indoor/outdoor lighting improvements), installation of building energy management systems at County-owned facilities, purchase of electric vehicles for the County vehicle fleet, and replacement of outdoor lighting fixtures with energy-efficient fixtures.

The City of Pacific Grove does not have an adopted Climate Action Plan (CAP). The City of Monterey adopted a CAP in March 2011. The Monterey CAP consists of an audit of 2005 GHG emissions and GHG emissions reduction strategies for both the community (emissions within the City borders) and government operations (emission resulting from the activities associated with managing the City). The CAP also incorporates achievements made to meet the goals of the Mayors Climate Protection Agreement and the Urban Environmental Accords, which the City became a signatory to in 2007.

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds. Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. Section 15064.4, subdivision (b), and Appendix G of the *State CEQA Guidelines* provide guidance regarding the criteria that may be used to assess whether a project's impacts on climate change are significant. These guidelines are used in evaluating the cumulative significance of GHG emissions from the proposed project.

According to the adopted *State CEQA Guidelines*, impacts related to GHG emissions from the proposed project would be significant if the project would:

- 1) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*



- 2) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*State CEQA Guidelines*, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). However, neither the State, MBUAPCD, nor the City of Pacific Grove have adopted GHG emissions thresholds.

The MBUAPCD is currently in the process of developing GHG emissions thresholds for evaluating projects under CEQA. According to an informational report from Mike Gilroy, Deputy Air Pollution Control Officer, to the District Board of Directors, MBUAPCD recommends a threshold of 10,000 MT CO₂E per year for stationary source projects and a threshold of 2,000 MT CO₂E per year for land-use projects or compliance with an adopted GHG Reduction Plan/Climate Action Plan. MBUAPCD is currently evaluating a percentage-based threshold option (MBUAPCD, 2013).

Prior to development of MBUAPCD thresholds, MBUAPCD had previously recommended use of the adopted SLOAPCD quantitative emissions threshold of 1,150 MT CO₂E per year for most land use projects. Since the MBUAPCD thresholds have not yet been adopted, the SLOAPCD threshold is the most appropriate for analysis of the proposed project. Therefore, the project's contribution to cumulative impacts related to GHG emissions and climate change would be cumulatively considerable if the project would produce more than 1,150 MT CO₂E per year.

The SLOAPCD threshold was developed to help reach the AB 32 emission reduction targets by attributing an appropriate share of the GHG reductions needed to new land use development projects subject to CEQA. Land use sector projects that comply with the GHG thresholds would not be "cumulatively considerable" because they would be helping to solve the cumulative problem as a part of the AB 32 process. Such small sources would not significantly add to global climate change and would not hinder the state's ability to reach the AB 32 goal, even when considered cumulatively. Therefore, a project which falls below the quantitative GHG emissions annual threshold of 1,150 MT CO₂E is consistent with the reduction goals of AB 32 and is presumed to have a less than significant GHG impact.

Study Methodology. Calculations of CO₂, CH₄, and N₂O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO₂, CH₄, and N₂O because these comprise 98.9 percent of all GHG emissions by volume (IPCC, 2007) and are the GHG emissions that the project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF₆, were also considered for the analysis. However, fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent weight in CO₂ (CO₂E). Minimal amounts of other main GHGs (such as



chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the calculated CO₂E amounts. Calculations are based on the methodologies discussed in the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper (January 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (January 2009).

Construction Emissions. In order to estimate the annual emissions that would result from construction activity associated with the project, GHGs from construction projects are quantified and amortized over the life of the project. The amortized construction emissions are added to the annual average operational emissions and then compared to the appropriate operational threshold. To amortize the emissions over the life of the project, the total GHG emissions for the construction phase are calculated, divided by the estimated life of the project, and then added to the annual operational phase GHG emissions. The MBUAPCD does not have guidance for determining the project life; therefore, for the purpose of this analysis, project life is estimated at 30-years, based on standard estimates for project lifetime used by other APCDs statewide. This estimate is consistent with the standard 30-year assumption of the South Coast Air Quality Management District (<http://www.aqmd.gov/hb/2008/December/081231a.htm>) and is considered a conservative estimate for the proposed improvements

Construction of the project would generate temporary GHG emissions primarily due to the operation of diesel- and gas-fueled equipment and construction vehicle trips. Site preparation and grading typically generates the greatest amount of emissions due to the use of grading equipment and soil hauling. The California Emissions Estimator Model (CalEEMod) 2011 Version 2013.2.2 was used to estimate construction emissions from off-road equipment and on-road vehicle trips during project construction. CalEEMod is based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment used during construction. For the construction analysis, the anticipated duration of each of the five components of the project, as well as the estimated area of disturbance and associated soil hauling, is based on the description of the proposed project (refer to Section 2.0, *Project Description*). Complete CalEEMod results and assumptions can be viewed in Appendix C.

Operational Emissions. The proposed improvements would require occasional maintenance vehicle trips; however, these vehicle trips would be infrequent and relatively short, and would not result in substantial criteria pollutant emissions. Because the proposed project would not result in an increase in daily long-term vehicle trips, or any other change in land use that would increase long-term GHG emissions, the project's operational GHG emissions were calculated based on the net increase in energy use associated with the new Point Pinos Stormwater Treatment Facility, which is the only project component that would result in substantial new long-term GHG emissions. The proposed pump stations would also require electricity; however, these pumps are anticipated to be operated for a short period of time each day. If emergency generators are required for the proposed improvements, these generators would generally be operated two to three times per year to ensure reliable operation. Therefore, these project components are not anticipated to result in GHG emissions that would substantially add to the GHG emissions quantified herein.

Operational emissions from energy use (electricity and natural gas) were estimated based on the maximum potential throughput of the stormwater treatment facility using CalEEMod (see



Appendix C for calculations). The default values on which the CalEEMod model is based include electricity intensity from the CEC’s 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California. CalEEMod provides operational emissions of CO₂, N₂O and CH₄. This methodology is considered reasonable and reliable for use, as it has been subjected to peer review by numerous public and private stakeholders and in particular by the CEC. It is also recommended by CAPCOA (January 2008).

Impacts related to sea level rise are addressed in Section 4.8, *Hydrology and Water Quality*.

b. Project Impacts and Mitigation Measures.

Impact GHG-1 The proposed project would generate GHG emissions during construction and operation. However, GHG emissions generated by the project would not exceed the significance threshold of 1,150 MT CO₂ per year. Impacts would be Class III, less than significant.

Construction Emissions. As discussed in Section 4.6.2(a) (Methodology and Significance Thresholds), project-related GHG emissions would primarily result from construction activities. Table 4.6-1 estimates the annual CO₂, N₂O, and CH₄ emissions from construction of each of the five components of the proposed project.

**Table 4.6-1
 Estimated Construction Emissions of Greenhouse Gases**

Project Component	Emission Type			
	CO ₂ (MT)	CH ₄ (MT)	N ₂ O (MT)	Carbon Dioxide Equivalent (CO ₂ E) (MT)
1) David Avenue Reservoir	156.23	0.04	<0.01	157.11
2) Pine Avenue Conveyance	143.82	0.03	<0.01	144.53
3) Ocean View Boulevard Conveyance	103.42	0.03	<0.01	103.96
4) Point Pinos Stormwater Treatment Facility and Crespi Pond	112.55	0.03	<0.01	113.19
5) Diversions to Monterey Regional Water Pollution Control Agency (MRWPCA)	70.07	0.02	<0.01	70.48
Total	586.09	0.15	<0.01	589.27
<i>Amortized over 30 years</i>	<i>19.54 MT/year</i>	<i>0.01 MT/year</i>	<i><0.01 MT/year</i>	<i>19.64 MT/year</i>

See Appendix C for calculations and for GHG emission factor assumptions.

As shown in Table 4.6-1, construction activity for the project would generate an estimated 589 MT of CO₂E. Following recommended methodology to amortize emissions over a 30-year



period (the assumed life of the project), construction of the proposed project would generate an estimated 20 MT CO₂E per year.

Operational Emissions. CalEEMod was used to calculate energy use associated with stormwater treatment at the proposed Point Pinos Stormwater Treatment Facility. No other component of the project would result in substantial operational GHG emissions. As discussed above, GHG emissions associated with stormwater treatment were calculated using the stormwater treatment facility’s maximum daily throughput, using default values which are built into the CalEEMod model.

**Table 4.6-2
Operational Emissions of Greenhouse Gases**

Emission Source	Emission Type			
	CO ₂ (MT)	CH ₄ (MT)	N ₂ O (MT)	Carbon Dioxide Equivalent (CO ₂ E) (MT)
Energy Use (Stormwater Treatment)	743.28	0.03	<0.01	746.14

See Appendix C for calculations and for GHG emission factor assumptions.

As shown in Table 4.6-2, electricity consumption associated with the proposed stormwater treatment facility would generate approximately 746 MT CO₂E per year.

Combined Construction and Operational Emissions. Table 4.6-3 combines the construction and operational GHG emissions associated with the proposed project. As noted previously, emissions associated with construction activity (approximately 589 MT CO₂E) are amortized over 30 years (the anticipated life of the project).

**Table 4.6-3
Combined Annual Emissions of Greenhouse Gases**

Emission Source	Annual Emissions (MT CO ₂ E)
Construction	19.64
Operational Energy Use	746.14
Total	765.78

See Appendix C for calculations and for GHG emission factor assumptions.

For the proposed project, the combined annual emissions would total approximately 766 MT CO₂E per year. This total represents roughly 0.00017 percent of California’s total 2011 emissions of 448 MMT. As noted in Section 4.6.2(a) (Methodology and Significance Thresholds), the State, MBUAPCD, and the City of Pacific Grove have not yet adopted formal GHG emission thresholds that apply to land use projects. Therefore, the proposed project is evaluated based on whether it would produce more than 1,150 MT CO₂E per year. For the proposed project, total annual GHG emissions would be approximately 766 MT CO₂E per year. Although the proposed



project would generate additional GHG emissions beyond existing conditions, the total amount of GHG emissions would be below the annual threshold of 1,150 MT CO₂E. As described above, project components, including pump stations, would also require electricity that would result in relatively small additional GHG emissions. Because the project is substantially below the recommended threshold of significance, these emissions would not be anticipated to contribute to the quantified emissions in a manner that would result in an exceedance of the 1,150 MT CO₂E threshold of significance. As such, GHG emissions generated by the proposed project would not be cumulatively considerable and impacts would be less than significant.

Mitigation Measures. As specified above, the proposed project would result in less than 1,150 MT CO₂E per year; therefore, no mitigation would be required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GHG-2 **The proposed project would not conflict with California GHG reduction goals, or any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be Class III, less than significant.**

Monterey County adopted its MCAP in November 2013. In general, the MCAP addresses GHGs through improvements to existing County-owned buildings that would result in energy conservation. The proposed project would not result in any new building construction or other land use addressed by GHG reduction measures in the MCAP. In addition, AMBAG is currently preparing a regional SCS designed to help the region achieve its SB 375 GHG emissions reduction target, thereby contributing to the overall GHG emissions reduction goals identified in AB 32.

As discussed under Impact GHG-1, the proposed project falls well below the annual quantitative GHG emissions threshold of 1,150 MT CO₂E, and would therefore be consistent with the objectives of AB 32, SB 97, and SB 375. In addition, the proposed project would be required to comply with applicable state regulations and MBUAPCD AQMP policies which would further reduce project-generated GHG emissions. Therefore, the project would not conflict with the County's and State's GHG reduction goals, or related plans or policies. Overall, impacts would be less than significant.

Mitigation Measures. No mitigation would be required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. As indicated under Impact GHG-1, the project would not result in substantial new GHG emissions, and as indicated under Impact GHG-2, the project would not conflict with applicable County and California regulations, policies and plans addressing the reduction of GHGs. Analyses of GHGs are cumulative in nature as they affect the accumulation of GHGs in the atmosphere. Since there is no significant project impact, and taking into consideration the relatively small contribution to cumulative GHG emissions associated with the proposed project, GHG emissions from the proposed project would not be cumulatively considerable.



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4.7 HAZARDS AND HAZARDOUS MATERIALS

4.7.1 Setting

a. Known On-Site and Adjacent Hazardous Materials Contamination. The project site is comprised of five associated components located primarily in the City of Pacific Grove, with a portion of two components located in the City of Monterey, California. The five components include: 1) the former David Avenue Reservoir, adjacent to the intersection of David Avenue, Terry Street, and Carmel Avenue; 2) the Pine Avenue right-of-way between 7th Street and 18th Street; 3) the Ocean View Boulevard right-of-way (and vicinity) from Forest Avenue west to the former Pacific Grove Wastewater Treatment Plant at the Point Pinos Lighthouse Reservation; 4) the former Pacific Grove Wastewater Treatment Plant and adjacent Crespi Pond, located on the Pacific Grove Golf Links; and 5) the Ocean View Boulevard right-of-way (and vicinity) from Forest Avenue east to David Avenue (diversions to the Monterey Regional Water Pollution Control Agency [MRWPCA] Regional Wastewater Treatment Plant in Marina). Figure 2-2 in Section 2.0, *Project Description*, illustrates the five project components within the City of Pacific Grove. Historic uses associated with each of the five project components are described below.

The Cortese and Geotracker databases, which are maintained in compliance with government code section 65963.5 by the Department of Toxic Substance Control (DTSC) and the State Water Resources Control Board (SWRCB), respectively, were used to determine the locations of documented releases of hazardous materials or hazardous wastes in the vicinity of the proposed project components. The documented releases, including the related historic uses and listed contamination, are described below for each component.

David Avenue Reservoir. The David Avenue Reservoir is constructed of earthen embankments that surround the impoundment to the east, north, and west. The south side of the impoundment is situated against a natural high point along David Avenue. The reservoir has not been in operation since 2003 as a result of a request submitted by the owner California American Water (CalAm). The David Avenue Reservoir site is on property owned by CalAm and currently used as a maintenance and operations yard for daily operations.

Underground storage tanks have been reported at the David Avenue Reservoir site itself. One 1,000 gallon gasoline tank was removed in 1988 and one 6,000 gallon diesel tank was removed in 2007. No soil contamination was found during removal and the County of Monterey has indicated that no further action is warranted. There is no concern regarding the USTs at the reservoir site.

Based on a search of the Cortese and Geotracker databases, there are two documented releases of hazardous materials or hazardous wastes within one-half mile of the intersection of David Avenue and Terry Street, one permitted underground storage tank within one-half mile, and 33 documented releases within one mile of the intersection (DTSC, 2013; SWRCB, 2013).

The two documented releases of hazardous materials within one-half mile of the David Avenue Reservoir are as follows:



The Kern Property at 316 Prescott Lane in Pacific Grove, approximately 0.4 miles southwest of the site. This release included a potential leak of acid of corrosive contaminants. The case is open, but has been inactive since January 2011 (SWRCB, 2013).

The Pacific Grove Naval Reserve Center Cleanup Site is a one acre facility approximately 0.3 miles north of the site that was used for Navy operations from 1954 through 1994, when the base was closed. The base remained unoccupied until 1995, at which point use of the land was transferred to the Pacific Fisheries Environmental Group of the National Oceanographic Atmospheric Administration (NOAA) for use as a scientific research facility. Sources of potential contamination identified on the base included an Underground Storage Tank (UST), and a septic tank that was installed in 1954. The UST in question held diesel fuel and was removed in 1990. No evidence of significant contamination from release of diesel fuel was detected from beneath the tank upon its removal. As for the septic system, its final point of discharge was unable to be located. As such, the Navy removed the septic system and constructed a sewer connection to the Monterey Regional Water Control Agency's sewer collection system. Work on the septic tank removal and construction of the new sewer system took place between September 1995 and September 1996. The Central Coast Regional Water Quality Control Board (RWQCB) has since approved of the Base Realignment and Closure Cleanup Plan for the Naval Reserve Center and the case was closed as of May 2010 (SWRCB, 2013).

Pine Avenue Conveyance. The Pine Avenue Conveyance is located on the Pine Avenue right-of-way between 7th Street and 18th Street. The Pacific Grove Fire Department, located at 600 Pine Avenue between 16th Street and 17th Street, is a potential hazard to the Pine Avenue Conveyance. Gasoline has impacted soil and groundwater in the area from a leaking underground storage tank (LUST) case. This component of the proposed project has the potential to encounter contaminated groundwater in this area as a result of this listing.

Ocean View Boulevard Conveyance. The Ocean View Boulevard Conveyance is located on the Ocean View Boulevard right-of-way from Forest Avenue west to the former Pacific Grove Wastewater Treatment Plant (PGWTP) at the Point Pinos Lighthouse Reservation. There are five sites, listed below, with the potential to impact this component of the proposed project.

- *Monterey Regional Water Pollution Control Agency at Coral Street and Ocean View Boulevard: Diesel fuel from a leaking underground storage tank; case has impacted soil and groundwater.*
- *Tosco Gasoline Station #05432 at 899 Hawthorne Street: Gasoline from a leaking underground storage tank; case has impacted soil and groundwater.*
- *DiMaggio's Classic Cleaners at 124 Central Avenue: There have not been any reported releases; however, due to the nature of the dry cleaning facility operations, there is the potential for unreported releases to have occurred and therefore, there is the potential for the Ocean View Boulevard Conveyance to encounter contaminated groundwater at Ocean View Boulevard north to northeast of the site.*
- *Saucito Land Company at Central Avenue and Eardley Avenue: Gasoline from a LUST case has impacted groundwater. There is the potential for the Ocean View Boulevard Conveyance to encounter contaminated groundwater at Ocean View Boulevard north to northeast of the site.*



- *Fountain Avenue Pump Station at Fountain Avenue and Ocean View Boulevard: A diesel underground storage tank is on-site. Although no releases have been reported, the potential exists for contaminated groundwater to be found in this area.*

Point Pinos Stormwater Treatment Facility and Crespi Pond. The PGWTP was constructed in the early 1950s and began operation in January 1953, with an operational capacity of 2 million gallons per day (MGD) (Archives and Architecture, Inc., n.d.). Treated wastewater was discharged through an outfall to the Pacific Ocean. In 1980, the PGWTP was decommissioned (*ibid*). The retired PGWTP site is now used by the City of Pacific Grove as a corporation yard and water storage facility. Two circular “tank” structures remain on-site, including a clarifier/administrative office (east tank) and a sludge digester (west tank), and the majority of the site is comprised of dirt driveways, with storage of construction material and debris along the periphery (Denise Duffy & Associates, July 2013).

Based on a search of the Cortese and Geotracker databases, there is one documented release of hazardous materials or hazardous wastes within one-half mile of the PGWTP site (DTSC, 2013; SWRCB, 2013). The release occurred at the Monterey Regional Water Pollution site at Oceanview Boulevard and Coral Street, approximately 0.3 miles west of this project component, where a leak of diesel was reported and discovered in December 1994. Groundwater, for use other than drinking, was the only potential media affected. Cleanup has been completed and the case was closed as of October 1996.

In addition, two cleanup sites are located at the Point Pinos Lighthouse and the Pacific Grove Naval Reserve Center per the Envirostor and Geotracker databases: the Point Pinos Lighthouse and the Pacific Grove Naval Reserve Center.

The Point Pinos Lighthouse is located near the intersection of Lighthouse and Asilomar Avenues, approximately 0.3 miles south from the retired PGWTP. The site consists of the historic lighthouse structure and adjacent soil located on the U.S. Coast Guard Point Pinos Light Station. The Lighthouse was constructed in 1855 and has and continues to operate as an aid to navigation. Historic maintenance of the structure has resulted in lead contamination in the soil adjacent to the structure from chipping, flaking, scraping, and/or blasting of lead-based paint. As described on the DTSC website, site management, approved August 2006, includes these use prohibitions:

- *Day Care Center*
- *Elder Care Center*
- *Hospital Use*
- *Excavation or Activities Which Disturb the Soil at any Depth Without Approval of a Soil Management Plan and/or Health and Safety Plan*
- *Public or Private School for Persons Under 21*
- *Residence Use*

The Pacific Grove Naval Reserve Center is described above in the discussion of the David Avenue Reservoir.



Diversions to MRWPCA. This component of the project would be located primarily within the Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue. There are no known hazards located within close proximity of this project component.

b. Potential Hazards Associated with Adjacent Land Uses.

David Avenue Reservoir. The David Avenue Reservoir is bordered by single family residences to the east and west, Hillcrest Avenue and Pacific Grove Middle School to north (approximately 0.1 miles north), and David Avenue and single and multi-family residences to the south. The project site is not in the vicinity of industrial or commercial uses, so there is no potential for land uses associated with industrial activity to expose the project site to hazardous materials.

The most common hazardous materials are household products (used paint, pesticides, cleaning products, and other chemicals). Waste oil is a common hazardous material that is often improperly disposed of and can contaminate surface water through runoff. Other household hazardous wastes are common and often improperly stored in garages and homes.

Pine Avenue Conveyance. The Pine Avenue Conveyance improvements would be located primarily within the Pine Avenue right-of-way, which is bordered to the northeast by single family residences, commercial uses, multi-family residences, professional offices, and City Hall and to the southwest by single family residences, Robert Down Elementary School (on Pine Avenue where the conveyance would be located), multi-family residences, and professional offices. This project component also includes installation of an underground stormwater equalization/storage facility in the vicinity of Robert Down Elementary School, which is bordered by Pine Avenue and single family residences to the north, multi-family residences to the west, 12th Street and single family residences to the east, and Junipero Avenue and the Pacific Grove Recreation Department and Youth Center to the south.

As noted previously, the most common hazardous materials are household products, which may be used in the vicinity of this project component.

Ocean View Boulevard Conveyance. The Ocean View Boulevard conveyance improvements would be located primarily within the Ocean View Boulevard right-of-way, which is bordered by open space, pedestrian trails, and Monterey Bay to the north and east, and by single family residences and commercial uses to the south. At the western edge of this project component, Ocean View Boulevard is bordered to the south by Pacific Grove Golf Links, Crespi Pond, and the retired PGWTP. In addition to conveyance improvements within the right-of-way, this project component includes three new pump stations: at the Lovers Point parking lot; north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. The Lovers Point pump station would be surrounded by a parking lot to the east, south, and west and by the Monterey Bay Coastal Recreation Trail to the north. The Sea Palm pump station would be located primarily within a landscaped median, and bordered by a parking area and Monterey Bay to the north and Ocean View Boulevard to the south. The Coral Street pump station would be primarily within the Ocean View Boulevard right-of-way, bordered by single family residences to the south and open space and the Monterey Bay to the north.



As noted previously, the most common hazardous materials are household products, which may be used in the vicinity of this project component.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The proposed Point Pinos Stormwater Treatment Facility and Crespi Pond are bordered by open space, pedestrian trails, and the Monterey Bay to the north, dune habitat restoration to the west, and the Pacific Grove Golf Links to the south and east. Runoff from the Pacific Grove Golf Links would likely be the greatest potential hazard to this component, and could contain high levels of fertilizer and pesticides.

Diversions to MRWPCA. This component would be primarily within or adjacent to the Ocean View Boulevard right-of-way east of Forest Avenue, which is bordered by open space, pedestrian trails, Hopkins Marina Laboratory, and the Monterey Bay to the north and east, single family residences and commercial uses to the south and west. As noted previously, the most common hazardous materials are household products, which may be used in the vicinity of this project component. In addition, the laboratory could contribute hazardous materials in the form of laboratory waste, such as chemicals; however, the laboratory is required to adhere to strict regulations regarding the handling of hazardous material, as discussed below in Section 4.7.1(d) (Regulatory Setting).

c. Other Potential Hazards.

Hazardous Materials Transport and Storage. The proposed project may require the transport of hazardous materials during construction (e.g., fuel for construction equipment, oil, solvents, or paints), as well as during operations. The roads used most frequently for this transport would include Ocean Avenue, David Avenue, and Pine Avenue.

Underground Utilities. Several components of the project would be located within existing roadways, which may have existing underground utilities, potentially including oil, gas, or other utility lines. A rupture of the pipelines could expose maintenance workers, and nearby residences to flammable and toxic substances (natural gas or oil).

Wildland Fire Hazards. Wildfires are large-scale brush and grass fires in undeveloped areas. Wildfires are usually caused by human activities, such as equipment use and smoking, and can result in loss of valuable wildlife habitat, soil erosion, and damage to life and property.

The level of wildland fire risk is determined by a number of factors, including:

- *Frequency of critical fire weather;*
- *Percentage of slope;*
- *Existing fuel (vegetation, ground cover, building materials);*
- *Adequacy of access to fire suppression services; and*
- *Water supply and water pressure.*

According to the City of Pacific Grove's General Plan Health and Safety Element, the border of the Del Monte Forest and the City of Pacific Grove has the greatest potential for wildland fires. The Del Monte Forest is approximately 0.5 miles west of the David Avenue Reservoir. All



project components are surrounded by urban land uses and would not be considered to have wildland fire potential.

Sensitive Receptors. The general population includes many sensitive subgroups that may be at greater risk from exposure to emitted pollutants. These sensitive subgroups include the very young, the elderly, and those with existing illnesses. In addition, the location of the population in the area surrounding a project site may have a major bearing on health risk.

David Avenue Reservoir. The David Avenue Reservoir is bordered by residences to the east, west, and south, and Pacific Grove Middle School to north. These residences and school are considered sensitive receptors. The nearest residence is directly adjacent to the David Avenue Reservoir; Pacific Grove Middle School is located 0.1 miles north of the reservoir.

Pine Avenue Conveyance. Sensitive receptors in the vicinity of the Pine Avenue Conveyance improvements would include residences to the northeast and southwest. In addition, an underground stormwater equalization/storage facility would be installed in the vicinity of Robert Down Elementary School. Residences line the street on which the conveyance improvements would be completed, and are therefore directly adjacent to the project site; the storage facility would be located less than 1000 feet south of the school.

Ocean View Boulevard Conveyance. Sensitive receptors in the vicinity of the Ocean View Boulevard Conveyance improvements would include residences to the south. These residences line the street on which the conveyance improvements would be completed, and are therefore directly adjacent to the project site.

Point Pinos Stormwater Treatment Facility and Crespi Pond. There are no sensitive receptors in the vicinity of this project component.

Diversions to MRWPCA. Sensitive receptors in the vicinity of this project component would include residences to the south and west. Residences line Ocean View Boulevard, and are therefore directly adjacent to the project site.

d. Regulatory Setting. The management of hazardous materials and hazardous wastes is regulated at the federal, state, and local levels through programs administered by the (U.S. EPA, agencies within the California Environmental Protection Agency (CalEPA), such as the DTSC, federal and state occupational safety agencies, the Monterey Bay Unified Air Pollution Control District (MBUAPCD), and Monterey County Health Department - Environmental Health Bureau.

Federal. The U.S. EPA is responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. The federal regulations are codified primarily in Title 40 of the Federal Code of Regulations. The primary legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and the Emergency Planning and Community Right-to-Know Act (SARA Title III). These laws and associated regulations include



specific requirements for facilities that generate, use, store, treat, transport, or dispose of hazardous materials.

The Hazardous Materials Transportation Act of 1975 (HMTA) is the major transportation-related statute regulating the transportation of hazardous cargo. The HMTA empowers the U.S. Department of Transportation with regulatory and enforcement authority to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce. For materials that are designated as hazardous, specific requirements pertaining to packaging, labeling, and transportation apply to any person or business transporting a hazardous material.

The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) is responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. OSHA requires training for hazardous materials operators, which includes personal safety, hazardous materials storage and handling procedures, and emergency response procedures.

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq., formerly the Federal Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the CWA, the U.S. EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112, which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend, and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. A facility is subject to the SPCC regulations if a single oil (or gasoline, or diesel fuel) storage tank on-site has a capacity greater than 660 gallons, or the total above ground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “Navigable Waters” of the United States.

Other relevant federal laws include the federal Toxic Substances Control Act of 1976 (TSCA) and RCRA. TSCA and RCRA established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle-to-grave” system of regulating hazardous wastes.

State. In California, the DTSC is authorized by the U.S. EPA and CalEPA to enforce and implement federal hazardous waste laws and regulations. Requirements place “cradle-to-grave” responsibility for hazardous waste disposal on the shoulders of hazardous waste generators. Generators must ensure that their wastes are disposed of properly, and legal requirements dictate the disposal requirements for many waste streams (e.g., banning many types of hazardous wastes from landfills).

California regulations pertaining to hazardous materials equal or exceed federal regulations. In January 1996, CalEPA adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program governing (1) hazardous waste generators and hazardous waste on-site treatment, (2) underground storage tanks, (3) above-



ground storage tanks, (4) hazardous materials release response plans and inventories, (5) risk management and prevention programs, and (6) Unified Fire Code hazardous materials management plans and inventories. The program is implemented at the local level by a designated local agency – the Certified Unified Program Agency (CUPA). The CUPA is responsible for consolidating the administration of the six program elements within its jurisdiction. The Monterey County Health Department – Environmental Health Bureau is the designated CUPA for the County of Monterey, including all cities and unincorporated areas within the County.

State laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed, and in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. California’s Hazardous Materials Release Response Plans and Inventory Law, sometimes called the “Business Plan Act,” aims to minimize the potential for accidents involving hazardous materials and to facilitate an appropriate response to possible hazardous materials emergencies. The law requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies, to illustrate on a diagram where the materials are stored on site, to prepare an emergency response plan, and to train employees to use the materials safely.

Along with DTSC, the RWQCB, which operates under the jurisdiction of CalEPA, is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. RWQCB regulations applicable to hazardous materials are contained in Title 27 of the California Code of Regulations (CCR). Additional state regulations applicable to hazardous materials are contained in Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Transportation of hazardous materials and wastes is regulated by Title 26 of the CCR. Caltrans is the primary regulatory authority for the interstate transport of hazardous materials and establishes safe handling procedures for packaging, marking, labeling, routing, etc. The California Highway Patrol (CHP) and Caltrans enforce federal and state regulations and respond to hazardous materials transportation emergencies.

A “Uniform Hazardous Waste Manifest” is required by DTSC and must accompany most hazardous waste before transportation off site. The manifest travels with the hazardous waste from the point of generation, through transportation, to the final treatment, storage and disposal facility. If a discharge or spill of hazardous waste occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (i.e., notify local authorities, dike the discharge area), and shall be responsible for the discharge/cleanup, pursuant to Title 22 of the CCR, Sections 66263.30 and 66263.31.

With respect to worker safety regulations at the state level, the California Department of Industrial Relations, Division of Occupational Safety and Health, formerly known as Cal/OSHA, is charged with enforcement of state regulations and supervision of workplaces in California that are not under direct federal jurisdiction. State worker health and safety regulations applicable to construction workers include training requirements for hazardous waste operations and emergency response, all of which equal or exceed their federal counterparts.



Although there are numerous state policies dealing with hazardous waste materials, the most comprehensive is the Tanner Act (Assembly Bill [AB] 2948) adopted in 1986. The Tanner Act governs the preparation of hazardous waste management plans and the siting of hazardous waste facilities in the state. The act also mandates the adoption of a Hazardous Waste Management Plan by every county that must include provisions defining: (1) the planning process for waste management; (2) the permit process for new and expanded facilities; and (3) the appeal process to the state available for certain local decisions.

In order to protect public health and safety and the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) needs to be available to firefighters, public safety officers, and regulatory agencies and needs to be included in business plans in order to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1–Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2–Hazardous Materials Management (Sections 25531 to 25543.3). CCR Title 19, Public Safety, Division 2, OES, Chapter 4–Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for Hazardous Materials Business Plans (HMBP). These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7; (2) emergency response plans and procedures in accordance with Section 2731; and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in California. Each business shall prepare a HMBP if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following: 500 pounds of a solid substance; 55 gallons of a liquid; 200 cubic feet of compressed gas; a hazardous compressed gas in any amount; hazardous waste in any quantity.

Local. Regarding hazardous air emissions, the MBUAPCD implements the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Achievable Control Technology (MACT) requirements through the federal operating permit program, pursuant to MBUAPCD Rule 218. In addition, MBUAPCD’s permitting program includes a “Best Control Technology” (BCT) review under MBUAPCD Rule 1000, Permit Guidelines and Requirements for Sources Emitting Toxic Air Contaminants. This rule covers proposed new or reconstructed major sources of federal hazardous air pollutants, toxic air contaminants, and carcinogenic toxic air contaminants.

In compliance with state law, the MBUAPCD also administers the AB 2588 Air Toxics “Hot Spots” Program. Facilities must report their toxic air contaminant emissions and if the MBUAPCD determines the facility poses a potential public health risk, the facility must perform a health risk assessment (HRA). An HRA includes an analysis of toxic air contaminant emissions and characterizes human health risks as a result of the estimated exposures. If the estimated health risks exceed threshold levels, the public in the affected area must be notified and steps taken to reduce emissions.



Monterey County Health Department – Environmental Health Bureau is designated by CalEPA as the CUPA within the geographic boundaries of the County and is responsible for enforcing the local ordinance and state laws pertaining to use and storage of hazardous materials as described previously, including the issuance and administration of Hazardous Materials Management Plans (HMMPs).

The City of Pacific Grove does not describe a hazardous waste management code in its General Plan or Municipal Code, but refers to Monterey County for its hazardous waste management plan (City of Pacific Grove Municipal Code Section 23.64.340). The County’s hazardous waste management plan includes a Hazardous Materials Registration and a Hazardous Materials Emergency Response program. According to the City of Pacific Grove General Plan Health and Safety Element, the generation, storage, disposal, and transportation of toxic or hazardous wastes in Pacific Grove is not a significant issue.

Title 9.30 of the City of Pacific Grove’s Municipal Code is intended to ensure the health, safety, and general welfare of citizens, and protect and enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. Section 1251 et seq., as amended from time to time) by reducing pollutants in stormwater discharges to the maximum extent practicable and by prohibiting non-stormwater discharges to the storm drain system. The chapter provides a comprehensive and integrated plan to regulate urban stormwater quality management and discharge control.

The City of Monterey regulates hazards and hazardous materials in its General Plan Safety Element. The Safety Element contains policies specific to fire hazards, aircraft, and emergency preparedness.

4.7.2 Impact Analysis.

a. Methodology and Significance Thresholds. Assessment of impacts is based on: 1) review of site information and conditions; 2) review of state maintained databases of hazardous materials; and 3) review of the City of Pacific Grove 1994 General Plan, the City of Pacific Grove Municipal Code, and other local information regarding hazards and hazardous materials issues.

The following thresholds are based on Appendix G of the *State CEQA Guidelines*. A significant impact would occur if the proposed project would result in any of the following conditions:

- 1) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*
- 2) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;*
- 3) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;*
- 4) *Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;*



- 5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- 6) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- 7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
- 8) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

No existing structures on the project site are proposed for demolition. Therefore, no potential impact exists relating to the removal of structures containing lead or asbestos. The nearest airport, the Monterey Regional Airport, is located approximately 3.6 miles southeast of the David Avenue Reservoir, the component nearest to the airport. Therefore, there would be no impacts related to hazards near airports and private air strips, as no such facilities are located in the project vicinity. The project would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Finally, the project components are not located within a fire hazard area. Therefore, threshold Items 5 through 8 are not discussed further in this section; refer to Section 4.13, *Effects Found not to be Significant*. Items 1 through 4 are discussed below.

b. Project Impacts and Mitigation Measures.

Impact HAZ-1 **Construction and operation of the proposed project may include the use, storage, and/or transport of hazardous materials. Compliance with existing laws and regulations governing the use, transport and/or storage of hazardous materials would reduce impacts to Class III, less than significant.**

Construction. Construction equipment uses various hazardous materials (diesel fuel, oil, solvents, etc.) and these materials would be disposed of off-site in accordance with all applicable laws pertaining to the handling and disposal of hazardous waste. Hazardous or flammable materials used during construction would consist primarily of small volumes of petroleum hydrocarbons and their derivatives (e.g., fuels, oils, lubricants, and solvents) required for the operation of construction equipment. Materials would be those routinely associated with the operation and maintenance of heavy construction equipment or other support vehicles, including gasoline, diesel fuels, and hydraulic fluids. In addition, it is anticipated that small quantities of additional common hazardous materials would be used and produced on-site during construction, including antifreeze and used coolant, latex and oil-based paint, paint thinners and other solvents, cleaning products, and herbicides.

Soils, surface water, groundwater, or members of the public could be affected if a spill of motor vehicle fuel or transformer fluid were to occur as a result of transportation of these materials to any of the component sites during project construction. However, such materials are routinely safely transported on public roadways. The transport of large quantities of hazardous materials is strictly regulated by the CHP, and the transport of oversize/overweight loads is regulated by



Caltrans. Large quantities of hazardous materials used during project construction would be transported along regulated routes by a licensed transporter, and would therefore not pose a substantial hazard to people or the environment.

Operation. The purpose of the project is to remove hazardous pollutants from stormwater that would normally flow untreated into the Pacific Grove Area of Special Biological Significance (ASBS). This would require the filtration and limited storage of these pollutants to occur on-site at each component. During heavy rain events, stormwater runoff, with potentially high levels of pollutants, would move throughout the pipelines and stormwater equalization/storage facilities proposed by this project. The pollutants would include typical urban runoff, which may include: trash, automotive fuels, pesticides/herbicides and fertilizers, detergents, animal feces, automotive residues, and other anthropogenic sources of sediment, nutrients, metals, and hydrocarbons. Exposure to these types of contaminants would have the potential to cause a significant impact to the public or the environment

Together, the five components of the project would redirect flows from the ASBS watershed area. Harmful exposure to urban pollutants as a result of the proposed project is not likely to occur unless the concentrations of pollutants in the diverted runoff are high and remain so after treatment. As water would be treated at either the proposed Point Pinos Stormwater Treatment Facility or the existing MRWPA WTP (rather than entering the Pacific Grove ASBS directly), water quality conditions would improve as a result of the proposed project. Additionally, the proposed project would be required to comply with the requirements of the Monterey Regional Water Pollution Control Agency (MRWPA) Special Discharge Permit.

Operation and maintenance of some project components may involve periodic and routine transport, use, and disposal of minor amounts of hazardous materials, primarily petroleum products (fuels and lubricating oils). These impacts are discussed for each project component below.

David Avenue Reservoir. The David Avenue Reservoir improvements would not be expected to require the use of substantial amounts of hazardous materials during operation. However, if any hazardous materials are used at the site, they would be required to be stored and disposed of in accordance with applicable regulations. Minor spills or releases of such hazardous materials could occur due to improper handling and/or storage practices during operation or transportation activities and result in health and safety hazards for CalAm employees, adjacent residents, and/or maintenance workers. Motorized equipment used at the project site could leak hazardous materials, such as motor oil, transmission fluid, or antifreeze, due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error. This type of leak could occur on the project site as well as on vehicle/equipment routes between off-site origination points and the project site. Potential impacts related to minor spills would be largely avoided by training maintenance personnel in the handling and storage of hazardous materials in compliance with OSHA standards. Compliance with existing laws and regulations governing the transport, use and storage of hazardous materials and wastes as well as use of appropriately trained employees would reduce impacts related to exposure of the public or environment to hazardous materials to less than significant.



After construction, the David Avenue Reservoir would store untreated stormwater runoff from the New Monterey portion of the ASBS Watershed. As described above, this runoff may include potentially hazardous materials. However, the reservoir would be lined with a double layer geosynthetic liner, which would prevent water impounded in the reservoir from infiltrating into the soils at the site. In addition, water stored at the reservoir would eventually be conveyed to the proposed Point Pinos Stormwater Treatment Facility, which would treat the water prior to release into the ASBS and/or application for irrigation. Thus, the project as a whole would improve water quality, thus reducing exposure to hazardous materials.

Pine Avenue Conveyance. The Pine Avenue Conveyance improvements would not require the use or storage of hazardous materials. However, this component would convey and temporarily store stormwater runoff, which may contain hazardous substances. This runoff would eventually be conveyed to the proposed Point Pinos Stormwater Treatment Facility, which would treat the water prior to release into the ASBS and/or application for irrigation. Thus, the project as a whole would improve water quality, thus reducing exposure to hazardous materials.

Ocean View Boulevard Conveyance. The Pine Avenue Conveyance improvements would not require the use or storage of hazardous materials. However, this component would convey and temporarily store stormwater runoff, which may contain hazardous substances. This runoff would eventually be conveyed to the proposed Point Pinos Stormwater Treatment Facility, which would treat the water prior to release into the ASBS and/or application for irrigation. Thus, the project as a whole would improve water quality, thus reducing exposure to hazardous materials.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The Point Pinos Stormwater Treatment Facility is proposed to implement a UV disinfection approach to water treatment, which eliminates the need for permanent chemical storage on-site. In addition, the filters that are currently proposed for treatment do not use chemicals as part of their backwash process. It is expected that chemicals may be used as part of the regular quarterly or annual cleaning of the filters, but no chemicals would be stored on-site as part of the cleaning process. Backwash water would be carefully managed and taken off-site for disposal. The transportation of these chemicals would occur infrequently and is not a significant concern.

During the operation of the proposed Stormwater Treatment Facility, suspended solids would be filtered out of the stormwater. A rotary screen would collect the pollutants and implement a helical screw system to lift and dewater the waste before conveying it to a dumpster. The waste would then be dried and stored on-site before being disposed of at the Marina Regional Solid Waste Management Facility.

As required by OSHA Standard 1910.120, *Hazardous Waste Operations and Health Standards*, safety training would be conducted prior to construction to educate personnel of potential safety issues. Compliance with all applicable regulations, including OSHA and Cal/OSHA would ensure that all fuels, fluids, and components with hazardous materials or hazardous wastes would be handled properly and kept in segregated storage with secondary containment, as necessary. In compliance with RCRA regulations, the City would maintain all records of storage and inspection and provide for proper off-site disposal.



Compliance with existing laws and regulations governing the transport, use, and storage of hazardous materials and wastes as well as use of appropriately trained employees would reduce impacts related to exposure of the public or environment to hazardous materials to less than significant.

Diversions to Monterey Regional Water Pollution Control Agency (MRWPCA). The Diversions to MRWPCA improvements would not require the use or storage of hazardous materials. However, this component would convey stormwater runoff, which may contain hazardous substances. This runoff would eventually be conveyed to the MRWPCA WTP for treatment. Thus, the project as a whole would improve water quality, thus reducing exposure to hazardous materials.

Mitigation Measures. No mitigation measures are required beyond compliance with existing laws and regulations governing the transport, use, and storage of hazardous materials.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-2 **Underground utilities lines may be located beneath the project component areas. Construction of the proposed project would be affected by the presence of these lines. Impacts would be Class II, *significant but mitigable.***

Underground utilities may traverse the project component sites, especially the Pine Avenue Conveyance, Ocean View Boulevard Conveyance, and Diversions to MRWPCA, which would be located primarily within existing roadways. The specific alignment of such utilities has not been determined, but utility lines are frequently located under roadways and may pass through the David Avenue Reservoir or Point Pinos Stormwater Treatment Facility sites to service other properties. Grading and excavation for pipeline installation and other improvements could strike an unidentified or improperly identified underground utility, resulting in potential safety concerns for on-site workers. As such, construction activities could result in potentially significant impacts related to underground utilities.

Mitigation Measures. The following mitigation measure is required to reduce potential impacts associated with the presence of known and potentially unknown underground utility lines.

HAZ-2 **Utility Line Location and Consultation.** Prior to construction of each project component, the contractor shall determine the presence and exact location of any underground utility lines that correspond to the project area. In addition, the presence of any above-ground utility lines in close proximity to the project area shall be determined.

If any utility lines are found to be in proximity to a project component, the contractor shall contact the utility line operator regarding any regulations for grading and construction activities near the lines. The project component shall be constructed and



designed in compliance with all regulations and policies set forth by the City of Pacific Grove.

Significance After Mitigation. Implementation of the above mitigation measure would reduce impacts related to underground utilities to a less than significant level.

Impact HAZ-3 **The proposed project has components that are within $\frac{1}{4}$ mile of a school. However, the proposed project would not include the handling or emitting of acutely hazardous materials; therefore, impacts would be *less than significant*.**

The closest school to the project site is Robert Down Elementary School, which is adjacent to the proposed Pine Avenue Conveyance Component of the project. Pacific Grove Middle School is also located 0.1 miles north of the David Avenue Reservoir and approximately 0.5 miles southwest of the Diversions to MRWPCA components of the project. Construction activities may result in temporary hazardous emissions; however, as identified in Section 4.2, *Air Quality*, these emissions would be reduced to less than significant levels. In addition, as described under Impact HAZ-1 above, none of the project components would be expected to require the use or transport of substantial amounts of hazardous materials during either construction or operation. Minor quantities and releases of hazardous materials would be less than significant pursuant to compliance with existing laws and regulations. Because no project component located within $\frac{1}{4}$ mile of a school would require the handling of substantial amounts of hazardous materials, impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-4 **Some project components would be located on or near site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Grading associated with construction could expose construction workers to health hazards by releasing contaminants that could be present in the soil or groundwater. This construction-related hazard is a Class II, *significant but mitigable impact*.**

David Avenue Reservoir. As noted in Section 4.7.1(a) (Known On-Site and Adjacent Hazardous Materials Contamination), two USTs were removed from the David Avenue Reservoir. No soil contamination was found during removal. In addition, there are two documented releases of hazardous materials within one-half mile of the David Avenue Reservoir (the Kern Property, and the Pacific Grove Naval Reserve Center). The Kern Property release did not affect groundwater and would not pose a risk to the David Avenue Reservoir, and the Naval Reserve Center release was closed as of May 2010 (SWRCB, 2013). Because none of these listings would be expected to affect the site, construction of the David Avenue Reservoir would not expose construction workers to health hazards.



Pine Avenue Conveyance. As discussed in Section 4.7.1(a) (Known On-Site and Adjacent Hazardous Materials Contamination), a LUST at the Pacific Grove Fire Department has contaminated groundwater. However, the Pine Avenue Conveyance component of the project is located hydrologically upgradient of this site. Therefore, this release does not have the potential to contaminate the project area. Construction of the Pine Avenue Conveyance improvements would not expose construction workers to health hazards

Ocean View Boulevard Conveyance. As discussed in Section 4.7.1(a) (Known On-Site and Adjacent Hazardous Materials Contamination), there are five hazardous materials sites with the potential to impact this component of the proposed project. All five cases have either affected soil and groundwater near the site (and have not yet been remediated), or have the potential to result in contaminated groundwater in the area. Grading associated with construction of this project component could expose construction workers to health hazards by releasing contaminants that could be present in the soil or groundwater. Therefore, the impact is potentially significant and mitigation is required.

Point Pinos Stormwater Treatment Facility and Crespi Pond. As discussed in Section 4.7.1(a) (Known On-Site and Adjacent Hazardous Materials Contamination), there is one documented release of hazardous materials within one-half mile of this project component. However, this release is hydrologically downgradient of this project component. Therefore, this release does not have the potential to contaminate the project area.

In addition, there are two cleanup sites located nearby, one at the Point Pinos Lighthouse and one at the Pacific Grove Naval Reserve Center. The Naval Reserve Center was closed by DTCS. The Point Pinos Lighthouse site consisted of lead contamination in the soil immediately adjacent to the lighthouse structure, which is 650 feet from the proposed Point Pinos Stormwater Treatment Facility. Given this distance and the fact that groundwater was not contaminated, this listing would not affect soil or groundwater at the project site.

Diversions to MRWPCA. As discussed in Section 4.7.1(a) (Known On-Site and Adjacent Hazardous Materials Contamination), there are no known hazards located within close proximity of this project component.

Mitigation Measures. The following mitigation measure is required for the Ocean View Conveyance component of the project; the remaining four project components do not require mitigation.

- HAZ-4 Soil and Groundwater Sampling and Remediation.** Prior to issuance of grading permits for the Ocean View Boulevard Conveyance improvements, a soil and groundwater assessment shall be completed for that component under the supervision of a professional geologist, hydrologist or professional civil engineer to determine the presence or absence of contaminated soil and groundwater. If soil or groundwater sampling of areas to be disturbed indicates the presence of any contaminant in quantities not in compliance with applicable laws or regulations, the construction contractor shall coordinate with the City of Pacific Grove Public Works Department and Monterey County



Environmental Health Bureau to develop and implement a program to remediate or manage the contaminated soil during construction. Disposal shall occur at an appropriate facility licensed to handle such contaminants and remedial excavation shall proceed under the supervision of an environmental consultant licensed to oversee such remediation. The remediation/disposal program shall be approved by City of Pacific Grove Public Works and Monterey County Environmental Health. The construction contractor shall submit all correspondence to City of Pacific Grove prior to issuance of grading permits. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation/disposal, a qualified environmental consultant shall prepare a report summarizing the project, the remediation/disposal approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.

Significance After Mitigation. With implementation of the above measure, impacts related to exposure of hazardous materials during construction would be reduced to a less than significant level.

d. Cumulative Impacts. Additional development within the ASBS watershed area, including a storm drain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue, a Lovers Point storm drain retrofit, and the Pacific Grove Local Water Project (PGLWP), would cumulatively increase the potential for exposure to hazards and hazardous materials. The proposed Monterey-Pacific Grove ASBS Stormwater Management Project would incrementally contribute to this cumulative effect. However, all new development would be subject to review by the City of Pacific Grove and subject to applicable regulations in place to minimize any potential hazards. Impacts associated with individual developments would be addressed on a case-by-case basis and appropriate mitigation would be designed to mitigate impacts resulting from individual projects, depending upon the type and severity of hazards present. Assuming that all hazards are adequately addressed for each individual development proposal, cumulative impacts related to hazards and hazardous materials would be less than significant.



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4.8 HYDROLOGY AND WATER QUALITY

4.8.1 Setting

a. Regional Hydrology. The project site is located in the Central Coast Hydrologic Region. This region covers approximately 7.22 million square miles and includes all of Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara counties, as well as parts of San Benito, San Mateo, Santa Clara, and Ventura counties. Major geographic features that define the region include the Pajaro, Salinas, Carmel, Santa Maria, Santa Ynez, and Cuyama valleys; the coastal plain of Santa Barbara; and the Coast Range. The region is largely defined by the northwest-trending southern Coast Range (California Department of Water Resources, 2009).

The project site is situated almost entirely within the City of Pacific Grove, which does not directly overlie a groundwater basin. The City of Pacific Grove is located between the Salinas Valley Seaside Area Sub-basin, which lies east of Pacific Grove in the vicinity of Seaside, Marina, and the former Fort Ord (IWRIS, 2013) and the Carmel Valley Groundwater Basin, which is located to the south, within the Carmel River Valley.

Watershed. The proposed project encompasses the watershed that drains to the Pacific Grove Area of Special Biological Significance (ASBS) (see Figure 2-3 in Section 2.0, *Project Description*). This watershed area includes much of the City of Pacific Grove and a portion of the City of Monterey (New Monterey). The ASBS watershed is subdivided into four smaller watershed management areas (see Figure 2-3) that are further described below.

- *Area 1 includes the New Monterey drainage. Runoff from this area would be directed to a restored David Avenue Reservoir and ultimately to a new Point Pinos Stormwater Treatment Facility located at the retired PGWTP.*
- *Area 2 is north of David Avenue and southwest of Pine Avenue. Runoff from this area would drain to Pine Avenue for conveyance northwest towards the new Point Pinos Stormwater Treatment Facility.*
- *Area 3 includes a portion of Pacific Grove that is outside and northwest of the existing dry weather diversion system. Runoff from this area would be conveyed to the new Point Pinos Stormwater Treatment Facility at the retired PGWTP.*
- *Area 4 includes the lower Pacific Grove drainage area below Pine Avenue and lower New Monterey drainage. Runoff from this area drains to an existing urban diversion system, which directs dry-weather flows to the Monterey Regional Water Pollution Control Agency (MRWPCA). The existing system would be upgraded to convey dry and wet weather flows to the MRWPA Regional Wastewater Treatment Plant for treatment and reuse.*

Water Quality. Discharges to the ASBS have been monitored over the past decade by a variety of stakeholders and volunteers in a collaborative effort to educate, monitor and protect marine resources in the Monterey Bay. While there are a variety of water quality parameters that have been measured by independent groups, these are not necessarily adequate to characterize the baseline conditions moving forward as the tests that were performed by these independent groups may not be sensitive enough or meet the testing requirements of the State Water Resources Control Board (SWRCB). Thus, standardized monitoring is required moving forward pursuant to the requirements of SWRCB Resolution No. 2012-0012. The standardized



monitoring is intended to provide a uniform baseline by which to measure future improvements in ocean discharges and receiving water quality.

First Flush Report. The Monterey Bay Sanctuary Citizen Watershed Monitoring Network (the Network) is a consortium of citizen monitoring groups that monitor the health of the eleven watersheds flowing into the Monterey Bay National Marine Sanctuary. Since 1997, the Network has provided support, training, and a central forum for citizen monitoring programs creating integrated, long-term, volunteer-based water quality and watershed monitoring programs within the Monterey Bay National Marine Sanctuary and its accompanying watersheds. The group has monitored concentrations of nitrate (NO₃-NO₃), Orthophosphate (PO₄-P), Total coliform, Escherichia coli. (E. coli), total dissolved solids (TDS), total suspended solids (TSS), oil and grease, zinc, copper, iron, and lead. In recent years, these efforts for the cities of Pacific Grove and Monterey have been folded into a larger Monterey Regional Storm Water Management Program (MRSWMP) Monitoring Program to assist with permit compliance regionally with shared resources while also continuing to engage local volunteers in water quality protection.

Urban Watch. The Urban Watch Water Quality Monitoring Program (Urban Watch) was a collaborative effort between the cities of Monterey, Pacific Grove, Capitola, the Coastal Watershed Council, and the Monterey Bay National Marine Sanctuary to perform dry weather volunteer monitoring. Since 1998, Urban Watch provided a way for local residents and community members to become involved in learning more about water quality, urban pollution issues and to assist in the collection and testing of urban runoff. Urban Watch volunteers collected water samples and conducted basic field analysis using an U.S. Environmental Protection Agency (USEPA) approved LaMotte Storm Drain Pollution Detection Kit to detect detergents and chlorine, and a Hach photometer for ammonia and orthophosphate. The Urban Watch program helped identify and implement targeted projects and educational programs aimed at addressing urban pollutants entering the Monterey Bay National Marine Sanctuary. Such projects include a dry weather diversion system for storm drain flows in Pacific Grove, outreach to local restaurants in Monterey, and outreach to auto shops in Santa Cruz and Monterey. In recent years, dry-weather volunteer monitoring efforts have been incorporated into the MRSWMP Monitoring Program, which assists with permit compliance on a regional level through shared resources while continuing to engage local volunteers in water quality protection.

Baseline Data Monitoring Program. As indicated in Section 2.0, *Project Description*, the water quality parameters that define “natural water quality,” as well as impacts from existing stormwater discharges into the Pacific Grove ASBS, are currently unknown. SWRCB Resolution No. 2012-0012 requires standardized monitoring of core discharges and ocean receiving water monitoring by participating parties to provide a baseline condition upon which the effectiveness of the pollutant reductions will be measured. Monitoring is mandatory for all dischargers to assure compliance with the Ocean Plan.

Water quality monitoring pursuant to the Central Coast ASBS Regional Monitoring Program is being implemented during the 2012-13 and 2013-14 storm seasons and includes all ASBS responsible parties on the Central Coast, covering an area from Big Sur in Monterey County to Point Reyes in Marin County. The results of the Central Coast ASBS Regional Monitoring will



establish the “natural water quality” objectives to be met by the ASBS Special Protections. The receiving water samples will be monitored for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), ammonia and nitrogen. Sediment samples will be analyzed for Ocean Plan Table 1 metals (for marine aquatic life beneficial use), acute toxicity (using Eohaustorius estuaries), PAHs and tributyltin. The stormwater treatment process target pollutants and reduction levels will be determined based upon findings from this water quality monitoring effort. If receiving water monitoring determines the natural water quality is degraded, target pollutants and removal levels will be determined. If implemented, the proposed project is intended to satisfy the ASBS Special Protection requirements and protect natural water quality if found degraded. If monitoring determines that the cities are already in compliance with the ASBS Special Protections, the proposed project would not be required and would therefore not be pursued.

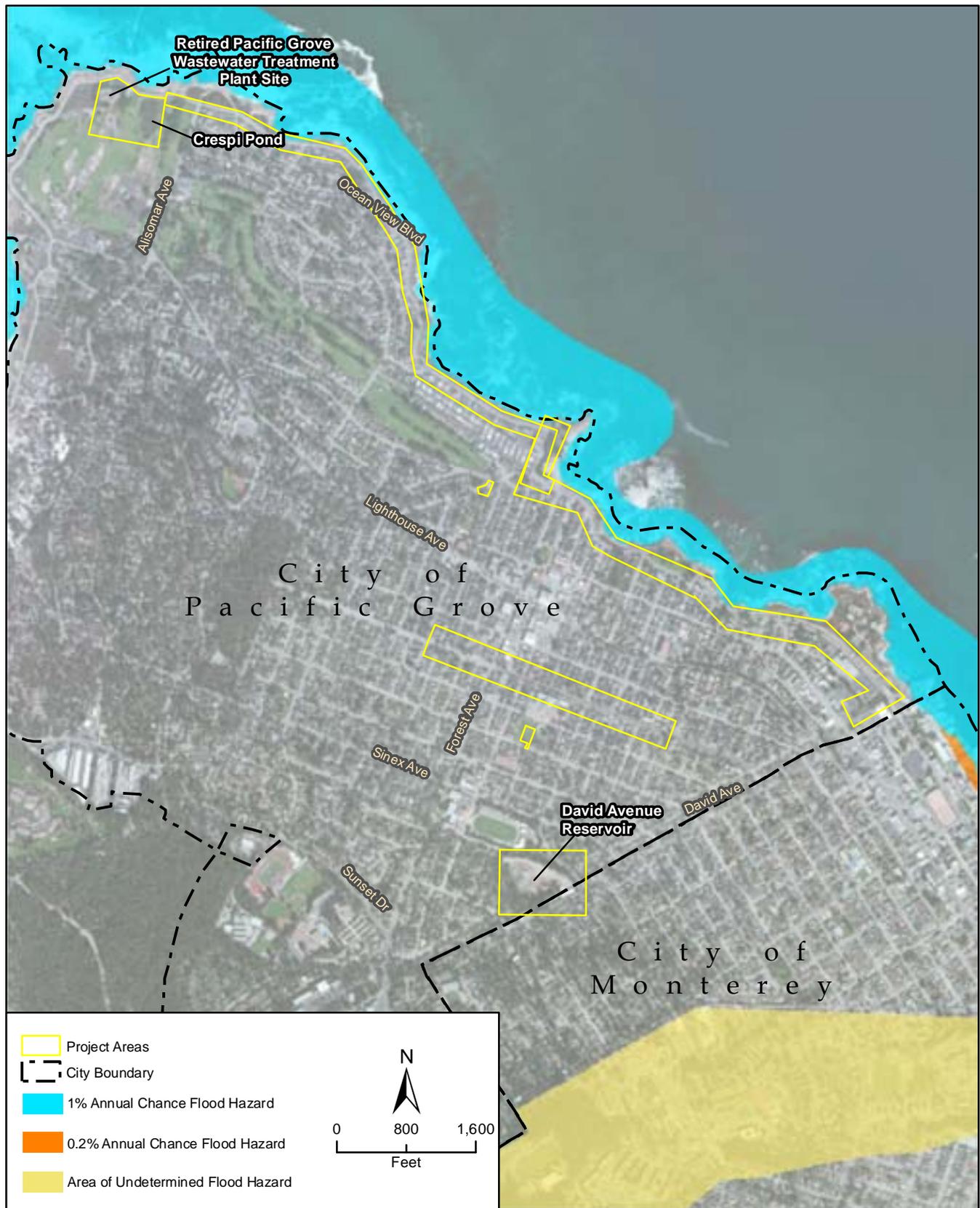
b. Flood Hazards.

FEMA Flood Hazard Zones. The Federal Emergency Management Agency (FEMA) establishes base flood heights for the 100-year flood zone. The 100-year flood zone is defined as the area that could be inundated by the flood which has a one percent probability of occurring in any given year. The 500-year flood zone is defined as the area that could be inundated between the limits of the base flood and the 0.2-percent-annual-chance flood. As shown in Figure 4.8-1, none of the project components are located in an area subject to flooding hazards. It is noted that some of the polygons delineating the project component sites on Figure 4.8-1 overlap slightly with the 100-year flood designation; however, this is just a mapping issue as the actual improvements do not extend to the edges of the polygons. The proposed improvements are not located in the 100-year flood hazard area.

Tsunami. A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during very large earthquakes. Sudden vertical movement of the ocean floor by fault movement displaces the overlying water column, creating a wave that travels outward from the earthquake source. An earthquake anywhere in the Pacific Ocean can cause tsunamis around the entire Pacific basin. Since the Pacific Rim is highly seismically active, tsunamis are not uncommon (City of Santa Cruz, 2011). Tsunami hazards are mapped on Figure 4.8-2. The David Avenue Reservoir and Pine Avenue Conveyance improvements are outside of the tsunami inundation zone, while the remaining project components (Ocean View Boulevard Conveyance, Point Pinos Stormwater Treatment Facility and Crespi Pond, and Diversions to Monterey Regional Water Pollution Control Agency [MRWPCA]) are located within a potential tsunami inundation zone as modeled by the USC model (County of Monterey, 2007).

Typical peak wave heights from large tsunamis in the Pacific Ocean over the past 80 years have ranged from 21 to 45 feet at the shoreline (County of Monterey, 2007). However, a few waves have been higher and were up to 100 feet locally at the shoreline (*ibid*). Figure 4.8-2 shows the potential from a typical peak wave height as a moderate hazard, while the waves exceeding the 45 foot typical wave height are characterized as an extreme tsunami hazard zone. The tsunami inundation zone is shown as outlined in green on Figure 4.8-2. The figure also shows





Imagery provided by ESRI and its licensors ©2013. Additional data provided by Federal Emergency Management Agency National Flood Hazard Layer (NFHL) Web Map Viewer, November, 2013, Fall Creek Engineering and the City of Pacific Grove, 2013.

FEMA Flood Zones

Figure 4.8-1



Drawing source: County of Monterey Office of Emergency Services, Multi-Jurisdictional Hazard Mitigation Plan, Monterey County, California, 2007.

Tsunami Hazard Areas

Figure 4.8-2
 City of Pacific Grove

a moderate tsunami run-up area and an extreme tsunami run-up area. The moderate tsunami run-up area is shown in a light purple color and includes those areas below 21 feet mean sea level (MSL). The extreme tsunami run-up area is shown in a darker purple color and covers areas that are situated between 21 feet and 50 feet MSL.

There have been eight observed tsunamis generated waves in Monterey County over the last 200 years (Monterey County, 2007). In addition, the March 11, 2011, magnitude 9.0 Honshu earthquake in Japan generated a tsunami observed over the Pacific region and caused tremendous devastation in Japan. This is the fourth largest earthquake in the world and the largest in Japan since instrumental recordings began in 1900 (NOAA, 2013). The tsunami affected numerous areas, but locally in the Monterey Bay area the maximum run up wave height was 0.70 meters (2.3 feet) in the City of Monterey, 1.90 meters (6.2 feet) in Santa Cruz Harbor, and 2.0 meters (6.6 feet) in Moss Landing (NOAA, 2013). In Monterey County the greatest amount of damage was sustained at Moss Landing, where there were 200 damaged pilings and 20,000 cubic yards of extra sediment deposited in the Moss Landing Harbor. The damage was not at first apparent, but two months after the event, the Moss Landing Harbor District filed a claim with the California Emergency Management Agency for \$1.75 million in damages (Monterey County Weekly, May 26, 2011).

Almost all of the tsunamis were produced by earthquakes and resulted in wave run-ups of one meter (3.2 feet) or less. A tsunami in 1960 produced severe currents in Monterey, Moss Landing, and Pacific Grove and is blamed for one death. Monterey County has experienced nine tsunamis over the past 100 years and has been impacted significantly by two. Although these numbers could be averaged to generate an expected occurrence rate, there have been as few as three and as many as 45 years in between events, and an averaged recurrence interval would not be meaningful. According to the *Multi-Jurisdictional Hazard Mitigation Plan* (Monterey County, 2007), the probability that Monterey County will experience a tsunami is estimated to be high (one event in every three to 45 years, averaging a 1-foot to 11-foot run-up for all coastal and low-lying areas within the County).

Seiche. As defined by the United State Geological Survey (USGS), seismic seiches are standing waves set up on rivers, reservoirs, ponds, and lakes when seismic waves from an earthquake pass through the area. They are in direct contrast to tsunamis which are giant sea waves created by the sudden uplift of the sea floor. Seiches west of the Rockies are very rare and there is limited evidence of damage from seiches in California (USGS, December 2013). Therefore, the project site components are not considered to be within a seiche hazard area.

Dam Failure. Dam failures can result in severe flood events. A dam failure is usually the result of neglect, poor design, or structural damage caused by a major event such as an earthquake. The proposed project involves the rehabilitation of the David Avenue Reservoir and activation of the reservoir as a stormwater holding facility. Figure 4.8-3 shows the projected dam inundation area, based on the historical water storage capacity at the reservoir. It should be noted that the previous water storage capacity was 56 acre feet, while the proposed rehabilitated structure would contain 49.15 acre feet of water.





Drawing source: County of Monterey Office of Emergency Services, Multi-Jurisdictional Hazard Mitigation Plan, Monterey County, California, 2007.

Dam Failure Hazard Areas

Figure 4.8-3
City of Pacific Grove

Sea Level Rise. According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. The study identifies a sea level rise on the California coast over the past century of approximately eight inches. Based on the results of various global climate change models, sea level rise is expected to continue. The California Climate Adaptation Strategy (December 2009) estimates a sea level rise of up to 55 inches by the end of this century.

In Monterey County, higher sea levels would allow waves and tides to travel farther inland, exposing beaches, cliffs, and coastal dunes to more persistent erosional forces. Statewide, a 4.6 foot rise in sea level has the potential to erode approximately 41 square miles of coastline by the end of the century (Center for Ocean Solutions, 2013). The southern portion of Monterey Bay is eroding more rapidly than other regions in the state, with coastal dunes between the Salinas River mouth and Wharf II in Monterey eroding at rates between one and six feet per year (*ibid*). A total of approximately 4.4 square miles of coastline is susceptible to erosion, and the maximum distances coastal dunes and sea cliffs are expected to retreat in this region are approximately 1,300 and 720 feet, respectively (*ibid*).

The Pacific Institute (2009) has developed a series of coastal hazard maps for the entire coast of California, including in the vicinity of the proposed project (refer to Figure 4.8-4). These maps illustrate the projected sea level rise and landward extent of erosion under a moderate sea level rise scenario. These maps show that the sea level rise scenario (coastal 100-year base flood plus 55 inches) would extend only a short distance further inland than existing conditions in the vicinity of project components near the coastline. For example, under existing conditions, the 100-year coastal base flood would extend inland approximately 100 feet in the vicinity of the Ocean View Boulevard conveyance facilities; with sea level rise projections, this flood could extend an additional 60 to 100 feet inland (refer to Figure 4.8-4). For areas near downtown Monterey, where the topography is generally flat adjacent to the coast, both the base flood and the sea level rise scenario extend substantially further inland (1,800 feet inland during the base flood, extended 250 feet with sea level rise; see Figure 4.8-4). Most project components would not be subject to substantial effects from sea level rise according to these maps; however, several components of the proposed project are located along coastal areas that could be subject to sea level rise.

c. Drainage. Storm drains within the City of Pacific Grove currently discharge stormwater through 25 outfalls to the Pacific Grove ASBS. Upper New Monterey also contributes flows into select Pacific Grove watersheds with outfalls to the Pacific Grove ASBS. Under existing conditions along Ocean View Boulevard, dry weather flows between Lovers Point and eastward to Eardley Avenue are diverted to the MRWPCA Regional Treatment Plant (RTP) prior to discharge into the ocean or being recycled on central coast farmlands. Currently, wet weather flows are not diverted for treatment between Lovers Point and Eardley Avenue. Under existing conditions west of Lovers Point to Point Pinos, stormwater is currently discharged untreated to the Pacific Ocean ASBS under both dry and wet weather conditions.





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Additional data provided by Pacific Institute, 2009

Projected Sea Level Rise

Figure 4.8-4

d. Regulatory Setting.

Federal.

Federal Clean Water Act. In 1972, Congress passed the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), with the goal of “restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). The CWA directs states to establish water quality standards for all “waters of the United States” and to review and update such standards on a triennial basis. Section 319 mandates specific actions for the control of pollution from non-point sources. The USEPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) Program, to the SWRCB and the nine Regional Water Quality Control Boards (RWQCBs).

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body’s designated beneficial use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. Water quality standards applicable to the project are contained in the *Water Quality Control Plan for the Central Coast Basin* (Basin Plan).

Section 303(d) of the CWA bridges the technology-based and water quality-based approaches for managing water quality. Section 303(d) requires that states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the USEPA administrator deems they are appropriate), states are to develop “total maximum daily loads” (TMDL). TMDLs are established at the level necessary to implement the applicable water quality standards.

Section 401 of the CWA requires water quality certification for any activity, including the construction or operation of a facility, which may result in any discharge into navigable waters (Title 33 CFR §1341).

Section 404 of the CWA prohibits the discharge of any pollutants into “waters of the United States,” except as allowed by permit. 33 C.F.R. § 328.3(a)(3). Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (Corps) to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other waters of the United States. Under the CWA and its implementing regulations, “waters of the United States” are broadly defined to consist of rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands.

National Pollution Discharge Elimination System (NPDES). The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the “maximum extent practicable” through the use of best management practices (BMPs). The NPDES permit system was established in the CWA to regulate point source discharges (a municipal or industrial discharge at a specific location or pipe) and certain types of diffuse discharges, including urban stormwater and construction site runoff.



The SWRCB permits all regulated construction activities under NPDES General Permit for Storm Water Discharges Associated with Construction Activity (adopted September 2, 2009) (the "Construction General Permit"). Every construction project that disturbs one or more acres of land surface or that are part of a common plan of development or sale that disturbs more than one acre of land surface would require coverage under this Construction General Permit. To obtain coverage under this Construction General Permit, the landowner or other applicable entity must file Permit Registration Documents (PRDs) prior to the commencement of construction activity, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by the Construction General Permit, and mail the appropriate permit fee to the SWRCB. Since the proposed project (including all five components) would disturb more than one acre, construction of the project would be subject to this Construction General Permit requirements.

Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least one acre of total land area. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges. BMPs are intended to reduce impacts to the Maximum Extent Practicable (MEP).

Monterey Bay National Marine Sanctuary. The Monterey Bay National Marine Sanctuary was officially designated by the federal government in September 1992 to protect an enormous variety of marine mammals, seabirds, fish, plants, and animals. This is the largest marine sanctuary in the country with an area of 4,024 square nautical miles. The law that created the sanctuary establishes a permanent ban on exploring for, developing, or producing oil, gas, and minerals throughout the sanctuary.

State.

Porter-Cologne Water Quality Act. The Porter-Cologne Water Quality Control Act establishes the SWRCB and each RWQCB as the principal State agencies for coordinating and controlling water quality in California. Specifically, the Porter-Cologne Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and groundwater) and directs the RWQCBs to develop regional Basin Plans.

The Central Coast RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters in its jurisdiction. Water quality objectives for receiving waters within Monterey County are specified in the Water Quality Control Plan for the Central Coast Basin (Basin Plan) prepared by the RWQCB in compliance with the federal CWA and the State Porter Cologne Act. The principal elements of the Basin Plan are a statement of beneficial water uses protected under the plan; water quality objectives necessary to protect the designated beneficial water uses; and strategies and time schedules for achieving the water quality objectives. Together, narrative and numerical objectives define the level of water quality that shall be maintained in the region. The water quality objectives are achieved primarily through the establishment and enforcement of waste discharge requirements (WDRs).



The RWQCBs have primary responsibility for issuing WDRs. The RWQCBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders (CAOs) or Cease and Desist Orders (CDOs), assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief.

The Pacific Grove ASBS is one of 34 SWRCB-designated ASBS areas along the California Coast. These areas are defined as “ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable” (SWRCB Resolution No. 2012-0012). The California Ocean Plan (Ocean Plan) originally adopted in 1972 and most recently revised in 2012, establishes water quality objectives for California’s ocean waters and provides the basis for regulation of point and non-point source discharges into the State’s coastal waters.

On March 20, 2012, the SWRCB adopted the “General Exception and Special Protections for the California Ocean Plan Waste Discharge Prohibition for Stormwater and Nonpoint Source Discharges” into the ASBS. The “Special Protections” have since been incorporated in the SWRCB’s Order No. 2013-0001-DWQ, NPDES No. CAS000004 [National Pollutant Discharge Elimination System (NPDES) General Permit For Waste Discharge Requirements (WDRs) For Storm Water Discharges From Small Municipal Separate Storm Sewer Systems (MS4s)]. The “Special Protections” are also part of a General Exception to the California Ocean Plan (COP), which states, “Waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas” (*ibid*). Generally, the Ocean Plan:

- *Is the basis for regulation of wastes discharged in coastal waters and establishes water quality objectives for discharges as measured in the ocean receiving water; and*
- *Applies to point (typically outfall pipes) and non-point (typically overland flow) source waste discharges.*

The principle requirements in the General Exception and Special Protections are:

- *Elimination of non-stormwater urban runoff (e.g. dry weather discharges) into the ASBS;*
- *Ensuring that wet weather flows do not alter “natural water quality;” Ocean receiving water monitoring to ensure marine life and other beneficial uses are protected;*
- *If receiving water monitoring finds natural water quality is degraded by stormwater discharges, reducing pollutant loads by 90% during wet-weather;*
- *Eliminating all trash from outfalls and discharges;*
- *Structural Best Management Practices (BMPs) to reduce pollutants, debris (e.g., street sweeping and storm drain inserts), and larger particles (e.g., detention basins and vortex units); and*
- *Non-structural BMPs such as construction site and commercial and industrial inspections, and public education and outreach.*



The “Special Protections” and “General Exception” apply statewide in lieu of individual exceptions.

Local. Section 24.06.020 of Pacific Grove’s Subdivision Ordinance is intended to control the erosion-inducing effects of development. Section 9.30 of the Municipal Code permits the City Public Works Department to identify and require construction BMPs. These practices may include, but are not limited to: perimeter control (use of gravel bags, silt fences, and straw wattles); construction material storage (covered when not in use); dirt and grading measures (daily watering of dirt and travel mounds; covering during the rainy season [October 15 – April 15]); and storm drain measures (use of perimeter controls). Compliance with these existing requirements would reduce construction-related erosion impacts to a less than significant level. The City also requires that temporary cover or mulching be used to protect bare soil and slopes to mitigate erosion hazards during construction in rainy periods.

City of Pacific Grove General Plan. The City of Pacific Grove General Plan contains several policies related to hydrology and water quality. The General Plan designates the Monterey Bay as a significant marine resource and Crespi Pond as an important freshwater resource for migratory birds. Policy 16 of the Public Facilities Element directs the City to “Promote the recovery of usable water from the storm drain system.” Policy 8 of the Natural Resources Element directs the City to “cooperate with State and federal agencies in reducing impacts from urban runoff.” Consistency with specific hydrology and water quality policies that apply to the project is provided in Section 4.9, *Land Use and Planning*.

City of Monterey General Plan. Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. Construction of these improvements would require approval of a Use Permit, a Street Opening Permit, a Building Permit, and potentially a Tree Removal Permit (if trees would be removed in the final design) from the City of Monterey. In addition, as a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR. Therefore, the project would be subject to City of Monterey policies and programs. The General Plan Conservation Element contains goals and policies pertaining to water quality, including non-point source pollution and urban stormwater runoff. In addition, the General Plan Public Facilities Element contains goals and policies related to the City’s storm drain system and water supply.

4.8.2 Impact Analysis

a. Methodology and Significance Thresholds. This evaluation is based in part on the *Revised Draft Engineering Report* prepared for the project (Fall Creek Engineering, Inc. [FCE], July 22, 2013; see Appendix G). In addition, a *Preliminary Engineering Report* (FCE, 2013) was used to document runoff quantities and methodology.

Hydraulic Methodology. To estimate the peak flow during the design storm, FCE employed Autodesk’s Storm and Sanitary Sewer Analysis (SSA) software. SSA is a computer model that simulates watershed, pipeline, and water-control structure hydrology and hydraulics and estimates peak discharge (flow) and timing. SSA calculates runoff by computing



the volume of water that is intercepted, infiltrated, stored, evaporated or transpired and subtracting it from the precipitation.

Design Storm Runoff Volume Estimation. The runoff volume computations were conducted employing the SCS Curve Number Loss Method and SCS Unit Hydrograph Model for transformation of direct runoff. The SCS Curve Number Loss Method implements the curve number methodology of incremental losses. The SCS Unit Hydrograph Model is an empirical method, which “transforms” excess precipitation into peak runoff and calculates the volume of runoff over a specified time period. A 24-hour design storm was selected with a rainfall volume of 0.8 inches for the 85th percentile event. The 85th percentile design storm depth was obtained from the Central Coast RWQCB. The ASBS design storm, as defined by the SWRCB, is 1-inch in 24-hours.

Watershed Characteristics. The sub-watershed boundaries shown in Figure 2-3 in Section 2.0 *Project Description*, are based on sub-basins delineated by a California State University, Monterey Bay (CSUMB) advanced watershed management class under the direction of Assistant Professor Fred Watson during the Fall Semester 2011. In some cases, these sub-basins were divided to define areas southwest of Pine Avenue, from which stormwater would be conveyed towards the Pacific Grove Golf Links, and areas northeast of Pine Avenue, which would drain to the MRWPCA through an upsized existing Urban Diversion System.

Annual Runoff Estimation. The Simple Method was selected to estimate annual runoff from the PG ASBS watershed area. This method is used by many jurisdictions to calculate annual runoff as a function of annual runoff volume and a runoff coefficient.

Average Annual Rainfall for the project area was estimated at 14.11 inches, the annual average from 2002 through 2011. The fraction of annual rainfall events that produce runoff was assumed to be 0.9. The impervious fraction was estimated based on land use and parcel data.

To estimate the annual volume of water diverted within the proposed project, which is designed to capture, divert and treat flows resulting from the 85% rainfall event, the annual runoff volumes estimated using the Simple Method were reduced by 15%. This assumes that 15% of all rainfall would occur during storms exceeding the design capacity of the project; therefore these flows would be diverted to the existing stormwater discharge locations.

Dry Weather Flow Estimation. Dry weather flow estimates are based upon preliminary measurements collected at Greenwood Park during a CSUMB study. Study results indicated that dry weather flows ranged from 3.1 to 12.7 gallons per minute (GPM). Based on the observed flow range, a ratio of flow to watershed area was calculated to range between 0.012 and 0.053. This ratio was used to estimate dry weather flows in the remaining sub-basins where observations were unavailable and sub-basin area was known.

Model Validation. To validate the SSA model, FCE compared measured stream flow at Greenwood Park as collected during the CSUMB study to predicted model runoff. A storm event beginning on the morning of January 20, 2012 and extending over 24 hours was input into the SSA. The resulting runoff at Greenwood Park as predicted by the SSA model was compared to runoff that was measured by a data logger maintained and operated by CSUMB students.



The model appears to reasonably predict the observed hydrograph including time to peak and magnitude of the peak flow. The model validation results increased confidence in the model's ability to predict runoff based on rainfall throughout all of the modeled sub-basins.

Thresholds of Significance. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed project would result in any of the following:

- 1) *Violate any water quality standards or waste discharge requirements;*
- 2) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;*
- 3) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;*
- 4) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*
- 5) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*
- 6) *Otherwise substantially degrade water quality;*
- 7) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;*
- 8) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows;*
- 9) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; and/or*
- 10) *Be subject to inundation by seiche, tsunami, or mudflow.*

The proposed project would not locate components within a 100-year flood hazard area and would not substantially deplete groundwater supplies or interfere with groundwater recharge. Given the low potential for seiches in the area, the potential for adverse effects from this phenomenon would be less than significant. Further discussion regarding Items 2, 7, 8, and a portion of Item 10 can be found in Section 4.13, *Effects Found not to be Significant*. Items 1, 3 through 6, 9, and a portion of Item 10 are discussed below.

There is no adopted significance threshold for sea level rise. For the purposes of this assessment, impacts related to sea level rise would be considered potentially significant if projected sea level rise would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, consistent with thresholds used in Section 4.5, *Geology/Soils*.



b. Project Impacts and Mitigation Measures.

Impact HYD-1 Site preparation, grading and construction activities could degrade water quality due to the potential for erosion and sedimentation. However, compliance with existing federal, state, and local requirements would ensure that impacts remain Class III, less than significant.

Earth-moving activities including grading, trenching, excavation, and soil hauling associated with the five project components would have the potential to degrade water quality due to erosion and sedimentation. Regulations under the federal Clean Water Act require that an NPDES storm water permit be obtained for projects that would disturb greater than one acre during construction [refer to Section 4.8.1(d) (Regulatory Setting)]. Each of the five project components could be undertaken separately, and only those project components greater than one acre would be required to comply with the NPDES program through preparation of a SWPPP, which outlines Best Management Practices (BMPs) that would address post-construction runoff. BMPs that are typically specified within the SWPPP may include, but would not be limited to, the following:

- *The use of sandbags, straw bales, and temporary de-silting basins during project grading and construction during the rainy season to prevent discharge of sediment-laden runoff into storm water facilities;*
- *Revegetation as soon as practicable after completion of grading to reduce sediment transport during storms;*
- *Installation of straw bales, wattles, or silt fencing at the base of bare slopes before the onset of the rainy season (October 15th through April 15th).*
- *Installation of straw bales, wattles, or silt fencing at the project perimeter and in front of storm drains before the onset of the rainy season (October 15th through April 15th).*

In addition, the project as a whole would be required to comply with existing existing Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit requirements, which would require Erosion and Sediment Control Plans for all sites with land disturbance (including those less than one acre).

As discussed in Section 4.5, *Geology/Soils*, all project components (including those smaller than one acre) would be subject to the City of Pacific Grove Storm Water Management and Discharge Control Ordinance (Section 9.30 of the Municipal Code). This section of the Municipal Code permits the City Public Works Department to identify construction BMPs. These construction BMPs require that every construction project have an erosion and sediment control plan to prevent soil and materials from leaving the site. Construction activities must be scheduled so that soil is not exposed for long periods of time, and key sediment control practices must be installed. These practices may include, but are not limited to: perimeter control (use of gravel bags, silt fences, and straw wattles); construction material storage (covered when not in use); dirt and grading measures (daily watering of dirt and travel mounds; covering during the rainy season [October 15 – April 15]); and storm drain measures (use of perimeter controls).



Each of the five project components are discussed separately below.

David Avenue Reservoir. The reservoir restoration would encompass approximately six acres of disturbance that includes grading, trenching, and material and equipment storage. The majority of the project disturbance would be on the David Avenue Reservoir site itself, with some trenching in Carmel Avenue/Terry Street, west of the reservoir. Construction is anticipated to require 22 weeks, with 21,420 cubic yards (CY) of cut, 17,656 CY of fill, and 3,765 CY of soil export.

The reservoir site is bowl shaped and if it were to rain during construction on the reservoir, soil could be transported downslope within the bowl and along the outside perimeter of the reservoir. If a substantial rain event occurred, it is possible that water pooling in the construction areas could run into the storm drain system. Precipitation events are generally infrequent, but can occur with great intensity and can produce sheet flow, which could lead to erosion of unmanaged disturbed and/or stockpiled soil associated with construction activities.

As the project encompasses land disturbance of one acre or more, the project requires Construction General Permit (CGP) coverage, including the development of a SWPPP, through the SWRCB. In addition, the City of Pacific Grove Storm Water Management and Discharge Control Ordinance (Section 9.30 of the Municipal Code) permits the City Public Works Department to identify construction BMPs. These construction BMPs require that every construction project have an erosion and sediment control plan to prevent soil and materials from leaving the site. Construction activities must be scheduled so that soil is not exposed for long periods of time, and key sediment control practices must be installed. These practices may include, but are not limited to: perimeter control (use of gravel bags, silt fences, and straw wattles); construction material storage (covered when not in use); dirt and grading measures (daily watering of dirt and travel mounds; covering during the rainy season [October 15 – April 15]); and storm drain measures (use of perimeter controls). Compliance with the SWPPP and applicable City requirements would reduce the potential for stormwater pollution associated with construction activities, including on- and off-site sedimentation, deposition, and erosion. Pursuant to compliance with these requirements, impacts would be less than significant.

Pine Avenue Conveyance. This component of the project would involve trenching and installation of approximately 2,760 feet of new storm drain conveyance pipeline beneath Pine Avenue from 7th Street to 18th Street, as well excavation for a new underground stormwater equalization and storage facility located beneath the sports fields behind (south of) the Robert Down Elementary School. The disturbance area for installing this underground water storage facility would be approximately 80 feet by 180 feet (14,400 square feet). Trenching and excavation activities for the Pine Avenue Conveyance would require about 17 weeks and involve 30,678 CY of cut and 29,042 CY of fill. There would be an export of 1,636 CY of soil. Excavation and grading for the underground stormwater equalization and storage facility CDS unit would require about seven weeks and involve 8,000 CY of cut, 1,600 CY of fill and 6,400 CY of soil export.

This project component would require over one acre of disturbance. Therefore, a SWPPP would be required, similar to the David Avenue Reservoir. In addition, construction BMPs established by the City of Pacific Grove Public Works Department would be required. Compliance with the



SWPPP and applicable City requirements would reduce the potential for stormwater pollution associated with construction activities, including on- and off-site sedimentation, deposition, and erosion. Pursuant to compliance with these requirements, impacts would be less than significant.

Ocean View Boulevard Conveyance. This component of the project would be primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP at the Point Pinos Lighthouse Reservation, and would include the following improvements: approximately 1,100 feet of new gravity storm drain conveyance pipeline; approximately 8,000 feet of pipe lining within an existing abandoned sewer force main; an underground storage facility; and three new pump stations. The underground storage facility would be located at the intersection of Caledonia Street and Pacific Avenue, at a pocket park near the intersection. The disturbance area for installing this facility would be approximately 80 feet by 80 feet (6,400 square feet). The Ocean View Boulevard Conveyance (ROW improvements) are estimated to require 12 weeks and involve 4,022 CY of cut and 3,861 CY of fill, with 161 CY of soil transported off site. The Caledonia Street Storage and CDS unit is estimated to require five weeks for construction and involve 3,556 CY of cut, 711 CY of fill, and 2,844 CY of soil transported off site. The pump stations at Lovers Point, Sea Palm and Coral are estimated to require 9 weeks for construction of all three, with 2,333 CY of cut, 1,250 CY of fill and soil export of 1,083 CY.

The disturbance associated with this project component would be less than one acre; therefore, a SWPPP would not be required. However, compliance with existing MS4 General Permit requirements and construction BMPs established by the City of Pacific Grove Public Works Department would still be required, as described above. These BMPs would reduce the potential for stormwater pollution associated with construction activities, including on- and off-site sedimentation, deposition, and erosion. Pursuant to compliance with these requirements, impacts would be less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. For this component of the project, some site grading would be necessary within the treatment plant site where excavated material has been placed. Installation of a new pond inlet energy dissipation structure in the northwest portion of Crespi Pond would also result in some disturbance in Crespi Pond. However, substantial dredging, vegetation removal, or expansion of the pond is not proposed. It is estimated that construction of this component would require 17 weeks and involve 2,200 CY of cut, 200 CY of fill, and 2,000 CY of soil export. The disturbance associated with this project component would be less than one acre; therefore, a SWPPP would not be required. However, compliance with existing MS4 General Permit requirements and construction BMPs established by the City of Pacific Grove Public Works Department would still be required, as described above. In addition, an Industrial General Permit (IGP) from the RWQCB may also be required for this project component. Compliance with these existing regulations would reduce construction-related sedimentation, deposition, and erosion impacts to a less than significant level.

Diversions to MRWPCA. This component of the project would be primarily within or adjacent to the Ocean View Boulevard right-of-way from Forest Avenue east to David Avenue. It is estimated that construction of this component would require eight weeks and involve 667



CY of cut, 167 CY of fill, and 500 CY of soil export. This component of the project would disturb less than one acre; therefore, a SWPPP would not be required. However, compliance with existing MS4 General Permit requirements and construction BMPs established by the City of Pacific Grove Public Works Department would be required, as described above. Compliance with these existing requirements would reduce construction-related sedimentation, deposition, and erosion impacts to a less than significant level.

Mitigation Measures. Implementing a SWPPP (where applicable), compliance with existing MS4 General Permit requirements, as well as Section 9.30 of the City of Pacific Grove Municipal Code would reduce the potential for stormwater pollution associated with construction activities, including on- and off-site sedimentation, deposition, and erosion. No additional mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HYD-2 The proposed project would serve to improve water quality by diverting stormwater, providing treatment, and allowing for re-use as irrigation water. This is a Class IV, beneficial, impact.

The primary goal of the Pacific Grove ASBS stormwater management project is to improve stormwater quality discharged into the ASBS located along the Pacific Grove coastline. The project includes the diversion of both wet weather and dry weather flows into an upgraded stormwater collection and treatment system from both Pacific Grove and New Monterey watershed areas. As proposed, flows would be directed to either a proposed Point Pinos Wastewater Treatment Facility at the retired PGWTP or to the MRWPCA RTP in Marina. The objective of the project is to achieve up to a 90 percent reduction in pollutant loading during storm events to comply with the ASBS water quality standards.

The existing urban runoff dry-weather diversion system in the City of Pacific Grove currently collects dry weather flows for delivery to the MRWPCA between Lovers Point and eastward to Eardley Avenue. The proposed project would upsize a portion of the existing dry weather diversion system to provide capacity for the current system to convey runoff up to the 85 percent storm event. Under the proposed project, rainfall in excess of the 85th percentile event would continue to flow through the existing outfall system untreated. Continued collection and delivery of dry-weather flows to the MRWPCA provides a supply for the recycled water treatment facility. Expanding the existing dry-weather collection system to include the collection and delivery of wet-weather flows would provide the MRWPCA with an additional supply for water recycling or the groundwater replenishment project currently being developed.¹

Water quality monitoring pursuant to the Central Coast ASBS Regional Monitoring Program is being implemented during the 2012-13 and 2013-14 storm seasons and includes all ASBS

¹ The Monterey Peninsula Groundwater Replenishment Project can supply an estimated 2,700 acre feet of water to recharge the Seaside Aquifer, blending with groundwater before being extracted for all potable uses. Should the project continue at an accelerated pace, water could be available the first quarter of 2017 (<http://www.casaweb.org/water-quality/mrwpcas-groundwater-replenishment-project>).



responsible parties on the Central Coast, covering an area from Big Sur in Monterey County to Point Reyes in Marin County. The results of the Central Coast ASBS Regional Monitoring will establish the “natural water quality” objectives to be met by the ASBS Special Protections. The receiving water samples will be monitored for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), ammonia and nitrogen. Sediment samples will be analyzed for Ocean Plan Table 1 metals (for marine aquatic life beneficial use), acute toxicity (using Eohaustorius estuaries), PAHs and tributyltin. The stormwater treatment process target pollutants and reduction levels will be determined based upon findings from this water quality monitoring effort. All five project components contribute to the overall goal of treatment and reuse of stormwater instead of discharging untreated runoff to the ASBS.

Table 4.8-1 shows the change from existing to proposed condition for stormwater that would be discharged to the MRWPCA Fountain Avenue Pump Station. As indicated in Table 4.8-1, flows to the MRWPCA Fountain Pump Station would increase peak wet weather flows by 5,435 GPM during an 85 percent storm event, which would correspond to 0.83 million gallons per day (mgd). In addition, the average annual runoff from storms less than or equal to an 85 percent event is estimated at 148 acre-feet per year (AFY). Dry weather flows to the MRWPCA would decrease by 50 percent because the proposed Point Pinos Stormwater Treatment Facility would accept a portion of the dry weather flows that are currently diverted to the MRWPCA.

**Table 4.8-1
Proposed Change in MRWPCA Flows to Fountain Pump Station**

To MRWPCA Fountain Pump Station	Drainage Area (acres)	85% Storm Event Peak Flow Estimate (GPM)	85% Storm Event Runoff Volume (MGD)	Average Annual Runoff from storms less than or equal to 85% Event (AFY)	Dry Weather Flow Estimate (GPM)	Dry Weather Flow Estimate April – October (AFY)
Existing Condition ¹	447	0	0	0	5.8	4.7
Proposed Project	222	5,435	0.83	148	2.9	2.3
Difference	-225	+5,435	+0.83	+148	-2.9	-2.3
% Change	-50%	-	-	-	-50%	-50%

¹Includes extension of dry weather urban diversion system to Eardley Avenue.
Fall Creek Engineering, Inc. Preliminary Engineering Report. 2013.

Additional pumps and upgrades to pumping stations along the stormwater conveyance system are proposed to handle increased flows associated with wet weather diversion. Thus, the proposed Diversion to MRWPCA component would help to meet water quality standards and waste discharge requirements for the COP in accordance with SWRCB Order Resolution No. 2012-0012. This is a beneficial impact.

Summary. As detailed in the discussions above, the proposed project is being designed to remove 90 percent of the pollutant loading (if required) and provide a source for reclaimed water and groundwater recharge programs. The impact would be beneficial.



Mitigation Measures. The impact is beneficial and no mitigation is required.

Significance After Mitigation. Impacts would be beneficial.

Impact HYD-3 The proposed project involves upgrades and redevelopment of existing infrastructure at five different stormwater conveyance sites within the City of Pacific Grove, as well as infrastructure improvements in the City of Monterey. The project would not introduce substantial additional impervious surfaces, and would not, therefore, increase the potential for downstream flooding or increased erosion. Impacts would be Class III, less than significant.

The proposed project component sites are already mostly developed with water conveyance or treatment infrastructure. The proposed project would involve re-development and rehabilitation or refurbishment of already developed sites at the David Avenue Reservoir and at the Point Pinos Wastewater Treatment site and Crespi Pond. Improvements for the Pine Avenue Conveyance, Ocean View Boulevard Conveyance, and Diversions to MRWPCA are all located within existing street right-of-way. Runoff would not exceed capacity of the proposed Point Pinos Wastewater Treatment Facility, as this component of the project is being designed to capture the design flows from the project. The effect of the project on capacity of the existing MRWPCA RTP is discussed in Section 4.11, *Public Services and Utilities*.

David Avenue Reservoir. The proposed upgrades to the David Avenue Reservoir would involve rehabilitation of the existing reservoir and use of the facility for water storage. The improvements would not introduce substantial additional impervious surfaces, and would not, therefore, increase the potential for downstream flooding or subsequent increased erosion. Impacts would be less than significant.

Pine Avenue Conveyance. The proposed Pine Avenue Conveyance improvements would be installed primarily in the Pine Avenue right-of-way. In addition, a new underground storage facility would be installed beneath an athletic field at the Robert Down Elementary School. The right-of-way improvements would be located beneath an existing impervious surface (Pine Avenue), and the athletic field would be revegetated after project construction. Therefore, neither of these components would introduce additional impervious surfaces and would not, therefore increase the potential for downstream flooding or subsequent increased erosion. The impact would be less than significant.

Ocean View Boulevard Conveyance. This component of the project would be located primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP at the Point Pinos Lighthouse Reservation. These areas are already paved and the project would not, therefore, increase impervious surfaces along this roadway compared to existing conditions. However, portions of the Coral, Sea Palm, and Lovers Point Pump Stations would add impervious surfaces adjacent to right-of-way areas. For the purposes of analysis, it is assumed that the new pump stations and associated electrical control panels would occupy approximately 400 square feet each, for a total of 1,200 square feet of new impervious surface. This entire project component would disturb approximately 0.5 acres, or 21,780 square feet. Thus, assuming these pump stations would represent entirely new impervious surfaces, they



would represent approximately 5.5 percent of the overall site area. Given that this assumption is conservative and that the overall disturbance would be minimal, impacts related to generating additional stormwater runoff and subsequent increased downstream erosion due to impervious surfaces would be less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. There would be some additional impervious surface added at the Point Pinos Stormwater Treatment Facility and Crespi Pond where treatment components would occupy ground that is currently permeable. For the purposes of this analysis, it is assumed that the Point Pinos Stormwater Treatment components would rest on a pad that is 6,000 square feet and that the Crespi Pond dissipation structure would occupy an area of about 400 square feet. This area represents about 6.7 percent of the overall project area. Given the relatively minor area of disturbance, impacts related to generating additional stormwater runoff and subsequent increased downstream erosion due to impervious surfaces would be less than significant.

Diversions to MRWPCA. The diversions to MRWPCA component of the project would involve upgrades to existing pumping stations and improvements to the conveyance pipeline within the existing developed right-of-way. This portion of the project would not add substantial additional impervious surface to the project area. Therefore, this project component would not increase the potential for downstream flooding or subsequent increased erosion. The impact would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would remain less than significant without mitigation.

Impact HYD-4 **The proposed project would involve construction of drainage facilities in an area that is subject to inundation by a tsunami and may be subject to shoreline retreat associated with sea level rise. Impacts would be Class III, less than significant.**

The coastline within the cities of Monterey and Pacific Grove is subject to flooding during large storm events and in the event of a tsunami, and may be subject to increased flooding and shoreline retreat associated with sea level rise. Figure 4.8-2 shows tsunami hazard areas. As described in Section 4.8.1(b) (Food Hazards), the California Climate Adaptation Strategy (December 2009) estimates a sea level rise of up to 55 inches by the end of this century; however, most project components would not be subject to substantial effects from sea level rise, according to maps generated by the Pacific Institute (2009). Analysis specific to each of the project component sites follows.

David Avenue Reservoir. As shown on Figure 4.8-2, the David Avenue Reservoir is not located in a tsunami hazard area. In addition, this component is not located within the projected sea level rise coastal flood scenario (Pacific Institute, 2009). There would be no impact.

Pine Avenue Conveyance. As shown on Figure 4.8-2, the Pine Avenue Conveyance improvements are not located within a tsunami hazard area. In addition, this component is not



located within the projected sea level rise coastal flood scenario (Pacific Institute, 2009). There would be no impact.

Ocean View Boulevard Conveyance. As shown on Figure 4.8-2, the Ocean View Boulevard Conveyance component of the project would be located within a moderate tsunami run up area. In addition, this component may install improvements within the projected sea level rise coastal flood scenario (Pacific Institute, 2009). This component of the project would be mostly subterranean, buried beneath the Ocean Avenue right of way. However, the pump stations would have an above ground electrical component that would be more susceptible to damage in the event of a tsunami, or over time as the result of sea level rise.

In addition to flooding, sea level rise can create an increased potential for erosion and shoreline retreat as a result of beaches and coastal bluffs being exposed to increased and more frequent wave attacks. Such erosion, as a result of climate change-induced sea level rise, could adversely affect some improvements within the Ocean View Boulevard Conveyance component of the project. However, such projections are based on assumptions regarding future global greenhouse gas (GHG) emissions. As such, the specific effects of climate change-induced sea level rise on the Pacific Grove shoreline are uncertain.

A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, such as preserving the quality of life in Monterey County and fulfilling important public safety, emergency response, and disaster recovery functions (Monterey County, 2007). The *Multi-Jurisdictional Hazard Mitigation Plan* (Monterey County, 2007) does not identify any water conveyance, wastewater conveyance, or stormwater conveyance utilities as critical facilities. In addition, the proposed project would not exacerbate vulnerability to a tsunami hazard or the effects of sea level rise. Therefore, the impact is considered less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond. As shown on Figure 4.8-2, the Point Pinos Stormwater Treatment Facility and Crespi Pond are located within a moderate tsunami run up area. In addition, this component may involve installation of improvements within the projected sea level rise coastal flood scenario (Pacific Institute, 2009). This portion of the project would involve the installation of above-ground stormwater treatment infrastructure, which could be susceptible to damage in the event of a tsunami or increased flooding or erosion resulting from sea level rise. However, as noted above, water conveyance, wastewater conveyance, and stormwater conveyance utilities are not identified as critical facilities (Monterey County, 2007). In addition, the proposed Point Pinos Stormwater Treatment Facility and Crespi Pond improvements would not exacerbate vulnerability to a tsunami hazard or the effects of sea level rise. Therefore, the impact is considered less than significant.

Diversions to MRWPCA. As shown on Figure 4.8-2, the improvements associated with this project component would be located mostly within the extreme tsunami run up area. The extreme tsunami run up area is less vulnerable than the moderate tsunami run up area, as it is at a higher elevation. This project component is also located in a dam failure hazard area (see Figure 4.8-3). In addition, this component may involve installation of improvements within the projected sea level rise coastal flood scenario (Pacific Institute, 2009). However, this component of the project would be mostly subterranean, buried beneath the Ocean Avenue right of way.



The pump stations would have an above-ground component that would be more susceptible to damage in the event of a tsunami. However, as described above, water conveyance, wastewater conveyance, and stormwater conveyance utilities are not identified as critical facilities (Monterey County, 2007). In addition, the proposed upgrades would not exacerbate vulnerability to a tsunami hazard, dam inundation hazards, or sea level rise. Therefore, the impact is considered less than significant.

Mitigation Measures. No mitigation is required

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HYD-5 The proposed project would rehabilitate an existing reservoir, which would include improvements to enable water storage behind an existing dam. The potential for dam failure as a result of the proposed improvements is a Class II, *significant but mitigable*, impact.

This discussion focuses on the David Avenue Reservoir since the impact of dam failure is primarily associated with this project component. A related discussion on seismically induced ground failure at the David Avenue Reservoir is included in Section 4.5, *Geology/Soils* under Impact GEO-1. The proposed project involves the rehabilitation of the David Avenue Reservoir and activation of the reservoir as a stormwater holding facility, including installation of a multi-layer geomembrane liner and sub-drain system within the interior of the former reservoir to enable water storage behind the existing dam. After construction, the reservoir would hold 49.15 AF of water. Historically, the David Avenue Reservoir had a capacity of 56 AF of water. Thus, the proposed rehabilitation would hold approximately 12 percent less water than under historical conditions.

As discussed in Section 4.5, *Geology/Soils*, the proposed project is located in an area that is subject to seismic activity. If the dam were not constructed, operated, and maintained in accordance with current safety and engineering standards, a dam failure could occur. In the event of a dam failure, mud, debris and water could flow downslope to the north and cause a loss of life and property. Figure 4.8-3 shows the Pacific Grove dam inundation area based on the historical reservoir, which held about 12 percent more water than the proposed rehabilitation would accommodate. Thus, it can be inferred that the inundation area associated with the proposed project would be about the same and may be slightly smaller.

As shown on Figure 4.8-3, the inundation area would originate between Gate Street and Hillcrest Avenue, then head westward slightly before continuing northward towards the ocean between Carmel Avenue and Fountain Avenue. According to the *Multi-Jurisdictional Hazard Mitigation Plan* (Monterey County, 2007), there are 377 people, 174 residential buildings, and 11 non-residential buildings within this area. It should be noted that these estimates are from 2007, so the population may in fact be slightly higher; however, the building count is anticipated to be similar.

Given that the DSOD regulates about 120 reservoirs throughout the state in a manner that allows for continued safety of adjacent populations and given that the proposed David Avenue



Reservoir is being almost entirely re-constructed based on current seismic parameters and current code standards, it is reasonable to conclude that the proposed rehabilitation can be constructed and maintained in a manner that would reduce the potential for adverse effects to a level that is less than significant. Mitigation measures GEO-1(a) through GEO-1(e) in Section 4.5, *Geology/Soils*, would ensure that the David Avenue Reservoir is constructed, operated, and maintained in accordance with current standards and applicable oversight agency requirements, thereby minimizing the potential for adverse effects to life and property.

Based on the inundation area shown on Figure 4.8-3, the Pine Avenue Conveyance and portions of the Diversions to MRWPCA are located within the dam inundation area. Nevertheless, these components of the project would be mostly subterranean. The pump station located at Pine Avenue and 15th Street would have an above ground electrical component; however, as described Impact HYD-4, the *Multi-Jurisdictional Hazard Mitigation Plan* (Monterey County, 2007) does not identify any water conveyance, wastewater conveyance, or stormwater conveyance utilities as critical facilities. In addition, the proposed project would not exacerbate vulnerability to an inundation hazard. Therefore, the impact of the reservoir on downstream conveyance components would be less than significant.

Mitigation Measures. Mitigation measures GEO-1(a) through GEO-1(e) in Section 4.5, *Geology/Soils*, would provide the necessary geotechnical oversight and design specifications to ensure that the proposed David Avenue Reservoir project component is constructed, maintained, and operated in a manner that reduces the potential adverse effects relating to dam failure to a level that is less than significant. The remaining project components do not require mitigation for dam failure.

Significance After Mitigation. The impact would remain less than significant after mitigation for the David Avenue Reservoir and less than significant without mitigation for the other four project components.

c. Cumulative Impacts. A description of the cumulative analysis methodology and development scenario, including proposed development in the City of Pacific Grove and City of Monterey is included in Section 3.0, *Environmental Setting*. As noted in Section 3.0, cumulative projects include the following:

1. *A stormdrain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue (from 12th to 14th Streets).*
2. *Lovers Point stormdrain retrofit (Pine Avenue and 19th Street to Lovers Point).*
3. *The Pacific Grove Local Water Project (LWP) at Point Pinos.*

The potential for cumulative effects from erosion and sedimentation would be less than significant due to implementation of construction BMPs and compliance with applicable City requirements.

Construction or operation of the project in association with the projects identified above would not violate water quality standards or waste discharge requirements and would not create additional runoff that would exceed the capacity of stormwater drainage systems or provide substantial additional runoff. The combination of these projects would not deplete groundwater



or interfere substantially with groundwater recharge. Instead, the combination of these projects would serve to improve water quality by diverting stormwater, providing treatment and allowing for re-use as irrigation water. Cumulative impacts would be less than significant and could even be considered as beneficial.

The proposed project in association with the cumulative projects identified above would not introduce substantial additional impervious surfaces into an area that is currently undeveloped or increase the potential for downstream flooding or increased erosion. Cumulative impacts would be less than significant.



4.9 LAND USE AND PLANNING

4.9.1 Setting

a. ASBS Watershed and Pacific Grove Setting. The project area comprises five associated components located primarily in the City of Pacific Grove, with a portion of two components located in the City of Monterey, California. Both the cities are located in Monterey County. The project captures runoff from the Pacific Grove Area of Special Biological Significance (ASBS) watershed, which encompasses much of the City of Pacific Grove and a portion of New Monterey (refer to Figure 2-3 in Section 2.0, *Project Description*). Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. The remainder of the project improvements would be located in the City of Pacific Grove.

The City of Pacific Grove is located on the tip of the Monterey Peninsula between the City of Monterey and Pebble Beach. It is approximately three square miles in area and is bounded by the Monterey Bay on the north, the City of Monterey on the east, Del Monte Forest on the south, and the Pacific Ocean on the west. The predominant land use in the City is residential, and most of that is single-family. Commercial uses are largely related to goods and services, with almost no land available for industrial uses. A generous amount of land is devoted to parks and natural areas. However, Pacific Grove is almost fully built-out, and there is very little buildable vacant land in the city.

The portion of the watershed area in Monterey is composed of single-family residential land uses and a Hilltop Park.

b. Project Component Settings. The project components are bordered by a range of low-density urban land uses. The following describes the surrounding land use pattern by component.

David Avenue Reservoir. The David Avenue Reservoir is designated in the City of Pacific Grove General Plan as Open Space - Institutional (OSI). The site is bordered by single family residences to the east and west, Hillcrest Avenue and Pacific Grove Middle School to north, and David Avenue and single and multi-family residences to the south. Lands and land uses affected by this component are located in both the City of Pacific Grove and the City of Monterey.

Pine Avenue Conveyance. The Pine Avenue stormwater conveyance improvements would be located primarily within the Pine Avenue right-of-way, which is bordered to the northeast by single family residences, multi-family residences, professional offices, commercial uses, and City Hall and to the southwest by single family residences, Robert Down Elementary School, multi-family residences, and professional offices. These areas are designated in the City of Pacific Grove General Plan as High Density Residential (HDR), Medium Density Residential (MDR), Professional Office or High Density Residential (PO/HDR), Commercial (C), and Public (P). This project component also includes installation of an underground stormwater equalization/storage facility beneath a grass field at Robert Down Elementary School, which is



bounded by Pine Avenue and single family residences to the north, multi-family residences to the west, 12th Street and single family residences to the east, and Junipero Avenue and the Pacific Grove Community Center to the south.

Ocean View Boulevard Conveyance. The Ocean View Boulevard conveyance improvements would be located primarily within the Ocean View Boulevard right-of-way, which is surrounded by open space, pedestrian trails, and Monterey Bay to the north and east, and by single family residences and commercial uses to the south. At the western edge of this project component, Ocean View Boulevard is bounded to the south by Pacific Grove Golf Links, Crespi Pond, and the retired Pacific Grove Wastewater Treatment Plant (PGWTP). In addition to conveyance improvements within the right-of-way, this project component includes three new pump stations: at the Lovers Point parking lot; north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. The Lovers Point pump station would be surrounded by a parking lot to the east, south, and west and by the Monterey Bay Coastal Recreation Trail to the north. The Sea Palm pump station would be located primarily within a landscaped median, and bordered by a parking area and Monterey Bay to the north and Ocean View Boulevard to the south. The Coral Street pump station would be primarily within the Ocean View Boulevard right-of-way, bordered by single family residences to the south and open space and the Monterey Bay to the north. The City of Pacific Grove General Plan land use designations for areas bordering the Ocean View Boulevard conveyance include: High Density Residential (HDR), Low Density Residential (LDR), Open Space (O), Professional Office or High Density Residential (PO/HDR), and Open Space - Institutional (OSI).

Point Pinos Stormwater Treatment Facility and Crespi Pond. The retired PGWTP (referred to here as the Point Pinos Stormwater Treatment Facility) and Crespi Pond are surrounded by open space, pedestrian trails, and the Monterey Bay to the north, dune habitat restoration to the west, and the Pacific Grove Golf Links to the south and east. These areas are designated by the Pacific Grove General Plan as Open Space (O) and Open Space - Institutional (OSI).

Diversions to Monterey Regional Water Pollution Control Agency (MRWPCA). This component would be primarily within the Ocean View Boulevard right-of-way east of Forest Avenue, which is bordered by open space, pedestrian trails, Hopkins Marine Station, and the Monterey Bay to the north and east, single family residences and commercial uses to the south and west. These areas are designated by the Pacific Grove General Plan as High Density Residential (HDR), Open Space (O), Professional Office or High Density Residential (PO/HDR), and Open Space - Institutional (OSI).

c. Regulatory Setting. The primary purpose of the proposed project is to meet the regulatory requirements imposed by the State Water Resources Control Board (SWRCB) on discharges into the ASBS. These regulations, including the California Ocean Plan, the General Exception, and Special Protections are summarized in Section 2.0, *Project Description*.

Local plans, regulations, and policies relevant to the implementation of the proposed project are described generally below. Specific policies are listed and analyzed in Section 4.9.2 (Impact Analysis).



City of Pacific Grove General Plan. The City of Pacific Grove's 1994 General Plan supersedes the City's 1973 General Plan and any and all elements of the General Plan subsequently adopted, except for the Local Coastal Program Land Use Plan (LUP) which was adopted by the City on June 7, 1989. The LUP, while adopted and published as a separate document, is an element of the 1994 General Plan.

The General Plan is a comprehensive, integrated, and internally consistent statement of Pacific Grove's development policies for the City and its Sphere of Influence. In preparing background material for the General Plan, the City considered existing conditions and trends within a larger "Planning Area" that includes unincorporated areas south of the city and portions of the City of Monterey. All Planning Area lands outside of the city limits, including those within the Sphere of Influence, are regulated by either the Monterey County General Plan and Zoning Ordinance or the City of Monterey General Plan and Zoning Ordinance.

In addition to the LUP, the General Plan contains the following nine elements: land use, housing, transportation, parks and recreation, natural resources, historic and archaeological resources, urban structure and design, public facilities, and health and safety. The primary objectives of each element summarized below.

Land Use. The Land Use Element is intended to preserve and enhance the character of Pacific Grove while accommodating suitable new development; maintain the City's residential character and the scale of its neighborhoods; enhance the attractiveness and viability of existing commercial areas; and upgrade the appearance of Downtown, and other commercial areas, retaining and emphasizing the historical styles.

Housing. The Housing Element is intended to maintain, improve, and rehabilitate the City's existing housing; promote a balance of housing types, densities, and cost ranges for all economic segments of the population; designate sufficient land for residential use at densities appropriate to meet local and regional housing needs; and encourage energy efficiency in both new and existing housing.

Transportation. The Transportation Element is intended to provide safe and efficient transportation facilities for moving people and goods within Pacific Grove; reduce negative impacts of local and regional traffic on Pacific Grove and its neighborhoods; provide safe, paved, bicycle and pedestrian paths to schools, shopping areas, recreation facilities, and open space areas; and improve traffic safety for motorists, bicyclists, and pedestrians.

Parks and Recreation. The intent of the Parks and Recreation Element is to provide active and passive park and recreation facilities and programs for people of all age groups and capabilities.

Natural Resources. The Natural Resources Element is intended to comprehensively manage Pacific Grove's natural vegetation, tree canopy, and wildlife habitat; promote tree planting; protect the City's coastal and biological resources; preserve and enhance public visual access to the ocean; protect the area's groundwater; and protect endangered species.



Historic and Archaeological Resources. The intent of the Historic and Archaeological Resources Element is to nurture a greater awareness of and sensitivity toward Pacific Grove's historic and archaeological heritage; to identify, protect, and preserve the structures of Pacific Grove's cultural and architectural history, including its many buildings of Victorian styles and other late nineteenth and early twentieth century architecture; and to protect archaeological sites consistent with State and federal regulations.

Urban Structure and Design. The Urban Structure and Design Element is intended to preserve, enhance, and strengthen Pacific Grove's livable and attractive environment, its community identity, and its special "sense of place;" enhance the relationship between the City, the Pacific Ocean and the Monterey Bay; develop, maintain, and enhance the City's landscape, streetscape, and identifiable community characteristics; and improve the visual environment by improving signing and continuing undergrounding of overhead wires.

Public Facilities. The intent of the Public Facilities Element is to provide water to meet the needs of existing and future development, assuring adequate fire-flow rates; promote water conservation; maintain adequate sewage collection and disposal services; accommodate storm water runoff and protect property from flooding; and promote the recovery of reusable water from the storm drainage system.

Health and Safety. The Health and Safety Element is intended to protect the community from injury, loss of life, and property damage resulting from natural disasters and hazardous conditions; increase public awareness of potential danger from flooding, seismic activity, landslide, fire, and other natural hazards, and of methods to avoid or mitigate their effects; protect Pacific Grove from accidental exposure to hazardous materials; provide aid in the event of natural or man-made disasters; and protect people and property from fire, crime, and noise.

Pacific Grove Local Coastal Program. A central feature of the California Coastal Act is the transfer of most of the authority vested in the Coastal Commission by the Coastal Act to the local governments through adoption and certification of "Local Coastal Program." The Local Coastal Program (LCP) consists of a local government's land use plans, zoning ordinance, zoning district maps and other ordinances, which when taken together, meet the requirements of, and implement the provisions and policies of the Coastal Act at the local level. Each LCP reflects the coastal issues and concerns of the local jurisdiction and must be consistent with the statewide policies of the Coastal Act.

The Local Coastal Program is divided into two major parts: the Land Use Plan (LUP) and the Implementation Plan. The Land Use Plan is defined in the Public Resources Code as the "... relevant portions of a local government's general plan, or local coastal element which are sufficiently detailed to indicate the kinds, location, and intensity of land uses, the applicable resource protection and development policies, and, where necessary, a listing of implementing actions." The Implementation Plan includes zoning and ordinance revisions and proposes other programs needed to carry out the goals, policies, and land use designations of the Land Use Plan.

The Pacific Grove LUP is divided into four major sections, each of which focuses on a major group of Coastal Act Policies: Resource Management, Land Use and Development, Public



Facilities, and, Public Shoreline Access. Each section includes background information, a summary of applicable Coastal Act policies, a discussion of existing local policies and Land Use Plan policies. The LUP was adopted by the Pacific Grove City Council on June 7, 1989, but was never certified by the Coastal Commission. Therefore, it acts as an Element of the City's General Plan, rather than a certified LUP document.

Pacific Grove Zoning Ordinance. The purpose of the Zoning Ordinance (Title 23 of the City of Pacific Grove Municipal Code) is to promote and protect the public health, safety, peace, comfort, and general welfare; promote the growth and redevelopment of the city of Pacific Grove in an orderly manner; and implement the Pacific Grove general plan and LCP. Given the nature of the project (infrastructure utilizing existing facilities and/or roadway rights-of-way), specific zoning ordinance regulations do not directly apply to the project, and are not analyzed further in Section 4.9.2 (Impact Analysis).

Pacific Grove Urban Forestry Tree Ordinance. The Pacific Grove City Council adopted an Amended Urban Forestry Tree Ordinance on October 17, 2012. The purpose of the ordinance is to facilitate the protection, preservation, and restoration of Pacific Grove's urban forest; and enhance the visual and aesthetic uniqueness of Pacific Grove. The ordinance defines categories of protected trees, provides regulations relating to the removal and pruning of trees in public and private areas, and outlines requirements related to the replacement of protected trees. Consistency of the project with the Urban Forestry Tree Ordinance is discussed in Section 4.3, *Biological Resources*.

City of Monterey General Plan. Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. Construction of these improvements would require approval of a Use Permit, a Street Opening Permit, a Building Permit, and potentially a Tree Removal Permit (if trees would be removed in the final design) from the City of Monterey. In addition, as a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR. Therefore, the project would be subject to City of Monterey policies and programs.

The City of Monterey General Plan was adopted in January 2005 and contains the following Elements:

- *Urban Design*
- *Land Use*
- *Circulation*
- *Housing*
- *Conservation*
- *Open Space*
- *Safety*
- *Noise*
- *Economic*
- *Social*
- *Historic Preservation*
- *Public Facilities*



The project component located in Monterey is within the New Monterey neighborhood. New Monterey is the largest neighborhood in the City, comprising 295 acres of hillside overlooking Cannery Row and the Monterey Bay. Area boundaries are Pacific Grove to the northwest and southwest, the Presidio of Monterey to the southeast, and Cannery Row to the northeast. The primary features of New Monterey are its residential nature, grid street pattern, hillside slopes, ocean views, sea breezes, fog, and its complex physical and social mixture. The New Monterey Neighborhood Plan was adopted in October 1991 and is intended to provide direction to the City and neighborhood on the growth and development of the neighborhood. The life of the plan was intended to be ten years. However, the plan has not been updated since 1991.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. In accordance with Appendix G of the *State CEQA Guidelines*, the proposed project would result in potentially significant land use impacts if it would:

- 1) *Physically divide an established community;*
- 2) *Conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or*
- 3) *Conflict with any applicable habitat conservation plan or natural community conservation plan.*

Due to the nature of the proposed project components to re-use existing facilities and locate improvements below grade wherever feasible, the proposed project would not physically divide an established community. The proposed project is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved conservation agreement. Therefore, Items 1 and 3 are not discussed further in this section (refer to Section 4.13, *Effects Found not to be Significant*, for further discussion of these issues). Item 2 is discussed below. Specific land use compatibility issues are discussed in Section 4.1, *Aesthetics*, Section 4.2, *Air Quality*, and Section 4.10, *Noise*.

b. Project Impacts and Mitigation Measures.

Impact LU-1 **Based on the design of project components and following implementation of the mitigation measures identified throughout this EIR, the proposed project would be consistent with applicable policies of the City of Pacific Grove's General Plan, including its Local Coastal Program. Impacts would be Class II, significant but mitigable.**

Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. These facilities would be located primarily below ground within already developed areas, and would represent a diminutive percentage of the overall site disturbance of the proposed project. Given the nature and small size of these improvements, they would be anticipated to be consistent with goals and policies of the City of



Monterey General Plan and the New Monterey Neighborhood Plan. Therefore, only policies of the City of Pacific Grove are considered in detail in this section of the EIR. Consistent with the intent of CEQA (see *State CEQA Guidelines* Appendix G), the following discussion focuses on those policies that relate to avoiding or mitigating environmental impacts, and an assessment of whether any inconsistency with these standards creates a significant physical impact on the environment. The ultimate determination of whether the proposed project is consistent with the relevant General Plan policies lies with the decision-making body (City of Pacific Grove City Council). Only policies relevant and applicable to the proposed project are included. Policies that are redundant between elements are omitted, as well as policies that are City directives or that are not pertinent to the proposed project. In addition, some policies have been truncated in instances where the overall meaning of the policy would not be made unclear.

Table 4.9-1 contains a discussion of the proposed project’s consistency with applicable policies of the City of Pacific Grove General Plan related to avoiding or mitigating environmental effects.

**Table 4.9-1
 Policy Consistency**

Land Use Element	
LU-2: Ensure that new development is compatible with adjacent existing development.	Consistent. Components of the proposed project would involve the re-use of existing facilities and/or be located below grade in public roadways, thereby not introducing new development which could be incompatible with existing development. Specific land use compatibility issues are addressed in Sections 4.1, <i>Aesthetics</i> , 4.2, <i>Air Quality</i> , and 4.10, <i>Noise</i> . As described therein, all impacts would be either less than significant or less than significant with mitigation incorporated. In the case of noise, potentially significant impacts would be temporary and related to construction only; the project would not result in substantial long-term noise.
LU-4: Continue to preserve Pacific Grove’s character and regulate development so as not to overburden the City’s infrastructure.	Consistent. Implementation of the proposed project would improve the City’s stormwater management infrastructure and would not result in new residential or commercial development that would overburden existing infrastructure. Impacts related to visual character are discussed in Section 4.1, <i>Aesthetics</i> , and would be less than significant.
LU-9: Strive to preserve significant public view corridors.	Consistent. As described in Section 4.1, <i>Aesthetics</i> , the proposed project would not result in significant impacts to public viewsheds. All of the project components would utilize existing facilities and/or be located below grade of public roadways, thereby not impacting public viewsheds.
Transportation Element	
TR-2: Strive to maintain a level of service no worse than C during peak periods on arterials and collector streets within the City. Accept level of service D during weekday peak-periods at intersections at the limits of LOS D on arterial routes outside the Downtown area.	Consistent. As discussed in Section 4.12, <i>Transportation/Traffic</i> , potential impacts to traffic and circulation would be limited to temporary construction activities. No long-term impacts to levels of service would result.



**Table 4.9-1
Policy Consistency**

Natural Resources Element	
NR-3: Actively promote tree planting to maintain and renew the urban forest.	Consistent. As discussed in Section 4.3, <i>Biological Resources</i> , the project would not result in significant tree loss. In the event of tree removal, compliance with the City's 2013 Amended Urban Forestry Tree Ordinance would ensure that impacts remain less than significant.
NR-4 [and HA-8]: Mitigate development in environmentally sensitive areas.	Consistent. As described throughout this EIR, the proposed project's potentially significant impacts on the environment would be reduced to less than significant levels with compliance with existing regulations and/or the application of mitigation measures.
NR-5: Manage the use of publically-owned environmentally sensitive areas.	Consistent. Refer to the discussion of project consistency with Policy NR-4 above. Although the project would be located primarily within publically-owned areas, these areas are comprised of already disturbed sites and are not considered environmentally sensitive. Environmentally sensitive areas adjacent to project component sites would not be impacted by the project (refer to Section 4.3, <i>Biological Resources</i>).
NR-8: When reimbursement is available, cooperate with State and federal agencies in reducing impacts from urban runoff.	Consistent. The proposed project would improve the quality of stormwater runoff entering the Pacific Grove ASBS, in accordance with SWRCB requirements.
NR-12: Develop methods to maintain endangered species within the Asilomar Dunes neighborhood, Asilomar State Beach and Conference Grounds, the U.S. Coast Guard Reservation, the Pacific Grove shoreline, and other appropriate areas.	Consistent. As discussed in Section 4.3, <i>Biological Resources</i> , impacts to endangered species, including California red-legged frog and Western pond turtle, would be less than significant after implementation of required mitigation measures, including pre-construction surveys, construction worker training, and entrapment avoidance.
Historic and Archaeological Resources Element	
HA-2: Regulate demolition of buildings of architectural or historical importance.	Consistent. No buildings would be demolished with the implementation of project components. The David Avenue Reservoir site would be re-established as a reservoir, consistent with historic conditions, and existing structures at the retired PGWTP would not be altered as a result of the project.
HA-8: Incorporate the protection of historic resources in the immediate and long range planning process.	Consistent. As discussed in Section 4.13, <i>Effects Found not to be Significant</i> , no significant impacts to historic resources would result from construction or implementation of the proposed project.
HA-20: Support the enforcement of existing State and federal laws pertaining to pilfering of archaeological sites.	Consistent. As discussed in Section 4.4, <i>Cultural Resources</i> , impacts to archaeological sites would be significant but mitigable. The project would not be in conflict with or otherwise prevent compliance with or enforcement of state and federal laws pertaining to pilfering of archaeological sites.



**Table 4.9-1
 Policy Consistency**

<p>HA-21: Ensure the protection and preservation of artifacts in those areas already identified as containing archaeological remains.</p>	<p>Consistent. As discussed in Section 4.4, <i>Cultural Resources</i>, the Ocean View Boulevard component of the project would be located in an area containing already identified archaeological resources. The remaining project components would not be located in areas containing previously identified resources. Mitigation identified in Section 4.4, including the requirement for a Phase II archaeological assessment and an archaeological construction monitor, would reduce this impact to a less than significant level, thus protecting and preserving identified artifacts.</p>
<p>HA-23: Refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory.</p>	<p>Consistent. The Ocean View Boulevard Conveyance component of the project would be located in an area containing identified archaeological resources (refer to the discussion for Policy HA-21 above). When the final design for this component of the project is completed and the project is proposed for construction, it would be referred to the California Archaeological Inventory, in accordance with this policy.</p>
<p>Urban Structure and Design Element</p>	
<p>USD-1: Develop a cohesive and aesthetically pleasing urban structure for Pacific Grove.</p>	<p>Consistent. The proposed project would involve the re-use of existing facilities, and would locate many of the in-road improvements below grade, thus minimizing the construction of new urban features. Furthermore, as described in Section 4.1, <i>Aesthetics</i>, the re-establishment of a reservoir at the David Avenue Reservoir site would be considered an aesthetic improvement for this component of the project.</p>
<p>USD-2: Continue to require citywide architectural review for all new structures and for exterior changes to existing structures.</p>	<p>Consistent. The proposed project does not include new structures or exterior changes to existing structures.</p>
<p>USD-8: Endeavor to protect the tree canopy created by mature trees by planting replacement trees.</p>	<p>Consistent. As discussed in Section 4.3, <i>Biological Resources</i>, the project would not result in significant tree loss, such that an existing tree canopy would be impacted. However, some trees may be trimmed or removed as a result of the project, including mature trees. In the event of tree removal, required compliance with the City's 2013 Amended Urban Forestry Tree Ordinance would ensure that impacts remain less than significant. This would include submission of an arborist report, receipt of a tree removal permit, and replacement at a 1:1 ratio.</p>
<p>Public Facilities Element</p>	
<p>PF-1: Endeavor to ensure an adequate water supply for the city's future needs.</p>	<p>Consistent. The proposed project may result in the City's use of captured stormwater being used for irrigation purposes at the Pacific Grove Golf Links, El Carmelo Cemetery, and other feasible non-potable water demands. This would offset existing potable water demands, ultimately improving water supply. If the captured stormwater is instead discharged into the Monterey Bay after treatment, the project would not generate a demand for water, nor would it reduce existing supplies.</p>



**Table 4.9-1
Policy Consistency**

<p>PF-2: Prioritize available water allocation to best serve the city’s needs, and to accommodate coastal priority uses designated in the Local Coastal Program Land Use Plan.</p>	<p>Consistent. Refer to the discussion for Policy PF-1.</p>
<p>PF 8: Promote the reclamation of waste water for irrigation purposes (specifically the golf course and cemetery).</p>	<p>Consistent. The proposed project would capture and treat stormwater runoff for irrigation at the Pacific Grove Golf Links and El Carmelo Cemetery, thereby directly implementing this policy.</p>
<p>PF-11: Maintain an adequate level of service in the City’s storm drainage system.</p>	<p>Consistent. The proposed project would improve the City’s storm drainage system.</p>
<p>PF-12: Upgrade, where practical and economical, existing drainage facilities as necessary to correct localized drainage problems.</p>	<p>Consistent. Refer to the discussion for Policy PF-11. Proposed improvements would upgrade existing facilities and would be expected to correct localized drainage problems within the Pacific Grove ASBS watershed.</p>
<p>PF-13: Continue to expand and develop storm drainage facilities to accommodate the needs of existing and planned development.</p>	<p>Consistent. Refer to the discussion for Policy PF-11. Proposed improvements would upgrade existing facilities.</p>
<p>PF-16: Promote the recovery of usable water from the storm drainage system.</p>	<p>Consistent. Refer to the discussion for Policy PF-11. The proposed project may result in the City’s use of captured stormwater being used for irrigation purposes.</p>
<p>PF-25: Encourage the use of building and landscaping materials that will make public facilities compatible with neighboring properties.</p>	<p>Consistent. Components of the proposed project would involve the re-use of existing facilities and/or would be located below grade in public roadways. Thus, landscaping would not be appropriate for most project components. In addition, as described in Section 4.1, <i>Aesthetics</i>, the proposed project would not degrade existing visual character. Therefore, the project would not be incompatible with neighboring properties. Any vegetation removed for construction would be replaced, and removed trees would be replanted at a 1:1 ratio in accordance with the City’s 2013 Amended Urban Forestry Tree Ordinance.</p>
<p>Health and Safety Element</p>	
<p>HS-1: Design underground utilities, including water and natural gas mains, to withstand seismic forces.</p>	<p>Consistent. As described in Section 4.5, <i>Geology/Soils</i>, impacts related to seismic stability would be less than significant with implementation of required mitigation, including a design-level geotechnical study, compliance with recommendations of the design-level geotechnical study, and design measures specific to the David Avenue Reservoir.</p>
<p>HS-11: Use the CEQA process to identify and avoid or mitigate potentially significant air quality impacts of development.</p>	<p>Consistent. As described in Section 4.2, <i>Air Quality</i>, construction and implementation of the proposed project would result in less than significant impacts to air quality.</p>
<p>HS-15: Require all construction to meet the applicable current City codes for fire and life safety.</p>	<p>Consistent. All construction activities associated with proposed project components would be subject to City codes for fire and life safety.</p>
<p>HS-28: Review possible noise-producing uses and mitigate as necessary.</p>	<p>Consistent. Noise impacts are analyzed and mitigated in Section 4.10, <i>Noise</i>. Although the project would result in potentially significant construction-related noise impacts, the long-term uses of the project component sites would not be noise-producing.</p>



**Table 4.9-1
Policy Consistency**

Local Coastal Program	
2.2.4.1: The City will continue to work with the State Department of Fish and Game and other agencies in developing and maintaining a coordinated approach for enforcing both State and local regulations protecting the Pacific Grove Marine Gardens.	Consistent. The primary purpose of the project is to improve stormwater quality prior to being discharged into the ASBS, which would serve to protect the Pacific Grove Marine Gardens.
2.2.4.2: The City shall assist, where possible, the appropriate institutions or agencies to undertake long-term ecological studies monitoring the marine resources and water quality of the Pacific Grove Marine Gardens and ASBS.	Consistent. Refer to the discussion for Policy 2.2.4.1.
2.2.4.4: No diking, filling, dredging, or other uses inconsistent with the terms of the grant from the State of California shall be allowed in the City's tidelands. No significant alteration of freshwater wetlands -- Crespi Pond and Majella Slough -- shall be allowed, except for maintenance dredging and similar activities essential for restoration of natural habitats.	Consistent. As discussed in Section 2.0, <i>Project Description</i> , the installation of a new pond inlet energy dissipation structure in the northwest portion of Crespi Pond would result in some disturbance in Crespi Pond. However, substantial dredging, vegetation removal, or expansion of the pond is not proposed. The impacts of installing the energy dissipation structure would be less than maintenance dredging, and would be conducted as part of a project intended to improve the quality of water entering the pond. Therefore, the project may improve the natural habitat of the pond by improving the water quality of the pond.
2.2.5.2: To reduce the potential for degradation of the ASBS/Marine Gardens, the City shall require, where necessary, drainage plans and erosion, sediment and pollution control measures, as conditions of approval of every application for new development.	Consistent. Refer to the discussion for Policy 2.2.4.1 and Section 4.8, <i>Hydrology and Water Quality</i> . The project would improve water entering the ASBS, and erosion and sedimentation impacts would be less than significant.
2.2.5.3: The City shall investigate specific measures for reduction of pollution potential in storm water runoff, including regulations to control the disposal of chemicals and hazardous materials, and maintenance of the existing storm water capture program at the Golf Course, Greenwood Park, and Chase Park.	Consistent. Refer to the discussion for Policy 2.2.4.1, Section 4.7, <i>Hazards and Hazardous Materials</i> , and Section 4.8, <i>Hydrology and Water Quality</i> . The project would improve water entering the ASBS, and would not generate chemicals or hazardous materials.
2.3.5.2: The following recommendations shall be incorporated in the Coastal Parks Plan described in General Policy 2.3.4.3. a) A botanical survey shall be required prior to development, which impacts habitats identified as A-1, B-2, or B-3 on the Habitat Sensitivity Map, with the survey being conducted by a qualified botanical specialist on the entire area during the flowering season.	Consistent. The proposed project would not place any project components within habitat areas identified as A-1, B-2, or B-3 on the Habitat Sensitivity Map. Therefore, a botanical survey is not required.



**Table 4.9-1
 Policy Consistency**

<p>2.3.5.3 In the Lighthouse Reservation and Golf Course area, areas of extreme sensitivity (A-1 on the Habitat Sensitivity Map) should be protected from further trampling by a low mesh fence. Do not allow machinery in the dune area. Apply irrigation only on turf, not on the sand. Continue to eliminate exotics and restore native dune plants on the Lighthouse Grounds. In suitable areas, plant species, which will enhance the overwintering habitat of the Monarch butterfly, by providing additional nectaring and feeding sources. Protect Crespi Pond from any polluted runoff or other disturbances to its waterfowl habitat. Allow carefully controlled dredging of Crespi Pond in order to prevent loss of this important wetland through eutrophication and sedimentation as approved by the City Council upon a recommendation from the Crespi Pond Technical Advisory Committee.</p>	<p>Consistent. Although the proposed project would include improvements within the retired PGWTP site, which is located near sensitive dune habitat surrounding the Pacific Grove Golf Links, no improvements would occur within these areas. All improvements would be confined to the former PGWTP area, which is previously disturbed.</p>
<p>2.4.4.1: The City shall ensure the protection, preservation, and proper disposition of archaeological resources within the coastal zone.</p>	<p>Consistent. As discussed in Section 4.4, <i>Cultural Resources</i>, no significant impacts to archaeological resources would occur as a result of the proposed project, including to those within the coastal zone.</p>
<p>2.4.4.2: The City shall assist developers and landowners by providing early identification of sensitive sites so that archaeological resources can be considered and protected during the early phases of project design.</p>	<p>Consistent. As identified in Section 4.4, <i>Cultural Resources</i>, no significant impacts to archaeological resources would occur as a result of the proposed project.</p>
<p>2.5.4.1: It is the policy of the City of Pacific Grove to consider and protect the visual quality of scenic areas as a resource of public importance. The portion of Pacific Grove’s coastal zone designated scenic includes: All areas seaward of Ocean View boulevard and Sunset Drive, Lighthouse Reservation lands, Asilomar Conference Ground dune lands visible from Sunset Drive, lands fronting on the east side of Sunset Drive; and the forest front zone between Asilomar Avenue and the crest of the high dune (from the north side of the Pico Avenue intersection to Sinex Avenue).</p>	<p>Consistent. As identified in Section 4.1, <i>Aesthetics</i>, no significant impacts to visual character of sites or scenic views would occur as a result of the proposed project.</p>
<p>2.5.4.2: Within these scenic areas, permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the open space character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.</p>	<p>Consistent. As discussed in Section 4.1, <i>Aesthetics</i>, no significant impacts to visual character of sites or scenic views would occur as a result of the proposed project.</p>
<p>2.5.4.3: Development standards for scenic areas shall minimize land coverage, grading, and structure height, and provide for maximum setbacks from adjacent public open space areas.</p>	<p>Consistent. As identified in Section 4.1, <i>Aesthetics</i>, no significant impacts to visual character of sites or scenic views would occur as a result of the proposed project. The project would not increase land coverage or build structures.</p>



**Table 4.9-1
 Policy Consistency**

<p>2.5.4.4: New development on parcels fronting on Sunset Drive shall compliment the open space character of the area. Design review of all new development shall be required. The following standards shall apply; a) Minimum building setbacks of 75 feet from Sunset Drive shall be maintained. Larger setbacks are encouraged if consistent with habitat protection shall maintain a low profile complimenting natural dune topography. In no case shall the maximum height exceed 18 ft. above natural grade within the foundation perimeter prior to grading. c) Structures shall be sited to minimize alteration of natural dune topography. Restoration of disturbed dunes is mandatory as an element in the siting, design and construction of a proposed structure. d) Earth tone color schemes shall be utilized, and other design features incorporated that assist in subordinating the structure to the natural setting.</p>	<p>Consistent. The only new “structure” proposed by the project would include an 48-foot <u>approximately 9 to 10-foot</u> tall flow control structure located on the retired PGWTP site. This structure would be located over 150 feet from Sunset Drive, and would not exceed the maximum height of 18 feet above grade. This structure would be located over 150 feet from Sunset Drive, and would not exceed the maximum height of 18 feet above grade. In addition, as discussed in Section 4.1, <i>Aesthetics</i>, all improvements within the retired PGWTP area would be screened from Sunset Drive by an existing fence and vegetation.</p>
<p>2.5.4.5: Landscape approval shall be required for any project affecting landforms and landscaping. A landscaping plan, which indicates locations and types of proposed plantings, shall be approved by the Architectural Review Board. Planting which would block significant public views shall not be approved.</p>	<p>Consistent. The project components would be located in already disturbed areas, and would not significantly affect existing landscaping. Where vegetation or tree removal is required, a landscaping plan would be required in accordance with this policy.</p>
<p>2.5.4.7: It is the City’s special objective to retain the maximum amount of open space possible on lands seaward of viewing areas, the City shall seek assistance in securing scenic conservation easements, and a reduction of development potential through public acquisition of vacant private parcels.</p>	<p>Consistent. The proposed project includes minimal improvements seaward of identified viewing areas. As described in Section 4.1, <i>Aesthetics</i>, impacts related to scenic views would be less than significant.</p>

As shown in Table 4.9-1, the proposed project would be generally consistent with policies included in the City of Pacific Grove General Plan, Zoning Ordinance, and LCP. Though minor inconsistencies with aspects of some policies could occur, all feasible mitigation measures to address these impacts have been required and are detailed in Sections 4.1 to 4.12 of this EIR.

It should also be noted that, because the project is designed to meet regulatory requirements imposed by the SWRCB on discharges into the ASBS, it is inherently consistent with the intent of the California Ocean Plan, the General Exception, and Special Protections (refer to Section 2.0, *Project Description*). However, the ultimate determination of consistency with these documents and requirements is in the purview of the SWRCB.

Mitigation Measures. Mitigation measures outlined in Sections 4.1 to 4.12 would achieve consistency with applicable policies included in the adopted General Plan, including the Local Coastal Program. No further mitigation measures would be required.

Significance After Mitigation. Impacts would be less than significant.

c. Cumulative Impacts. Land use impacts would be cumulatively considerable if the proposed project, in conjunction with other existing or reasonably foreseeable projects, would either preclude a permitted land use or create a disturbance that would diminish the function of



a particular land use. Cumulative development in the ASBS watershed area includes a storm drain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue, a Lovers Point storm drain retrofit, and the Pacific Grove Local Water Project (PGLWP). It is feasible that several of these projects may potentially be developed concurrently with components of the project. While construction of multiple projects within the same geographical area and within the same timeframe could create a potentially significant cumulative land use compatibility impacts, the limited effects of the proposed project, as described above, would limit the potential for land use compatibility conflicts.

As with the proposed project, cumulative future projects in City of Pacific Grove and City of Monterey would be required to adhere to specific development standards in each city's Zoning Ordinance and General Plan. In the context of the thresholds of significance for land use impacts, the project's contribution to cumulative impacts would not be considerable. The policy consistency of each project would be considered on a case-by-case basis. Therefore, the proposed project would not result or contribute considerably to significant cumulative land use impacts.



4.10 NOISE

4.10.1 Environmental Setting

a. Overview of Noise. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as industrial machinery). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed (approximately 30 years old or older) generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units and office buildings is generally 30 dBA or more (Harris Miller Miller & Hanson Inc., 2006).

In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. Lmax is the highest RMS (root mean squared) sound pressure level within the measuring period, and Lmin is the lowest RMS sound pressure level within the measuring period.

The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10 p.m. to 7 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5 dBA penalty



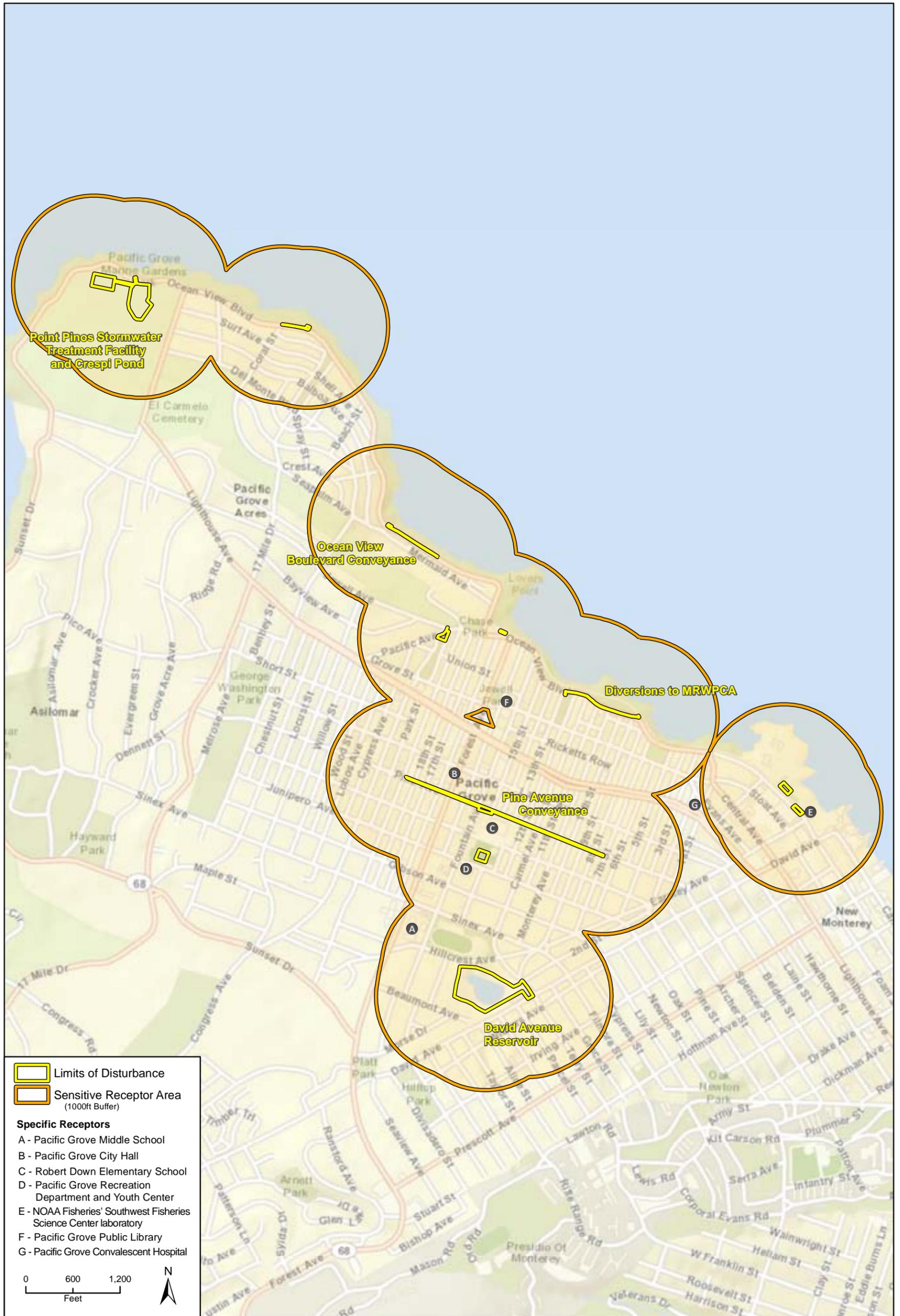
for noise occurring from 7 p.m. to 10 p.m. and a 10 dBA penalty for noise occurring from 10 p.m. to 7 a.m. Noise levels described by Ldn and CNEL usually do not differ by more than 1 dB.

b. Sensitive Receptors and Existing Noise Levels. Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with each of these uses. The City of Pacific Grove General Plan Health and Safety Element (1994) provides existing and projected noise contours, which provide a visualization of estimates of sound level, as well as Recommended Allowable Noise Exposure levels for sensitive receptors. Based on the 1994 General Plan, the project components are not within any of the identified noise contours, indicating that ambient noise levels on the project component sites are generally below 60 dBA (under 1994 conditions). According to the General Plan's community noise survey, noise levels within the City of Pacific Grove are generally typical of a quiet suburban community with estimated Ldn values of 39 to 61 dB. Land forms and man-made structures have very complex effects on sound transmission and on noise contours. Generally, barriers between a source and receiver absorb or reflect noise resulting in a quieter environment. Where barriers or land forms do not interrupt the noise transmission path from source to receiver, the contours prove to be good estimates of the average noise level from roadway traffic. In areas where barriers or land forms interrupt the sound transmission, the noise contours overestimate the extent to which a source intrudes into the community. Therefore, although the noise contours are outdated, the distances shown thereon represent worst-case conditions because they do not account for any obstructions to the noise path, such as walls, berms, or buildings.

Typical sensitive receptors included near the proposed project component sites are residences, schools, and hospitals. The closest sensitive receptors to the project component sites are the residences located along pipeline alignments on Pine Avenue and Ocean View Boulevard, the residences adjacent to the David Avenue Reservoir, the Pacific Grove Middle School, also adjacent to the David Avenue Reservoir, and the Robert Down Elementary School, which is the proposed site for the underground storage facility associated with the Pine Avenue Conveyance component of the project. Typical noise sources in these areas are associated primarily with vehicle traffic. These receptors and the existing ambient noise levels are described in more detail for each component of the proposed project below. Figure 4.10-1 shows a 1,000 foot buffer around all areas of disturbance associated with the project components, which encompasses all sensitive receptors, in particular residential housing. The figure also highlights specific sensitive receptors, such as schools, hospitals, and libraries. Refer to Table 2-1 in Section 2.0, *Project Description*, for the estimated construction duration at each component location.

David Avenue Reservoir. Sensitive receptors near the David Avenue Reservoir include single family residences to the east and west, Pacific Grove Middle School to the north (530 feet north), and single and multi-family residences to the south, including residences in the City of Monterey. The nearest residence is adjacent to the southeast corner of the reservoir boundary; the second nearest residence is less than 70 feet north of the reservoir boundary. The existing noise environment at the David Avenue Reservoir is characterized by residential uses with low ambient noise levels during the evening and nighttime hours. The primary ambient sources of noise at this component include general traffic and residential uses as well as existing noise from employee traffic traveling into and out of the reservoir property, as well as operational noise associated with the site's use as a material storage yard.





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Sensitive Noise Receptors

Figure 4.10-1
 City of Pacific Grove

Noise generators during the day include those typically associated with school traffic activity, and local passenger traffic. The nearest major roadway to the project site is State Route (SR) 68, located approximately 0.3 miles to the south, which carries approximately 6,500 average daily vehicle trips (e.g. automobiles, buses, trucks, and motorcycles) at the nearest segment to this proposed project component, which extends from Sunset Drive to Forest Avenue (Caltrans Traffic Data Branch, 2013). Motor vehicle noise is often of concern because it is characterized by a high number of individual events, which often create a sustained noise level.

Pine Avenue Conveyance. Sensitive receptors adjacent to the Pine Avenue Conveyance component are single family residences, multi-family residences, professional offices, Pacific Grove City Hall, and Robert Down Elementary School. This project component also includes installation of an underground stormwater equalization/ storage facility in the vicinity of Robert Down Elementary School and the Pacific Grove Recreation Department and Youth Center. The residences, offices, City Hall facilities, and Robert Down Elementary School would all be adjacent to the proposed project at some point during construction, which would progressively move along Pine Avenue.

The existing noise environment in the vicinity of the proposed Pine Avenue Conveyance is characterized by residential and professional uses with low ambient noise levels during the evening and nighttime hours. The primary ambient sources of noise include general traffic and residential uses. Noise generators during the day could include those typically associated with school and business traffic activity, and local passenger traffic. The nearest major roadway to the project site is SR 68, located approximately 0.6 to the southwest, which carries approximately 6,500 average daily vehicle trips (e.g. automobiles, buses, trucks, and motorcycles) at the nearest segment to this section of the proposed project, which extends from Sunset Drive to Forest Avenue (Caltrans Traffic Data Branch, 2013). Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a sustained noise level.

Ocean View Boulevard Conveyance. Sensitive receptors near the Ocean View Boulevard Conveyance component include single family residences. In addition to conveyance improvements within the Ocean View Boulevard right-of-way, this project component includes the installation of a new underground stormwater equalization and storage facility in the vicinity of Caledonia Park, as well as three new pump stations: at the Lovers Point parking lot; north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. Sensitive receptors near all three pump stations include single family residences to the south and west. Sensitive receptors near the underground stormwater equalization and storage facility at Caledonia Park include single family residences.

The existing noise environment at the Ocean View Boulevard Conveyance is characterized by open space, golf course, residential and coastal uses, with low ambient noise levels during the evening and nighttime hours. The primary ambient sources of noise include wind, especially from the ocean, which is directly adjacent to the Ocean View Boulevard Conveyance at most points, as well as general traffic and residential uses. Noise generators during the day could include those typically associated with local passenger traffic, golf course operations, and pedestrian trail visitors and beachgoers. The nearest major roadway to the project site is SR 68, located approximately 0.75 miles to the southwest, which carries approximately 3,600 average



daily vehicle trips (e.g. automobiles, buses, trucks, and motorcycles) at the nearest segment to this section of the proposed project, which is where SR 68 begins, at Asilomar Beach State Park (Caltrans Traffic Data Branch, 2013). At that point, SR 68 becomes Ocean View Boulevard. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a sustained noise level.

Point Pinos Stormwater Treatment Facility and Crespi Pond. Sensitive receptors near the Point Pinos Stormwater Treatment Facility and Crespi Pond include single family residences, approximately 0.15 miles east of the project component site.

The existing noise environment at the Point Pinos Stormwater Treatment Facility and Crespi Pond is characterized by open space, golf course, residential, and coastal uses, with low ambient noise levels during the evening and nighttime hours. The primary ambient sources of noise at this project component and in the surrounding area include traffic along Ocean View Boulevard, visitors to the beach, wind, especially from the ocean, and recreational noise from the adjacent golf course. The nearest major roadway to the project site is SR 68, located approximately one mile to the south, which carries approximately 3,600 average daily vehicle trips (e.g. automobiles, buses, trucks, and motorcycles) at the nearest segment to this project component, which is where SR 68 begins, at Asilomar Beach State Park (Caltrans Traffic Data Branch, 2013). Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a sustained noise level.

Diversions to the Monterey Regional Water Pollution Control Agency (MRWPCA). Sensitive receptors near this project component include the Pacific Grove Public Library (530 feet southwest), Pacific Grove Convalescent Hospital (800 miles south), and adjacent single family residences.

The existing noise environment near this project component is characterized by residential and coastal uses, with low ambient noise levels during the evening and nighttime hours. The primary ambient sources of noise include wind, especially from the ocean, as well as general traffic and residential uses. Noise generators during the day could include those typically associated with local passenger traffic, residential uses, and beachgoers. The nearest major roadway to the project site is SR 68, located approximately 1 mile to the southwest, which carries approximately 6,500 average daily vehicle trips (e.g. automobiles, buses, trucks, and motorcycles) at the nearest segment to this project component, which extends from Sunset Drive to Forest Avenue (Caltrans Traffic Data Branch, 2013). Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a sustained noise level.

c. Regulatory Setting.

Federal. Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. §651 et seq.), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations (29 CFR §1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list limits on noise exposure levels as a function of the amount of time during which the worker is exposed, as shown in Table 4.10-1. The regulations further specify requirements for a hearing conservation program (§1910.95(c)), a monitoring program (§1910.95(d)), an audiometric testing (i.e., test of hearing ability) program



(§1910.95(g)), and hearing protection (§1910.95(i)). There are no federal laws governing community noise.

**Table 4.10-1
 OSHA Permissible Noise Exposure Standards**

Duration of Noise (Hours/Day)	A-Weighted Noise Level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

Source: U.S. Department of Labor.

State. California Government Code §65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the California Governor’s Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. Title 24 of the California Health and Safety Code establishes an interior noise standard of 45 dBA for residential units.

City of Pacific Grove. The City of Pacific Grove General Plan Health and Safety Element contains three policies to meet the chapter’s goal of “protect[ing] Pacific Grove residents from the harmful effects of excessive noise.” The policies are as follows: review possible noise-producing uses and mitigate as necessary; prevent encroachment of noise-sensitive land uses on existing industrial facilities or other stationary sources; and prevent the expansion or intensification of existing noise-producing commercial/utility uses on adjacent residential properties.

The Health and Safety Element also includes maximum allowable noise exposures from stationary noise sources for daytime (7AM to 10PM) and nighttime (10PM to 7AM) hours as shown in Table 4.10-2.

**Table 4.10-2
 City of Pacific Grove Maximum Allowable Noise Exposure,
 Stationary Noise Sources***

	Daytime (7AM to 10PM)	Nighttime (10PM to 7AM)
Maximum Level, dB	70	65

** As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line mitigation measures.*

Source: City of Pacific Grove General Plan, 1994.



In addition, the Health and Safety Element provides recommended allowable noise exposures for noise sensitive land uses from transportation noise sources.

**Table 4.10-3
 City of Pacific Grove Allowable Transportation
 Noise Exposure by Land Use Type**

Land Use Type	Outdoor Activity ¹ Areas (Ldn/CNEL, dB)	Interior Spaces (Ldn/CNEL, dB)	Interior Spaces (Leq, dB ²)
Residential	60 ³	45	--
Transient Lodging	60 ³	45	--
Hospitals, Nursing Homes	60 ³	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60 ³	--	40
Office Buildings	60 ³	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

Source: City of Pacific Grove General Plan, 1994.

¹ Where the location of outdoor activity is unknown, the exterior noise standard is applied to the property line of the receiving land use.

² As determined for a typical worst-case hour during periods of use.

³ Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed, provided that available exterior noise level reduction measures have been implemented and interior noise levels comply with this table.

Finally, the City of Pacific Grove Municipal Code regulates unlawful noises through the provisions of Title 11.96.010, which prohibits any person from willfully making any loud, unnecessary, or unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.

City of Monterey. The City of Monterey General Plan Noise Element allows new construction only where existing or projected noise levels are acceptable or can be mitigated. There are two policies included to attain this goal: (1) the City can require noise mitigations to reduce interior noise levels to an acceptable level, and (2) the City has determined a limitation of hours during which construction activities can take place. Table 4.10-4 shows the noise exposure standards set by the City of Monterey.



**Table 4.10-4
 City of Monterey Noise Exposure Standards**

Noise Exposure	Land Use Standard
Above 75 CNEL	All land in this category should be under airport ownership and control
CNEL 65-74	Soundproof (insulate) existing residences, schools, and other noise sensitive development to achieve interior noise levels of CNEL 45 or below. Require adequate sound insulation for all new residential and other noise sensitive development in areas exposed to noise levels from CNEL 65-69. Avoid areas exposed to noise levels above CNEL 70 for new residential or noise sensitive development unless abated.
CNEL 60-64	Require acoustical studies of proposed new residential and other noise sensitive development. Require sound insulation as necessary to achieve interior noise levels of CNEL 45 or below.

Source: City of Monterey General Plan, 2010.

The City of Monterey has also adopted the State of California General Plan Guidelines for land use and noise compatibility standards (Figure 4.10-2).

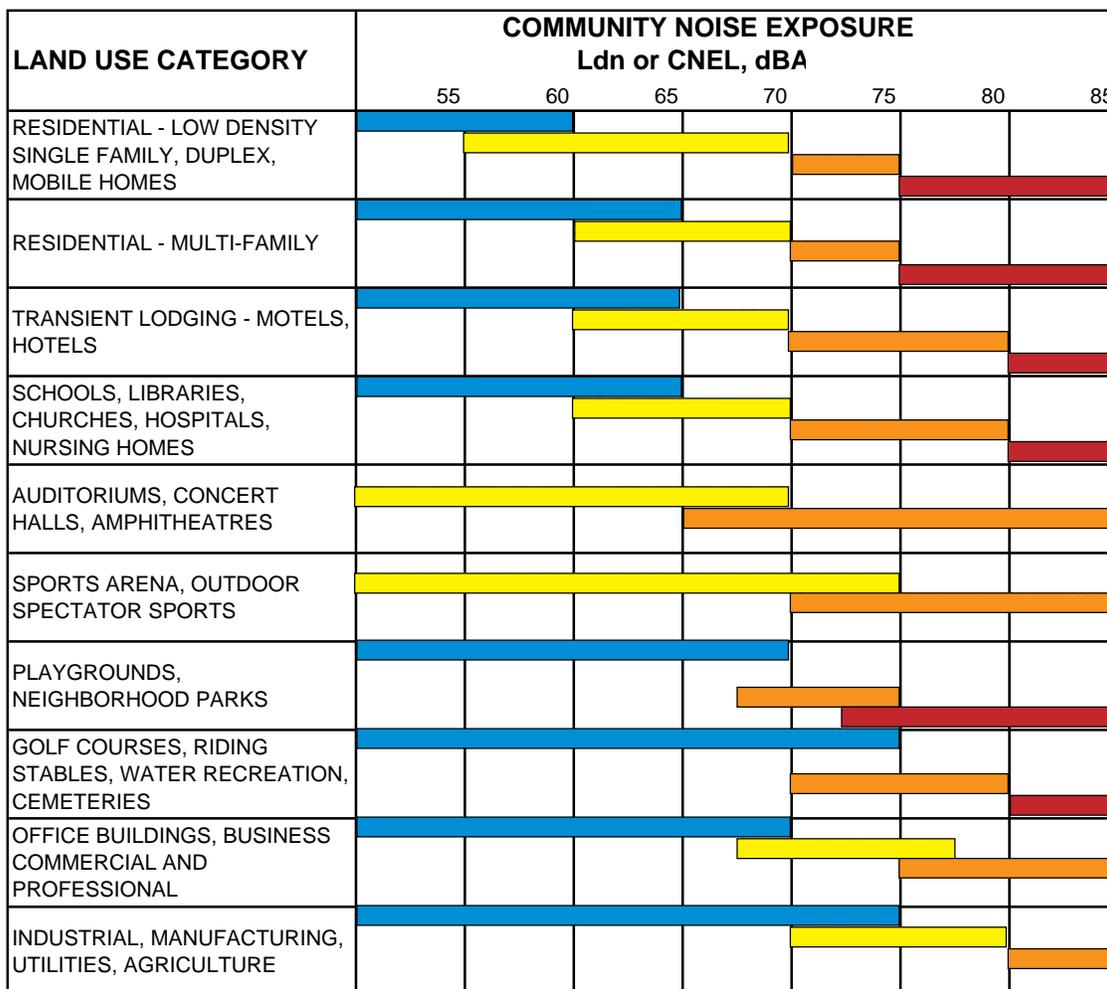
The Monterey City Municipal Code (MCC) Section 38-111 (Performance Standards) states that all uses and activities shall comply with the Monterey Noise Regulations, decibel levels shall be compatible with neighboring uses, and that no use shall create ambient noise levels which exceed the standards shown in Table 4.10-5.

**Table 4.10-5
 City of Monterey Maximum Noise Standards by Zoning District**

	Zone of Property Receiving Noise	Maximum Decibel Noise Level (Db)
OS	Open Space District	60
R	Residential Districts	60
PS	Public and Semi Public District	60
C	Commercial District	65
I	Industrial Districts	70
PD	Planned Development	Study Required

Source: City of Monterey Zoning Ordinance, 2013.





NORMALLY ACCEPTABLE
 Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

NORMALLY UNACCEPTABLE
 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CONDITIONALLY ACCEPTABLE
 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

CLEARLY UNACCEPTABLE
 New construction or development should generally not be undertaken.

Source: *Guidelines for the Preparation and Content of Noise Elements of the General Plan, California Office of Planning and Research, 1998.*

Land Use and Noise Compatibility Standards

Figure 4.10-2

The MCC contains the following modifications to the standards:

- *In R districts, the noise standard shall be five decibels lower between 10:00 p.m. and 7:00 a.m.;*
- *Noise that is produced for no more than a cumulative period of five minutes in any hour may exceed the standards above by five decibels; and*
- *Noise that is produced for no more than a cumulative period of one minute in any hour may exceed the standards above by ten decibels.*

The Public Works Director of the City of Monterey may require an acoustic study for any proposed project which could have, or create, a noise exposure greater than that deemed acceptable and may require the incorporation into a project of any noise attenuation measures deemed necessary to ensure that noise standards are not exceeded.

With regards to vibration, the MCC states that no use, activity, or process shall produce vibrations that are perceptible without instruments by a reasonable person at the property lines of a site.

Finally, the City of Monterey requires that construction, alteration, remodeling, demolition and repair activities which are authorized by a valid City Building Permit, as well as the delivery and removal of materials and equipment associated with these activities, are limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, 8:00 a.m. to 6:00 p.m. Saturday and 10:00 a.m. to 5:00 p.m. Sunday. A permit to allow an exception to these hours may be issued by the Zoning Administrator following Notice and Public Hearing, in accord with Monterey City Code section 38-159 et seq. Requests for exceptions must show that compliance with the hour limitations would be impractical and that the exception is necessary to accommodate unique factors specific to the property. The exception shall be for a limited duration, and may be conditioned to require renewal after a period of three months.

4.10.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of noise impacts considers the effects of temporary construction-related noise associated with the proposed project. Construction noise estimates are based upon equipment noise levels reported by the Federal Transit Administration, Office of Planning and Environment (Hanson, Towers, and Meister, May 2006), and the distance to nearby sensitive receptors. Reference noise levels from that document were used to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Construction noise level estimates do not account for the presence of intervening structures or topography, which could reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual construction noise.

According to the Federal Transit Administration (FTA), groundborne vibration impact criteria for residential receptors are 72 vibration decibels (VdB) for frequent events, 75 VdB for occasional events, and 80 VdB for infrequent events (FTA, 2006).¹ For institutional land uses

¹“Frequent events” is defined as more than 70 vibration events of the same source per day; “occasional events” is defined as between 30 and 70 vibration events per day, and “infrequent events” is defined as less than 30 vibration events per day (FTA, 2006).



with primarily daytime use, the criteria are 75 VdB for frequent events, 78 Vdb for occasional events, and 83 Vdb for infrequent events (*ibid*). As construction activities would be temporary and infrequent, a threshold of 80 VdB is used for residential uses and 83 VdB for all other uses.

Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the project would result in any of the following conditions:

- 1) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;*
- 2) *Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;*
- 3) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;*
- 4) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;*
- 5) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; and/or*
- 6) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

The maximum noise exposure levels shown in Table 4.10-2 as well as the recommended allowable noise exposure shown in Table 4.10-3 were used to determine whether noise generated during the project construction would result in a significant impact on nearby sensitive receptors. These standards apply to all components of the proposed project, as a portion of each is within the City of Pacific Grove boundaries. A portion of the David Avenue Reservoir and Diversions to MRWPCA components of the project are also located in the City of Monterey. The City of Monterey noise compatibility standards shown in Figure 4.10-2 are less restrictive than the City of Pacific Grove standards. Therefore, for the purpose of this analysis, the City of Pacific Grove's noise standards were applied to all components of the project to provide a worst case scenario analysis. The City of Monterey standards listed in Tables 4.10-4 and 4.10-5 were not applied to construction noise, as they relate to ambient noise levels and construction noise would be a temporary impact.

It should be noted that the operation of the proposed project would have minimal impacts on the noise levels in the surrounding areas, given that the majority of infrastructure provided as part of the project would be underground or would be located a sufficient distance from sensitive receptors. In addition, the project site is located outside of any airport noise impact contours and does not involve the construction of residences or office buildings, and would therefore not expose residents or workers to excessive noise levels from airport or private air strip operations as identified in Section 4.13, *Effects Found not to be Significant*. No further discussion of Items 3, 5, or 6 is included in this section. Items 1, 2, and 4 are discussed below.

b. Project Impacts and Mitigation Measures.

Impact N-1 **Operation of heavy equipment during construction of all components of the proposed project would result in a temporary noise level increase that could disturb nearby sensitive receptors. Impacts would be Class II, significant but mitigable.**



Project construction activities would involve the use of a variety of construction equipment throughout the various phases of construction, including transport of personnel and materials to the site, heavy machinery used in grading and clearing the site, as well as equipment used during construction of the proposed storm drains and pipelines, infrastructure improvements, and related structures. Construction equipment would include: an excavator, dozer, front loader, dump truck, water truck, soil compactor, roller, cement truck, and delivery truck for materials. Construction of the proposed project would not require pile driving. The primary source of construction noise would be generated during excavation and drilling.

For all project components, noise levels would diminish at approximately 6 dB per doubling of distance (refer to Section 4.10.1[a] [Overview of Noise]). Table 4.10-6 shows typical maximum construction noise levels from various types of construction equipment.

**Table 4.10-6
 Typical Construction Equipment Noise Levels**

Equipment	Acoustical Usage Factor (%)¹	Measured Lmax (dB at 25 feet)
Augur Drill Rig	20	90
Backhoe	40	84
Compactor (ground)	20	89
Dozer	40	88
Dump Truck	40	82
Excavator	40	87
Flat Bed Truck	40	80
Front End Loader	40	85
Generator	50	87
Grader	40	89
Pickup Truck	40	81
Pneumatic Tools	50	91
Roller	20	86
Scraper	40	90
Warning Horn	5	89
Welder/Torch	40	80

*1. The average fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.
 Source: FHWA, 2006.*

Table 4.10-7 shows typical maximum construction noise levels at various distances from construction activity, based on a standard noise attenuation rate of 6 dB per doubling of distance for point sources of noise.



**Table 4.10-7
 Typical Maximum Construction Noise Levels at
 Various Distances from Project Construction (dB)**

Distance from Construction	Maximum Noise Level at Receptor (no Pile-Driving)
25 feet	91
50 feet	85
75 feet	82
100 feet	79
250 feet	71
500 feet	65
700 feet	62
1,000 feet	59
2,500 feet	51

Specific impacts related to construction noise for each of the proposed components are discussed below.

David Avenue Reservoir. The nearest sensitive receptors to the reservoir are three residences within approximately 75 feet of the site. During construction, these receptors would be exposed to maximum noise levels of 82 dB (refer to Table 4.10-7). Although construction would last up to 154 days, disturbance within 75 feet of the receptors would not likely occur every day of construction. Thus, maximum noise levels may be lower. Nevertheless, these receptors would be exposed to noise exceeding the City of Pacific Grove’s threshold of 70 dB, which is applied to this component of the project, as described in Section 4.2.10(a) (Methodology and Significance Thresholds) above. Impacts from the David Avenue Reservoir component would be potentially significant and mitigation is required.

Pine Avenue Conveyance. The nearest sensitive receptors to the Pine Avenue Conveyance improvements abut Pine Avenue, and would therefore be located within 25 feet of construction activities. During construction, these receptors would be temporarily exposed to maximum noise levels of 91 dB (refer to Table 4.10-7). Installation of the Pine Avenue Conveyance improvements would occur block-by-block, with each block being impacted for approximately four days. Thus, the maximum noise level would only be experienced at each receptor for a limited period of time. Nevertheless, because temporary noise levels would exceed the City of Pacific Grove’s threshold of 70 dB for these sensitive receptors, impacts would be potentially significant and mitigation is required.

Ocean View Boulevard Conveyance. The nearest sensitive receptors to this component abut Ocean View Boulevard, and would therefore be located within 25 feet of construction activities. During construction, these receptors would be exposed to maximum noise levels of 91 dB (refer to Table 4.10-7). Although construction of the Ocean View Boulevard Conveyance would last up to 66 days, improvements would occur block-by-block, with each block being impacted for



approximately nine days. During installation of pump stations, disturbances could occur for up to 15 days. Nevertheless, because temporary noise levels would exceed the City of Pacific Grove's threshold of 70 dB for these sensitive receptors, impacts would be potentially significant and mitigation is required.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The nearest sensitive receptor to this component of the project is a single family residence approximately 700 feet east of the site. At this distance, this sensitive receptor would be exposed to maximum noise levels of 62 dB (refer to Table 4.10-7). This does not exceed the City of Pacific Grove's threshold of 70 dB; therefore, impacts would be less than significant for this component of the project.

Diversions to MRWPCA. The nearest sensitive receptors to this component about Ocean View Boulevard, and would therefore be located within 25 feet of construction activities. During construction, these sensitive receptors would be exposed to maximum noise levels of 91 dB (refer to Table 4.10-7). However, this exposure could occur for a maximum of 13 days during which time an existing pump station would be upgraded. Construction activities for this component would be relatively minor. Nevertheless, because noise levels may exceed the City of Pacific Grove's threshold of 70 dB for nearby sensitive receptors, impacts would be potentially significant and mitigation is required.

Mitigation Measures. The following mitigation measures are required for all project components except for the Point Pinos Stormwater Treatment Facility and Crespi Pond.

- N-1(a) Construction Hours.** Hours of construction for the David Avenue Reservoir, Pine Avenue Conveyance, Ocean View Boulevard Conveyance, and Diversions to MRWPCA components of the project shall be limited to the hours between 8:00 AM and 7:00 PM on weekdays and 9:00 AM to 4:00 PM on Saturdays. No construction work shall be allowed to occur on Sundays or other federal, state or local holidays. The portions of the David Avenue Reservoir and Diversions to MRWPCA which are in the City of Monterey would be subject to less restrictive construction hours based on the MCC; however, since portions of the component are also in the City of Pacific Grove, the more restrictive hours shall be applied.
- N-1(b) Construction Equipment.** Stationary construction equipment that generates noise that exceeds 70 dB at the boundaries of adjacent sensitive receptors shall be baffled to reduce noise and vibration levels. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines shall be prohibited.
- N-1(c) Noise Mitigation and Monitoring Program.** For the David Avenue Reservoir and Diversions to MRWPCA, the construction contractor shall provide, to the satisfaction of the City of Monterey Planning Office, a Noise Mitigation and Monitoring Program, as described below. For all components of the project, the construction contractor shall provide, to the satisfaction of the City of Pacific Grove Planning



Division, a Noise Mitigation and Monitoring Program that requires all of the following:

- Construction contracts that specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices.
- That all property owners and occupants located within 300 feet of project components shall be sent a notice, at least 15 days prior to commencement of construction, regarding the construction schedule of the project. All notices shall be reviewed and approved by the appropriate City Planning Office/Division prior to the mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and telephone number where residents can inquire about the construction process and register complaints. Notices shall be sent to affected property owners within both the City of Pacific Grove and City of Monterey where applicable.
- That prior to issuance of any grading or building permit, the construction contractor shall demonstrate to the satisfaction of the appropriate City Planning Office/Division how construction noise reduction methods such as shutting off idling equipment and vehicles, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging and parking areas and occupied residential areas, and electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.
- That during construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.
- For all noise-generating construction activity on each component site, additional noise attenuation techniques shall be employed to reduce noise levels to the maximum extent feasible. Such techniques may include, but are not limited to: the use of sound blankets on noise generating equipment and the construction of temporary sound barriers between the construction site and nearby sensitive receptors.

N-1(d) Staging Areas. The construction contractor shall provide staging areas on-site to minimize off-site transportation of heavy construction equipment. These areas shall be located to maximize the distance between activity and sensitive receptors (neighboring residences). This would reduce noise levels associated with most types of idling construction equipment.

N-1(e) Electrically-Powered Tools and Facilities. Electrical power shall be used to run air compressors and similar power tools and to power any temporary structures, such as construction trailers.



Significance After Mitigation. Even with implementation of all feasible noise reduction measures, there remains the potential for construction noise levels at nearby sensitive receptors to exceed the City of Pacific Grove's daytime noise threshold of 70 dB. However, because noise exceedances would not be constant or permanent, and only last for the timeframe of project construction, impacts would be considered temporary and less than significant.

Impact N-2

Project construction would result in a short-term increase in vehicle trips to and from the project site that could increase traffic noise on area roadways. However, this noise would not result in a substantial increase in ambient noise levels on affected roadways that would impact nearby sensitive noise receptors. This impact would be Class III, less than significant.

Construction of the proposed project would generate noise off-site, primarily from commuting construction workers and from use of haul trucks bringing materials to and from the project component sites. The anticipated number of construction-generated vehicle trips is discussed in Section 4.12, *Transportation/Traffic*. For temporary traffic-related sources of noise, impacts would be considered significant if project-generated traffic would result in a substantial increase in ambient noise levels in the project vicinity above levels existing without the project. In general, a doubling of traffic on a roadway would result in a noise increase of approximately 3 dBA. As described in Section 4.10.1(a) (Overview of Noise), a 3 dBA change in community noise levels is generally noticeable, while 1 to 2 dB changes generally are not perceived.

Specific impacts related to construction traffic noise for each of the proposed components are discussed below.

David Avenue Reservoir. This component of the project would consist of on-site improvements to restore the David Avenue Reservoir. To accomplish this, grading and material removal would be required, resulting in new truck trips to and from the site. As discussed in Section 4.12, *Transportation/Traffic*, 24 daily truck trips with up to four per hour would be expected. Currently, there are 197 daily trips to and from the site, and the proposed project would represent a 12.2 percent increase over existing traffic to and from the site, and a substantially smaller increase in total traffic on area roadways. As described above, a doubling of traffic on a roadway is generally necessary to result in a 3 dBA increase in roadway noise. While large trucks are substantially louder than passenger vehicles, the anticipated increase in traffic would be small in relation to existing traffic, and would not substantially increase roadways noise in the area. In addition, the anticipated construction traffic would only occur temporarily during the construction phase. Therefore, the David Avenue Reservoir component of the project would not result in a significant traffic noise increase in the area.

Pine Avenue Conveyance. Construction of this project component would require approximately 7,600 cubic yards of material to be hauled off-site. For the work at Robert Down Elementary School (installation of an equalization basin/storage facility), 48 total daily truck trips (up to six per hour) would be expected; along Pine Avenue, 16 total daily truck trips (up to two per hour) would be expected (refer to Section 4.12, *Transportation/Traffic*). Conservatively assuming that work on both sites would occur simultaneously, there would be a maximum of eight hourly truck trips for this project component. As described above, a doubling of traffic on



a roadway is generally necessary to result in a 3 dBA increase in roadway noise. The total daily truck trips that would be generated during construction of this component would be temporary and would not dramatically increase the traffic noise for sensitive receptors; therefore, the Pine Avenue Conveyance component of the project would not result in a significant traffic noise increase in the area.

In addition to new truck trips, the Pine Avenue Conveyance would require approximately 14 weeks of block closures of Pine Avenue between 7th Street and 19th Street. Each block would be closed for approximately four days. These lane closures would occur during the weekday daytime hours only; roadway openings would be covered for nighttime use by drivers. Roadways that would be used for detours would be exposed to increased traffic noise during construction. Given the limited period of time and the relatively minor increase in localized traffic, the impact on sensitive receptors would not be significant.

Aside from the lane reduction on Pine Avenue, there would be a period of approximately one and a half weeks where northbound and southbound traffic on Pine Avenue would be detoured to Laurel Avenue to accommodate a pump station installation. Existing traffic volumes on Laurel Avenue are low. It currently serves approximately 900 daily trips and 80 hourly trips. Based on the existing traffic counts on Pine Avenue, it can be expected that approximately 200 peak hour vehicle trips would utilize this detour route, for a total of approximately 280 directional (both directions) peak hour trips. This would not be a significant increase in traffic volumes along the detour roadways and it would occur only temporarily, for about one and a half weeks. Therefore, the noise impact on sensitive receptors would not be significant.

Ocean View Boulevard Conveyance. Construction of the Ocean View Boulevard Conveyance improvements would require lane and block closures over a period of two to three and a half weeks. The Ocean View Boulevard Conveyance would be constructed primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the former PGWTP at the Point Pinos Lighthouse Reservation. The two primary work zones on Ocean View Boulevard would be located (1) just east of Coral Street and (2) just east of Sea Palm Avenue.

The truck hauling requirements for the primary work zones of the Ocean View Boulevard Conveyance would be minimal. For each work zone, eight total daily truck trips with (two per hour) would be expected (refer to Section 4.12, *Transportation/Traffic*). Conservatively assuming that work on both sites would occur simultaneously, there would be a maximum of four hourly truck trips. As described above, a doubling of traffic on a roadway is generally necessary to result in a 3 dBA increase in roadway noise. This increased volume of traffic and associated noise levels would occur for an approximate maximum of three days, and would therefore not have a significant impact on sensitive receptors.

Point Pinos Stormwater Treatment Facility and Crespi Pond, and Diversions to MRWPCA. At any given time, it is anticipated that these components of the project would generate up to 22 new truck trips per hour on nearby streets in the project vicinity (refer to Section 4.12, *Transportation/Traffic*). These new truck trips would be spread throughout the study area on David Avenue, Pine Avenue, Forest Avenue, Lighthouse Avenue, Seventeen Mile Drive, and Sunset Avenue, and would be staggered throughout the day. As described above, a doubling of traffic on a roadway is generally necessary to result in a 3 dBA increase in roadway noise. Due to the relatively small number of hourly truck trips from these activities and the likely staggered



construction schedule for each area, the truck traffic would not result in an increase in noise levels that would significantly impact the nearby sensitive receptors.

In addition, temporary daytime lane closures (for a period of ten working days or less) would be necessary to support these components of the project. These lane closures would occur during the weekday daytime hours only; roadway openings would be covered for nighttime use by drivers. Only one direction of each affected street would be closed, which would allow for access by adjacent parcels. Temporary traffic detours would be necessary for these components of the project, but would occur temporarily and would be spread amongst numerous streets, thereby ensuring that the noise created by the truck traffic would not have a significant negative affect on the nearby sensitive receptors.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation measures incorporated.

Impact N-3 **Construction of the proposed project would involve the use of construction equipment, including loaded trucks, jackhammers, and bulldozers, which could result in temporary groundborne vibration that could disturb nearby sensitive receptors. This impact would be Class II, significant but mitigable.**

With respect to groundborne vibration, the proposed project would involve standard construction activities such as asphalt removal and excavation activities. Each of these is anticipated to result in some vibration that may be felt in the immediate vicinity of the project component sites, as commonly occurs with construction projects. Table 4.10-8 identifies various vibration velocity levels for the types of construction equipment that would operate at the project component sites during construction, and the associated VdB at various distances from the source.

**Table 4.10-8
 Vibration Source Levels for Construction Equipment**

Equipment	Approximate VdB			
	25 Feet	50 Feet	75 Feet	100 Feet
Loaded Trucks	86	77	71	68
Jackhammer	79	70	65	61
Small Bulldozer	58	48	43	36

Source: Federal Railroad Administration, 2005.

Note: Construction would not include the use of a pile driver; therefore, pile driving equipment was not included in this analysis.

As noted in Section 4.10.2(a) (Methodology and Significance Thresholds), a threshold of 80 VdB is used for residential receptors and a threshold of 83 VdB is used for all other sensitive receptors.



Based on the information presented in Table 4.10-8, specific impacts related to construction traffic noise for each of the proposed components are discussed below.

David Avenue Reservoir. During construction of this component, excavators, bulldozers and loaded trucks would be on-site for approximately 154 days (22 weeks). The nearest sensitive receptors to the reservoir are three residences within approximately 75 feet of the site. During construction, these receptors would be exposed to maximum vibration levels of 71 VdB (refer to Table 4.10-8). Because these receptors would not be exposed to vibration exceeding 80 VdB, impacts from the David Avenue Reservoir component would be less than significant.

Pine Avenue Conveyance. The nearest sensitive receptors to the Pine Avenue Conveyance improvements abut Pine Avenue, and would therefore be located within 25 feet of construction activities. These receptors include professional offices, Pacific Grove City Hall, Pacific Grove Recreation Department and Youth Center, and the Robert Down Elementary School. The construction period for this project component would last approximately 82 days (16.4 weeks), during which time these sensitive receptors would be temporarily exposed to maximum vibration levels of 86 VdB (refer to Table 4.10-8). It should be noted that installation of the Pine Avenue Conveyance improvements would occur block-by-block, with each block being impacted for approximately four days. In addition, the maximum vibration exposure would only occur as a result of loaded trucks, which would not be continually active during the construction phase. Thus, the maximum vibration level would only be experienced at each receptor for a limited period of time (periodically within a four-day time frame). Nevertheless, because temporary vibration would exceed the threshold of 80 VdB for residential sensitive receptors and 83 VdB for all other sensitive receptors, impacts would be potentially significant and mitigation is required.

Ocean View Boulevard Conveyance. The nearest sensitive receptors to this component are all residential uses that abut Ocean View Boulevard, and would therefore be located within 25 feet of construction activities. During construction, these residences would be exposed to maximum vibration levels of 86 VdB (refer to Table 4.10-8). Although construction of the Ocean View Boulevard Conveyance would last up to 66 days, improvements would occur block-by-block, with each block being impacted for approximately nine days. During installation of pump stations, disturbances could occur for up to 15 days. In addition, the maximum vibration exposure would only occur as a result of loaded trucks, which would not be continually active during the construction phase. Thus, the maximum vibration level would only be experienced at each receptor for a limited period of time. Nevertheless, because temporary vibration would exceed the threshold of 80 VdB for these sensitive receptors, impacts would be potentially significant and mitigation is required.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The nearest sensitive receptor to this component of the project is a single family residence approximately 700 feet east of the site. At this distance, this sensitive receptor would not be exposed to measurable vibration from construction. Impacts would be less than significant.

Diversions to MRWPCA. The nearest sensitive receptors to this component are residences that abut Ocean View Boulevard, and would therefore be located within 25 feet of construction activities. Non-residential sensitive receptors include and the Pacific Grove Public Library (located over 500 feet from the site) and Pacific Grove Convalescent Hospital (located over 750



feet from the site). During construction, receptors within 25 feet of the site may be exposed to maximum vibration levels of 86 VdB; the receptors located over 500 feet from the site would not be exposed to measurable vibration from construction (refer to Table 4.10-8).

The proposed improvements for this project component would comprise upgrades to existing facilities, and would not require substantial trenching or material hauling. Because material hauling is not anticipated and the maximum vibration exposure would only occur as a result of loaded trucks, the maximum vibration level may not occur. Nevertheless, based on the proximity of residences and the potential to exceed the threshold of 80 VdB at these receptors, impacts would be potentially significant and mitigation is required.

Mitigation Measures. Based on the above analysis, mitigation is required for the Pine Avenue Conveyance, Ocean View Boulevard Conveyance, and Diversions to MRWPCA components of the project. Mitigation measure N-1(a) restricts construction of these project components to daytime hours. Residential land uses (which comprise the majority of sensitive receptors adjacent to these project components) would not be sensitive to vibration impacts during the day to the extent that impacts would be significant because, generally, vibration impacts affect residents the most if sleep is disturbed. As noted above, the only sensitive receptors adjacent to the Ocean View Boulevard component of the project are residences. In addition, the only sensitive receptors near the Diversions to MRWPCA component of the project that would be impacted by vibration are residences. Therefore, compliance with this measure would reduce impacts from these project components to a less than significant level.

The Pine Avenue Conveyance component of the project would expose non-residential sensitive receptors to vibration levels exceeding the established threshold. These include: professional offices, Pacific Grove City Hall, Pacific Grove Recreation Department and Youth Center, and the Robert Down Elementary School. The following mitigation measure is required to mitigate impacts to these uses.

- N-3 Vibration Mitigation.** Vibration-generating construction activities associated with the installation of storm drain conveyance pipeline beneath Pine Avenue and the installation of an underground stormwater equalization/storage facility at Robert Down Elementary School shall not occur simultaneously. Equipment used for these activities shall be limited to 20 tons, and heavily-loaded trucks shall be routed away from professional offices on Pine Avenue, Pacific Grove City Hall, Pacific Grove Recreation Department and Youth Center, and the Robert Down Elementary School. Earth-moving equipment shall be operated as far from these uses as possible.

Significance After Mitigation. With implementation of mitigation measures N-1(a) and N-3, impacts would be reduced to a less than significant level.

c. Cumulative Impacts. Additional development with the Area of Special Biological Significance (ASBS) watershed area, including a storm drain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue, a Lovers Point storm drain retrofit, and the Pacific Grove Local Water Project (PGLWP), would cumulatively increase the potential for noise



and vibration impacts to occur. However, there is little potential for cumulatively considerable effects with regards to noise as the majority of the noise from the proposed project would be generated during construction. If any of the listed cumulative projects were to be constructed during the estimated 97 weeks of construction for the ASBS Stormwater Management Project, there could be a cumulative and temporary effect on ambient noise in the area. The PGLWP would be constructed at the same site as the proposed Point Pinos Stormwater Treatment Facility and is currently undergoing a separate environmental review. It is unlikely that construction of that project would coincide with construction of the proposed project. In addition, the closest sensitive receptor is located 700 feet from the retired PGWTP site; therefore, exposure of sensitive receptors in the area to substantial construction noise levels from cumulative development is not anticipated to occur. In addition, potential adverse effects related to noise associated with the PGLWP and other projects planned in the City would be reviewed and mitigated on a case-by-case basis. Thus, the potential for cumulatively considerable effects from temporary noise impacts would be less than significant.

Project-related impacts associated with groundborne vibration would be site-specific for all three of the above listed projects and would not combine with other projects. Therefore, cumulative stationary noise and vibration impacts would not be cumulatively considerable, despite the significant and unavoidable vibration noise impact from the proposed project.



4.11 PUBLIC SERVICES AND UTILITIES

4.11.1 Setting

a. Stormwater. The Monterey Regional Water Pollution Control Agency (MRWPCA) maintains 25 wastewater pump stations and operates the regional wastewater treatment plant located in Marina, approximately 12 miles north of the City of Pacific Grove (City of Pacific Grove Public Works Department, May 2012). This treatment plant is sited on 100 acres and was designed to treat 29.6 million gallons per day (MGD). The facility currently treats an average of 18.5 MGD (MRWPCA, 2013). MRWPCA serves Monterey County, the cities of Del Rey Oaks, Monterey, Pacific Grove, Salinas, Marina, Sand City, and Seaside, as well as the communities of Boronda, Castroville, Moss Landing, and the former Fort Ord (MRWPCA, May 2012). The MRWPCA Regional Treatment Plan (RTP) would serve a portion of the proposed project (refer to Section 2.0, *Project Description*).

Within the Pacific Grove Area of Special Biological Significance (ASBS) watershed, there are 24 stormwater outfalls ten (10) inches in diameter or greater that discharge into the ASBS. The Fountain Pump Station located at Fountain Avenue and Ocean View Boulevard in Pacific Grove has a peak wet weather capacity of 7.2 MGD and an average dry weather flow of one MGD (Bret Boatman, personal communication, November 2013). Currently, dry weather flows from a portion of the Pacific Grove ASBS watershed are captured by the City's existing urban runoff diversion system; the Fountain Pump Station conveys this runoff to the MRWPCA RTP during the non-rainfall period (April 1 to November 1 of each year).

b. Solid Waste. Solid waste collection and disposal in Pacific Grove is accomplished by the following methods private haulers or individual direct haul to landfills. The closest landfill to the project site is the Monterey Regional Waste Management District (MRWMD) Monterey Peninsula Landfill and Recycling Facility in Marina, approximately 14 miles north of Pacific Grove. The Monterey Peninsula Landfill and Recycling Facility is expected to be decommissioned in 2107 (CalRecycle, 2013).

Counties are required through the California Integrated Waste Management Act (IWMA) to prepare a Countywide Integrated Waste Management Plan (CIWMP) that demonstrates at least 15 remaining years of storage capacity, including existing, proposed, and tentative landfills or expansions, increased diversion efforts, and out-of-county transport of solid waste, to serve all the jurisdictions within the county. Because the IWMA requires that jurisdictions provide at least 15 years of waste disposal capacity as part of their long-term strategic planning efforts, additional waste disposal capacity will be identified to address disposal demand following closure of this landfill.

Solid waste would be likely disposed of at the MRWMD facility during project construction and operation. Table 4.11-1 identifies the location, permitted capacity, and remaining capacity of this facility.

CalRecycle's *Jurisdiction Diversion/Disposal Rate Summary* for the years 1995 through 2006 indicate that incorporated areas of Monterey County (including the City of Pacific Grove) achieved a solid waste diversion rate of 64 percent in the year 2006 (CalRecycle, December 2013).



**Table 4.11-1
 Existing and Remaining Capacity of Landfills
 that Serve the Project Site**

Facility Name	Location	Permitted Capacity (million cubic yards)	Remaining Capacity (million cubic yards)	Remaining Capacity (%)	Maximum Throughput (tons/day)
Monterey Peninsula Landfill and Recycling Facility	Marina	49.7	48.56	98	3,500

Sources: California Department of Resources Recycling and Recovery (CalRecycle), Solid Waste Information System (SWIS). Accessed December 2013, available at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/Search.aspx>.

c. Regulatory Setting.

State. On March 20, 2012, the State Water Resources Control Board (SWRCB) adopted the “General Exception and Special Protections for the California Ocean Plan Waste Discharge Prohibition for Stormwater and Nonpoint Source Discharges” into the ASBS. The “Special Protections” have since been incorporated in the SWRCB’s Order No. 2013-0001-DWQ, NPDES No. CAS000004 [National Pollutant Discharge Elimination System (NPDES) General Permit For Waste Discharge Requirements (WDRs) For Storm Water Discharges From Small Municipal Separate Storm Sewer Systems (MS4s)]. The “Special Protections” are also part of a General Exception to the California Ocean Plan (COP), which states, “Waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas” (*ibid*). Generally, the Ocean Plan:

- *Is the basis for regulation of wastes discharged in coastal waters and establishes water quality objectives for discharges as measured in the ocean receiving water; and*
- *Applies to point (typically outfall pipes) and non-point (typically overland flow) source waste discharges.*

The principle requirements in the General Exception and Special Protections are:

- *Elimination of non-stormwater urban runoff (e.g. dry weather discharges) into the ASBS;*
- *Ensuring that wet weather flows do not alter “natural water quality;” Ocean receiving water monitoring to ensure marine life and other beneficial uses are protected;*
- *If receiving water monitoring finds natural water quality is degraded by stormwater discharges, reducing pollutant loads by 90 percent during wet-weather;*
- *Eliminating all trash from outfalls and discharges;*
- *Structural Best Management Practices (BMPs) to reduce pollutants, debris (e.g., street sweeping and storm drain inserts), and larger particles (e.g., detention basins and vortex units); and*
- *Non-structural BMPs such as construction site and commercial and industrial inspections, and public education and outreach.*



The “Special Protections” and “General Exception” apply statewide in lieu of individual exceptions.

The water quality parameters that define “natural water quality,” as well as impacts from existing stormwater discharges into the Pacific Grove ASBS, are currently unknown. The cities of Pacific Grove and Monterey are members of a ten-party Central Coast Regional ASBS Monitoring Program that is beginning a two-year water quality monitoring effort in 2013 to gather additional information to assess the Special Protections compliance requirements. If receiving water monitoring determines the natural water quality is degraded, target pollutants and removal levels will be determined. If implemented, the proposed project is intended to satisfy the ASBS Special Protection requirements and protect natural water quality if found degraded. If monitoring determines that the cities are already in compliance with the ASBS Special Protections, the proposed project would not be required and would therefore not be pursued.

Local.

City of Pacific Grove General Plan. The Public Facilities Element of the Pacific Grove General Plan (1994) contains goals and policies related to maintaining public facilities. This includes the policy of maintaining an adequate level of service in the City’s storm drainage system, and expanding and developing storm drainage facilities to accommodate the needs of existing and planned development. Consistency with specific Public Facilities Policies that apply to the project is evaluated in Section 4.9, *Land Use and Planning*.

City of Monterey General Plan. Physical improvements within the City of Monterey would be limited to one new diversion structure at the intersection of David Avenue and Terry Street and minor upgrades to existing manholes near the Monterey Bay Aquarium. Construction of these improvements would require approval of a Use Permit, a Street Opening Permit, a Building Permit, and potentially a Tree Removal Permit (if trees would be removed in the final design) from the City of Monterey. In addition, as a co-sponsor and responsible agency for the project, the Monterey City Council will also consider certification of the Final EIR. Therefore, the project would be subject to City of Monterey policies and programs. The General Plan Public Facilities Element contains goals policies related to police and fire services, park and recreation facilities, schools, and reduction and recycling of waste.

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds. According to Appendix G of the *State CEQA Guidelines*, significant impacts related to public services and utilities would occur if the proposed project would:

- 1) *Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*
 - i. *Fire protection;*
 - ii. *Police protection;*



- iii. Schools;
 - iv. Parks;
 - v. Other public facilities;
- 2) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
 - 3) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
 - 4) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
 - 5) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
 - 6) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
 - 7) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or
 - 8) Comply with federal, state, and local statutes and regulations related to solid waste.

It should be noted that the proposed project would not generate an increase in population that would increase demand for fire or police protection, warrant the construction of new school facilities, or increase the use of parks or other public facilities. The project would not exceed wastewater treatment requirements, nor require the construction of new treatment facilities. Additionally, the proposed project would not include any new residential or staffed facilities; therefore, it would not require the construction of new wastewater treatment facilities, nor would the project result in additional water demand. Further discussion regarding Items 1(i) through 1(v), 2, 3, 5, and 6 can be found in Section 4.13, *Effects Found not to be Significant*. Items 4, 7, and 8 are discussed below.

Impacts related to water supply, including the project's potentially beneficial effect on potable water, are discussed in Section 4.8, *Hydrology and Water Quality*.

b. Project Impacts and Mitigation Measures.

Impact PSU-1 The amount of solid waste that would be generated during construction and operation of the proposed project would not exceed the surplus capacity of the landfill serving the site. Impacts would be Class III, less than significant.

Construction Impacts. Solid waste generated during construction would include common household trash, cardboard, wood pallets, copper wire, scrap metal and wood wire spools, erosion control materials (such as straw bales and silt fencing), and packaging materials for equipment and parts. Waste generated during construction would be collected in trash bins and picked up/disposed of by a local waste disposal company or recycled.



The landfill that would serve the site accepts construction waste. As shown in Table 4.11-1, the Monterey Peninsula Landfill and Recycling Facility has a remaining capacity of 48.56 million cubic yards, or 98 percent (CalRecycle, December 2013).

As stated in Section 2.0, *Project Description*, construction of the proposed project is anticipated to occur over 22 weeks. The construction waste produced is expected to be minimal due to the short length of construction and the nature of the proposed improvements, and would be temporary. The waste that would be produced by construction could be accommodated by the remaining capacity of the Monterey Peninsula Landfill and Recycling Facility. Impacts from construction would be less than significant.

Operational Impacts. As part of operations at the proposed Point Pinos Waste Water Treatment Plant, residual solids would be dried and disposed of at a landfill. As stated above, the Monterey Peninsula Landfill and Recycling Facility has a remaining capacity of 48.56 million cubic yards and is not anticipated to close until 2107. It is therefore anticipated that the landfill has adequate capacity to serve this demand during the life of the project. The project does not include any residential or staffed facilities that would create any other waste byproducts. Impacts during operation would be less than significant.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts to solid waste services and facilities would be less than significant without mitigation.

Impact PSU-2 The proposed project would divert some stormwater to the MRWPCA Regional Treatment Plant via the Fountain Pump Station in Pacific Grove. The diverted stormwater would not exceed the capacity of the Fountain Pump Station or the Regional Treatment Plant. Impacts would be Class III, less than significant.

The primary purpose of the project is to improve stormwater quality prior to being discharged into the ASBS, in accordance with SWRCB standards. It would do so by capturing runoff from the ASBS watershed and conveying it to either the existing MRWPCA RTP or to a new Point Pinos Stormwater Treatment Facility at the retired Pacific Grove Wastewater Treatment Plant (PGWTP), where the water would be treated prior to discharge, or used as irrigation. The majority of this captured runoff would be treated at the new treatment facility at the retired PGWTP site; however, 222 acres of the watershed (23 percent of the total 950-acre ASBS drainage area) would be conveyed to the MRWPCA RTP in Marina. By diverting some of the runoff from the Pacific Grove ASBS watershed to the MRWPCA RTP, the project would incrementally increase the amount wastewater entering this existing facility.

The proposed project is anticipated to divert approximately 148 acre feet per year (AFY) (0.13 MGD) of runoff annually to the MRWPCA RTP, via the Fountain Pump Station (FCE, 2013). As stated above, the Fountain Pump Station has a wet weather design capacity of 7.2 MGD and currently averages one MGD during dry conditions. The project would use approximately 1.8 percent of the capacity of the station. This additional stormwater being diverted through the pump station would not be expected to exceed existing design capabilities.



The stormwater would then flow to the MRWPCA RTP. As noted previously, this facility has the capacity to treat 29.6 MGD and currently treats an average of 18.5 MGD (MRWPCA, 2013), leaving a remaining capacity of approximately 11.1 MGD. The project would divert approximately 0.13 MGD to this facility, representing 1.2 percent of the remaining capacity. Stormwater diverted by the proposed project could therefore be accommodated by the treatment plant, and impacts would be less than significant.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts to existing stormwater treatment facilities would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in Pacific Grove would increase solid waste generation, thereby reducing the lifespan of solid waste landfills serving the region. As discussed in Impact PS-1, the proposed project's impacts to regional solid waste landfills would be less than significant during both construction and operation. With or without implementation of the proposed project, solid waste facilities to serve the region would be required as the capacity of existing facilities is diminished. While the proposed project would utilize a small portion of the available capacity in regional landfills over the long term, the waste disposal demand associated with the proposed project itself would not trigger construction of new or expanded solid waste disposal facilities. Therefore, the project's contribution to cumulative solid waste impacts would not be cumulatively considerable.

Development in Pacific Grove could also change the amount of stormwater runoff in the region. As discussed in Impact PS-2, the MRWPCA RTP currently has a surplus capacity of 11.1 MGD. The proposed project would utilize a small portion of that capacity. The additional proposed projects in the City of Pacific Grove are wastewater and stormwater facilities. These projects would not contribute to stormwater runoff in the area. Cumulative impacts related to existing treatment capacity would be less than significant.



4.12 TRANSPORTATION/TRAFFIC

4.12.1 Setting

a. **Existing Roadway Network.** The Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project is comprised of five associated components located primarily in the City of Pacific Grove, with a portion of two components located in the City of Monterey. The portions located in the City of Monterey are located in the area known as “New Monterey,” which borders the City of Pacific Grove. All five components are located on the Monterey Peninsula, which is located approximately 30 miles southwest of Salinas and approximately 120 miles south of San Francisco (refer to Figures 2-1 and 2-2 in Section 2.0, *Project Description*).

The City of Pacific Grove roadway network involves a street system that is laid out in a basic grid street pattern. Variations to the grid occur due to topography and in those areas developed with the more contemporary subdivision pattern of cul-de-sac and closed loop local streets tying into collector streets. A wide range of street widths are represented from the 30 foot right-of-ways to 100 feet for Pine Avenue. The standard width for new streets is a 50 foot wide right-of-way according to the City of Pacific Grove General Plan (1994). Traffic volumes are generally lower on weekends than weekdays except for streets to visitor attractions including Ocean View Boulevard, Central Avenue, Asilomar Avenue, and Sunset Drive. The streets generally accommodate traffic within their design capacity (City of Pacific Grove, 1994). However, portions of Central, Forest, David, and Congress Avenues and, on weekends, Ocean View Boulevard, are at or near their design capacity. Some problem areas include congestion in the vicinity near the Monterey Bay Aquarium, through traffic on Patterson Lane to access Highway 68, and through traffic to and from Monterey accessing Highway 68 via Prescott Lane (*ibid*).

Constrained by the Pacific Ocean to the west and the Monterey Bay to the north, access from outside the City is generally by State Route (SR) 68 from the south and Lighthouse and Central Avenues from the east. Two gates into the Del Monte Forest are located within the city limits at Forest Lodge Road/Congress Avenue and 17 Mile Drive/Sunset Drive. A total of four intersections on Forest Avenue are controlled by traffic signals at Pine Avenue, Sinex Avenue, David Avenue, and Prescott Lane. SR 68 enters the south portion of Pacific Grove as Forest Avenue, bears west after David Avenue as a portion of Sunset Drive, bears north as a portion of Asilomar Avenue, and terminates at the entrance of the Asilomar State Beach and Conference grounds.

Bicycle trails have been constructed primarily along the coastline and join a regional bike trail system running from Castroville to Pebble Beach with future plans to extend to Point Lobos.

Specific characteristics in the vicinity of each project component are discussed in greater detail below.

David Avenue Reservoir. The David Avenue Reservoir is bordered by single family residences along Carmel Avenue to the east, single family residences along 14th Street and Beaumont Drive to the west, Hillcrest Avenue and Pacific Grove Middle School to north, and David Avenue and single and multi-family residences to the south. The site is owned by



California American Water Company (CalAm), and is currently used as a maintenance, operations, and materials storage area. Carmel Avenue, 14th Street, Beaumont Drive and Hillcrest Avenue are two lane roadways. Hillcrest Avenue borders the Pacific Grove Middle School; the other three streets are residential and have parking on both sides of the street. No closures or detours would be associated with this component of the proposed project.

Pine Avenue Conveyance. The Pine Avenue Conveyance improvements would be located primarily within the Pine Avenue right-of-way between 7th Street and 19th Street. This project component also includes installation of an underground storm water equalization/storage facility in the vicinity of Robert Down Elementary School. The busiest intersection in the project vicinity is Forest Avenue/David Avenue and a detailed description of the impact of truck traffic on this intersection is provided later in this section.

Pine Avenue is a four lane roadway with parking on both sides of the street. Generally, Pine Avenue has between 3,180 and 4,230 daily trips (both directions) (Hexagon Transportation Consultants, Inc. [Hexagon], November 2013). During the peak hours, it experiences peak hour flows of between 265 trips and 425 trips. Typically, each travel lane on an urban street has a capacity of at least 1,200 vehicles per hour when no traffic control devices (such as stop signs, roundabouts, or traffic signals) are present. The intersection of Pine Avenue and Forest Avenue currently has a traffic signal and the intersection of Pine Avenue and Fountain Avenue has all-way stop control.

Construction of this component would require a lane reduction on Pine Avenue, and there would be a period of approximately one and a half weeks where northbound and southbound traffic on Pine Avenue would be detoured to Laurel Avenue to accommodate a pump station installation. The anticipated detour route would include the following roadways: Pine Avenue, Fountain Avenue, Laurel Avenue, and 14th Street. Laurel Avenue is a two lane roadway (one travel lane in each direction) with parking on both sides of the street. Existing traffic volumes on Laurel Avenue are very low. It currently serves approximately 900 daily trips and 80 hourly trips (Hexagon, November 2013). The intersection of Fountain Avenue and Laurel Avenue is currently all-way stop controlled.

Ocean View Boulevard Conveyance. The Ocean View Boulevard Conveyance would be primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the retired PGWTP site at the Point Pinos Lighthouse Reservation. The two primary work zones on Ocean View Boulevard would be located: (1) just east of Coral Street and (2) just east of Sea Palm Avenue (this project also includes various pump stations and storage facilities). Ocean View Boulevard is a two lane roadway with parking on both sides of the street.

Generally, Ocean View Boulevard has between 2,500 and 700 daily trips (both directions) (Hexagon, November 2013). During the peak hours, it experiences peak hour flows of between 110 trips and 250 trips. Typically, each travel lane on an urban street has a capacity of at least 1,200 vehicles per hour when no traffic control devices (such as stop signs, roundabouts, or traffic signals) are present. Ocean View Boulevard currently has no control devices on the relevant segments of road.



Construction of this component would require a lane reduction on Ocean View Boulevard, and there would be a period of approximately three and a half weeks during which traffic would be detoured to Mermaid Avenue and Sea Palm Avenue.

Point Pinos Stormwater Treatment Facility and Crespi Pond. The Point Pinos Stormwater Treatment Facility and Crespi Pond would be located primarily on the retired Pacific Grove Wastewater Treatment Plant (PGWTP) site, which is adjacent to Sunset Drive near Asilomar Avenue. Sunset Drive is a two lane roadway that runs along the coast, with numerous adjacent beach parking lots. The streets that would primarily be affected by this project component include Lighthouse Avenue, Seventeen Mile Drive, and Sunset Drive.

Typically, each travel lane on an urban street has a capacity of at least 1,200 vehicles per hour when no traffic control devices (such as stop signs, roundabouts, or traffic signals) are present. Sunset Drive currently has no control devices on the relevant segments of road. Short daytime lane closures (for a period of ten working days or less) may be necessary to support this component of the project (Hexagon, November 2013).

Diversions to Monterey Regional Water Pollution Control Agency (MRWPCA). This component would be located primarily within or adjacent to the Ocean View Boulevard right-of-way east of Forest Avenue. As described previously, Ocean View Boulevard has between 2,500 and 700 daily trips (both directions) (Hexagon, November 2013). During the peak hours, it experiences peak hour flows of between 110 trips and 250 trips. Typically, each travel lane on an urban street has a capacity of at least 1,200 vehicles per hour when no traffic control devices (such as stop signs, roundabouts, or traffic signals) are present. Ocean View Boulevard currently has no control devices on the relevant segments of road. Short daytime lane closures (for a period of ten working days or less) would be necessary to support this component of the project (Hexagon, November 2013).

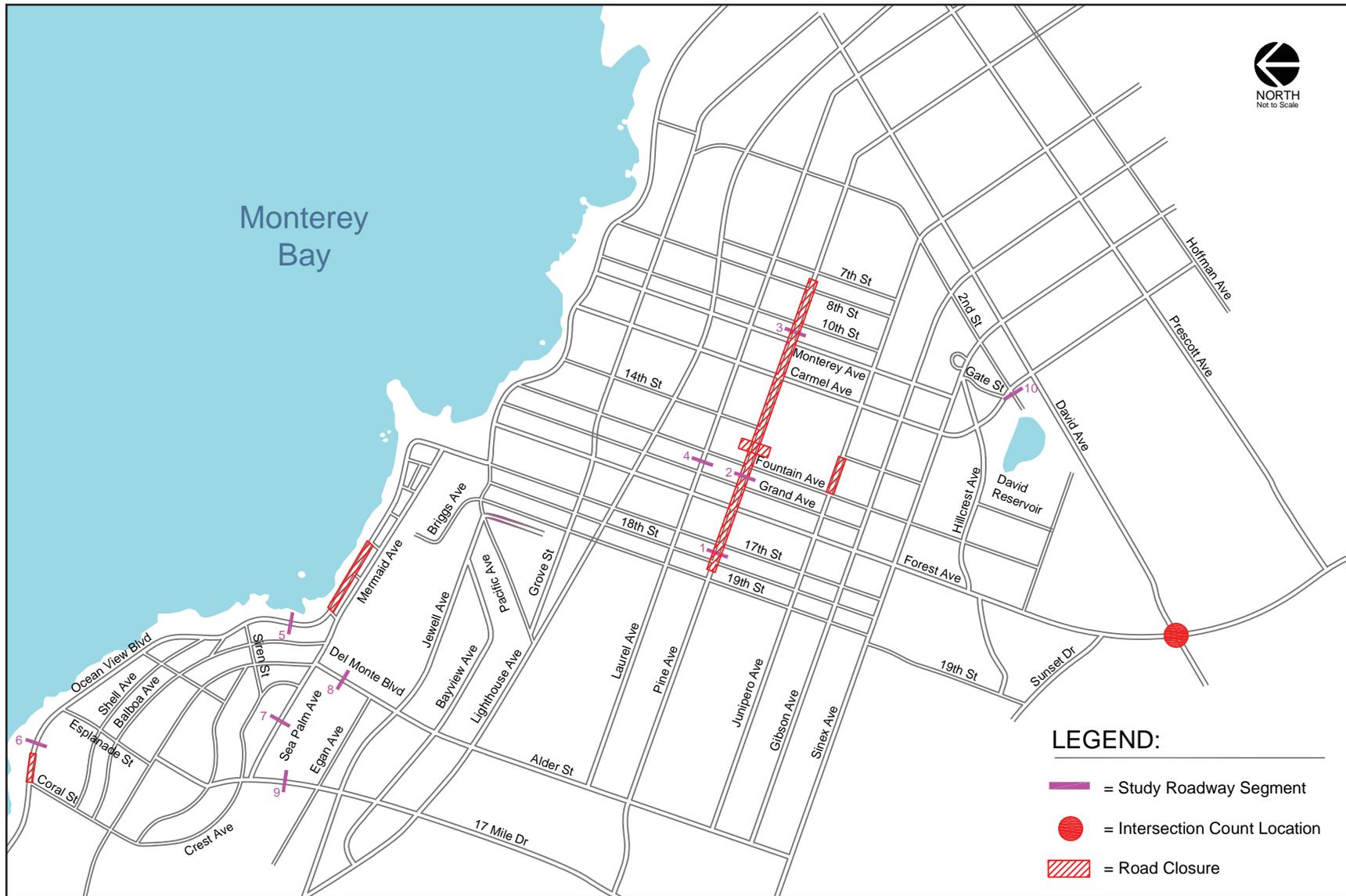
b. Regulatory Setting. The City of Pacific Grove General Plan Transportation Element (1994) includes goals and policies regarding the transportation network and acceptable levels of service (LOS) for City of Pacific Grove roadways. According to this Element, the LOS on arterial and collector streets within the City of Pacific Grove should be no worse than LOS C, but LOS D is acceptable during weekday peak-periods at intersections that in 1994 are close to or at limits of LOS D on arterial routes outside the downtown area. The roads most pertinent to the proposed project are included in the City's list of either collector or arterial roads.

The City of Monterey General Plan Circulation Element includes goals and policies related to the transportation network within the City of Monterey, including David Avenue. According to this Element, the LOS for an automobile corridor within the City of Monterey should be no worse than LOS D.

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. This evaluation is based in part on a *Traffic Operations Analysis* prepared for the proposed project by Hexagon Transportation Consultants, Inc. in November 2013 (included as Appendix H to this EIR). The purpose of this analysis is to (1) quantify the number of truck trips generated by the project, (2) quantify the amount of traffic diversion added to nearby streets and intersections, (3) determine whether the increase in truck traffic or traffic diversion would cause any traffic operations issues, and (4) propose measures to reduce the impact of the project (if necessary). The study area and count locations are shown in Figure 4.12-1.





Source: Hexagon Transportation Consultants, November 2013

Study Area and Count Locations

Figure 4.12-1
 City of Pacific Grove

For the purposes of this evaluation, traffic impacts of the proposed project are disaggregated into three “main” elements (those components of the project expected to have the most disturbances to area roadways during construction):

- *David Avenue Reservoir. Additional truck trips would be generated by the hauling of material during construction. From this site, truck trips would be routed south on David Avenue and proceed east on Highway 68. Trucks would then proceed north on Highway 1 and exit at Del Monte Avenue interchange, where they would unload the construction waste material into the landfill area. Figure 4.12-2 shows the reservoir location and anticipated haul route.*
- *Pine Avenue Conveyance. Additional truck trips would be generated by the hauling of material during construction. From this site, truck trips would be routed onto Pine Avenue, Forest Avenue, and Highway 68. In addition, sections and lanes of Pine Avenue would be closed for approximately 14 weeks. Traffic would be detoured to Laurel Avenue during this period. Figure 4.12-3 shows the Pine Avenue Conveyance study area and anticipated haul route.*
- *Ocean View Boulevard Conveyance. Additional truck trips would be generated by the hauling of material during construction. From this site area, truck trips would be routed onto Ocean View Boulevard, Asilomar Avenue, Lighthouse Avenue, Seventeen Mile Drive, Sunset Drive, Forest Avenue, and Highway 68. In addition, one lane of Ocean View Boulevard would be closed for approximately three and a half weeks. Traffic would be detoured to Mermaid Avenue and Sea Palm Avenue during this period. Figure 4.12-4 shows the Ocean View Boulevard Conveyance study area and anticipated haul route.*

Other project components (including the Point Pinos Stormwater Treatment Facility and Crespi Pond, Diversions to MRWPCA) would result in a small increase in the number of truck trips to nearby streets. The study areas and anticipated haul routes for these components are shown in Figures 4.12-5 and 4.12-6, respectively. These components are analyzed concurrently, at a lesser level of detail.

This traffic operations study (Hexagon, November 2013) includes an analysis of new truck trips and traffic diversion from the primary project components on the roadway segments in the immediate project area. The study facilities and project area are shown on Figure 4.12-1. To quantify the impact of the construction project, 72-hour weekday daily traffic counts were conducted on Tuesday through Thursday the week of October 28, 2013 on the following streets in the project vicinity:

1. *Pine Avenue, 18th Street to 17th Street;*
2. *Pine Avenue, Grand Avenue to Fountain Avenue;*
3. *Pine Avenue, 10th Street to Monterey Avenue;*
4. *Laurel Avenue, Grand Avenue to Fountain Avenue;*
5. *Ocean View Boulevard, Sea Palm Avenue to Siren Street;*





Source: Hexagon Transportation Consultants, November 2013

David Avenue Reservoir and Haul Route

Figure 4.12-2
City of Pacific Grove



Source: Hexagon Transportation Consultants, November 2013

Pine Street Conveyance Area and Haul Route

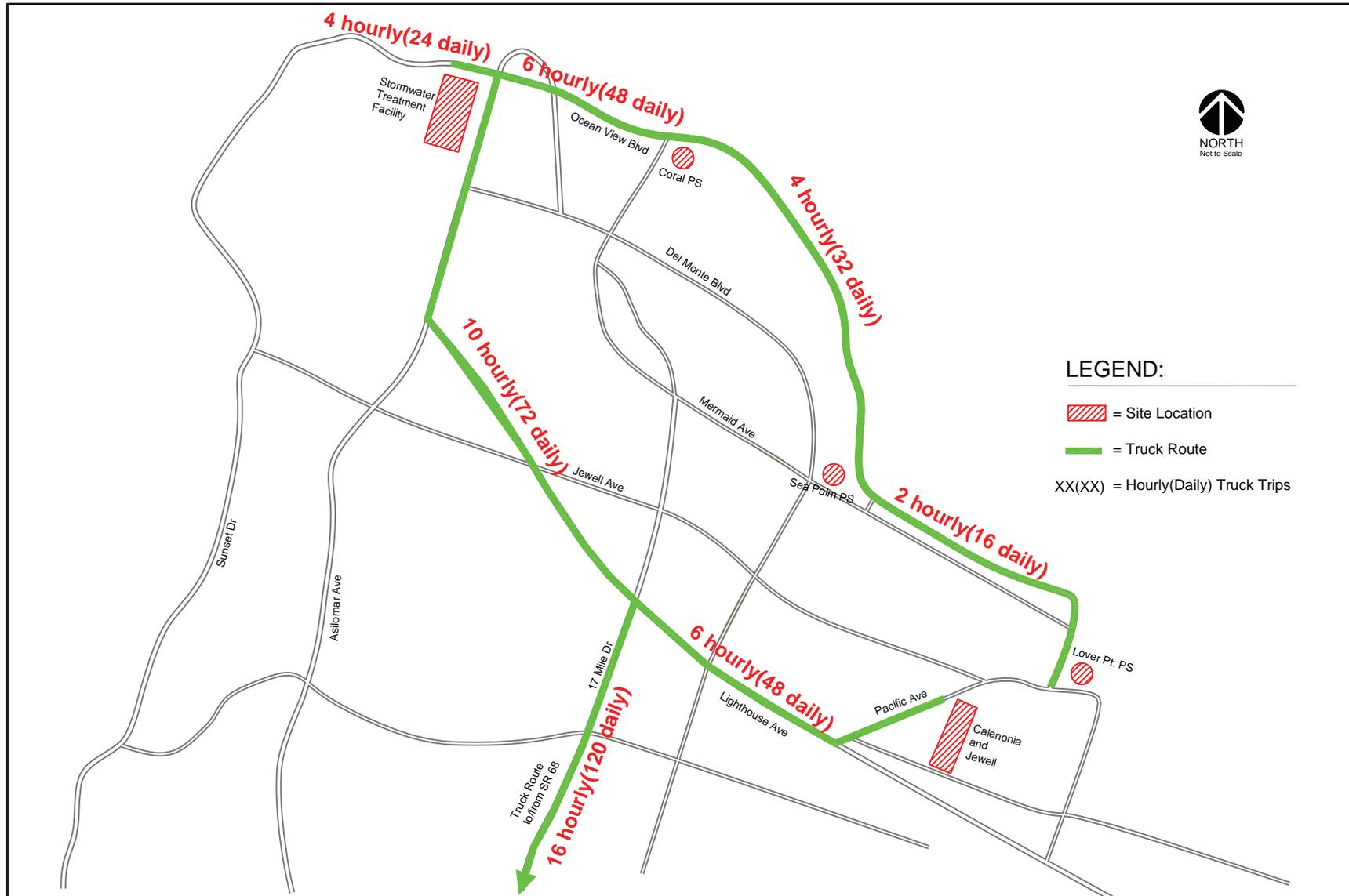
Figure 4.12-3
City of Pacific Grove



Source: Hexagon Transportation Consultants, November 2013

Ocean View Boulevard Conveyance Area and Haul Route

Figure 4.12-4
City of Pacific Grove



Source: Hexagon Transportation Consultants, November 2013

Point Pinos Stormwater Treatment Facility and
 Crespi Pond Area and Haul Routes

Figure 4.12-5
 City of Pacific Grove



Source: Hexagon Transportation Consultants, November 2013

Diversions to MRWPCA Area and Haul Routes

Figure 4.12-6
City of Pacific Grove

6. Ocean View Boulevard, Esplanade Street to Coral Street;
7. Sea Palm Avenue, 17-Mile Drive to Del Monte Boulevard;
8. Del Monte Boulevard, Sea Palm Avenue to Egan Avenue;
9. 17-Mile Drive, Sea Palm Avenue to Egan Avenue; and
10. David Reservoir Driveway.

Table 4.12-1 provides construction truck trip generation estimates for each project component.

**Table 4.12-1
Construction Truck Trip Generation Estimates**

Time	David Avenue Reservoir (In/Out)	Pine Avenue Conveyance		Ocean View Boulevard Conveyance		Point Pinos/Crespi Pond and Diversions to MRWPCA (In/Out)	All Trips		
		Robert Down Elementary (In/Out)	Pump Station & CDS Unit (In/Out)	Clyte to Sea Palm (In/Out)	Coral to Point Pinos (In/Out)		In	Out	Both
8:00 AM to 9:00 AM		3/3	1/1	1/1	1/1	9/9	15	15	30
9:00 AM to 10:00 AM		3/3	1/1	1/1	1/1	9/9	15	15	30
10:00 AM to 11:00 AM	2/2	3/3	1/1	1/1	1/1	11/11	19	19	38
11:00 AM to 12:00 PM	2/2	3/3	1/1	1/1	1/1	11/11	19	19	38
12:00 PM to 1:00 PM	2/2	3/3	1/1	1/1	1/1	11/11	19	19	38
1:00 PM to 2:00 PM	2/2	3/3	1/1	1/1	1/1	11/11	19	19	38
2:00 PM to 3:00 PM	2/2	3/3	1/1	1/1	1/1	11/11	19	19	38
3:00 PM to 4:00 PM	2/2	3/3	1/1	1/1	1/1	1/1	19	19	38
							144	144	288
Arrivals	12	24	8	8	8	84			
Departures	12	24	8	8	8	84			
Total	24	48	16	16	16	168			



In addition, the impact of truck traffic was evaluated at the intersection of Forest Avenue and David Avenue during the AM and PM peak hours. Intersection turn movement counts were conducted at this intersection on Tuesday, October 29, 2013 between 7:00 AM to 9:00 AM and 4:00 to 6:00 PM. These periods represent the peak periods of traffic congestion for a typical day. The analysis of signalized intersection operations was performed using TRAFFIX software based on the *2000 Highway Capacity Manual (2000 HCM)* methodology. TRAFFIX evaluates signalized intersections operations based on average delay time for all vehicles at the intersection. Where truck traffic was assigned to the subject intersection, a passenger car equivalent (PCE) value of 1.5 was assumed for each truck trip.

The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed project would result in any of the following:

- 1) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit;*
- 2) *Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;*
- 3) *Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);*
- 4) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;*
- 5) *Result in inadequate emergency access; and/or*
- 6) *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

The proposed project is approximately 10 miles northwest of the closest airport, the Monterey Peninsula Airport. Therefore, the project area is not located within the vicinity of an airport or private airstrip and would not alter air traffic patterns. In addition, impacts relating to design features or incompatible uses, emergency access, and alternative transportation would only occur temporarily during construction and are considered less than significant. Items 3, 4, and 6 are not further addressed in this section; refer to Section 4.13, *Effects Found not to be Significant*, for further discussion. Items 1, 2, and 5 are discussed below.

Operation of the proposed project would require infrequent maintenance activities. In order to complete such maintenance, employees would have to drive to the project components as necessary. These trips would be infrequent and they would be made by a small number of vehicles relative to the number of vehicles traveling on the roadways currently. Operational traffic would therefore not create an impact to transportation and is not discussed further in this section.



b. Project Impacts and Mitigation Measures.

Impact T-1 Construction of the proposed project would result in changes to intersection operations and roadway traffic. The project would generate new truck trips as part of the construction phase and would require temporary block closures during construction. Impacts would be Class II, significant but mitigable.

The proposed project includes installation of above and underground storm water management facilities the construction of which would include grading and material removal work for some of the project components. This would result in generation of construction related truck trips and lane and block closures during construction. The specific impacts associated with each of the project components are discussed below.

David Avenue Reservoir. This component of the project would consist of on-site improvements to restore the David Avenue Reservoir. To accomplish this, grading and material removal would be conducted on-site, resulting in new truck trips to and from the site. This project component would require approximately 3,800 cubic yards (CY) of material to be hauled to the Monterey Regional Waste Management District (MRWMD) landfill in Marina. It is anticipated that two trucks would operate simultaneously for six hours each day, for 16 days, resulting in 24 total daily truck trips with four total truck trips per hour (two in/two out). From the site, truck trips would be routed south on David Avenue, east on State Route (SR) 68, north on Highway 1 and exit at Del Monte Avenue interchange, where they would unload the material into the landfill area. The site location and haul route are shown on Figure 4.12-2.

The David Avenue Reservoir site is owned by CalAm, and is currently used a maintenance, operations, and materials storage area. It is not known at this time whether the current operations on-site would cease once the reservoir improvements are completed. As a worst-case scenario, this analysis assumes that the existing operations would continue. Traffic generated by existing on-site operations was measured on October 29, 2013. The data show that there are currently 197 daily trips from the site, with 34 trips occurring during the AM peak hour and 31 trips occurring during the PM peak hour (refer to Table 4.12-2).

**Table 4.12-2
 Existing Reservoir (Storage Yard) Trip Generation**

Land Use	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Existing Storage Yard	197	16	18	34	11	20	31

Source: Hexagon, November 2013.

As noted above, this component of the project would generate approximately four truck trips per hour (two in/two out) during construction. Assuming a PCE of 1.5, this equates to approximately six hourly trips. However, it is assumed that no truck trips would occur during the AM or PM peak hours based on the daily truck schedule for the site. The busiest intersection in the project vicinity is Forest Avenue and David Avenue, and a detailed description of the



impact of truck traffic on this intersection is provided in Impact T-2. Given the relatively low trip generation to the site, it is not anticipated that the truck trips from the David Avenue Reservoir project would result in any significant roadway impacts.

Pine Avenue Conveyance. The Pine Avenue Conveyance improvements would be located primarily within the Pine Avenue right-of-way between 7th Street and 19th Street. This project component also includes installation of an underground storm water equalization/storage facility in the vicinity of Robert Down Elementary School. To accomplish this, grading and material removal work would be conducted, resulting in new truck trips to and from the area. The site location and haul route are shown on Figure 4.12-3.

Construction of this project component would require approximately 7,600 cubic yards of material to be hauled off-site. For the work at Robert Down Elementary School (installation of an equalization basin/storage facility), it is anticipated that three trucks would operate simultaneously for eight hours each day, for approximately 15 days, resulting in 48 total daily truck trips with six total truck trips per hour (three in/three out). For the work on Pine Avenue, it is anticipated that one truck would operate for eight hours each day, for approximately six days, resulting in 16 total daily truck trips with two total truck trips per hour (one in/one out). Thus, assuming work on both sites would occur simultaneously, there would be a maximum of eight hourly truck trips (four in/four out). From this site, truck trips would be routed from Pine Avenue to Forest Avenue and SR 68. Assuming a PCE of 1.5 for each truck, this equates to approximately 12 hourly PCE trips (six in/six out). This volume of additional traffic could be accommodated on the proposed haul route (Hexagon, November 2013).

In addition to new truck trips, the Pine Avenue Conveyance would require approximately 14 weeks of block closures of Pine Avenue between 7th Street and 19th Street. It is expected that the block closures would begin on 7th Street and progress to 19th Street. Each block would be closed for approximately four days. These lane closures would occur during the weekday daytime hours only; roadway openings would be covered for nighttime use by drivers. Pine Avenue is a four-lane roadway with parking on both sides of the street. During construction, two lanes would be expected to remain open on Pine Avenue (one for each direction of travel). This would allow for access by adjacent parcels. Parking would be prohibited on each block where construction activity is occurring. Based on field observations on Pine Avenue, there is ample parking on adjacent blocks and street segments to accommodate the temporary parking prohibition (Hexagon, November 2013). After work is completed, the street would be repaved with asphalt. This process is expected to take one to two weeks.

To determine whether one through-lane in each direction would be adequate to accommodate existing traffic on Pine Avenue, 72-hour traffic counts were conducted on Pine Avenue near 17th Street, Grand Avenue, and 10th Street. A summary of these traffic counts are shown on Table 4.12-3.



**Table 4.12-3
Existing Traffic Volumes**

No.	Location	Peak Hour (both directions)		
		Daily	AM	PM
1	Pine Ave. between 18 th St. and 17 th St.	4,227	387	371
2	Pine Ave. between Grand Ave. and Fountain Ave.	4,088	424	347
3	Pine Ave. between 10 th St. and Monterey Ave.	3,180	279	266
4	Laurel Ave. between Grand Ave. and Fountain Ave.	879	77	81
5	Ocean View Blvd. between Sea Palm Ave. and Siren St.	2,696	124	249
6	Ocean View Blvd. between Esplanade St. and Coral St.	2,534	113	231
7	Sea Palm Ave. between 17-Mile Dr. and Del Monte Blvd.	120	9	11
8	Del Monte Blvd. between Sea Palm Ave. and Egan Ave.	1,017	70	91
9	17-Mile Dr. between Sea Palm Ave. and Egan Ave.	904	69	81

Source: Hexagon, November 2013.

As shown on Table 4.12-3, Pine Avenue has generally between 3,180 and 4,230 daily trips (both directions). During the peak hours, it experiences peak hour flows of between 265 trips and 425 trips. Typically, each travel lane on an urban street has a capacity of at least 1,200 vehicles per hour when no traffic control devices (such as stop signs, roundabouts, or traffic signals) are present. For this reason, the proposed plan to allow one lane in each direction on Pine Avenue would provide sufficient capacity to accommodate the traffic demand on the street segments planned for closure during construction. The intersection of Pine Avenue and Forest Avenue currently has a traffic signal and the intersection of Pine Avenue and Fountain Avenue has all-way stop control. At these locations, the capacity of a single lane would be reduced by approximately 50 percent to account for traffic on cross streets. Thus, the expected capacity of a single lane at a controlled intersection would be approximately 800 vehicles per hour.

Aside from the lane reduction on Pine Avenue, there would be a period of approximately one and a half weeks where northbound and southbound traffic on Pine Avenue would be detoured to Laurel Avenue to accommodate a pump station installation. The anticipated detour route would include the following roadways: Pine Avenue, Fountain Avenue, Laurel Avenue, and 14th Street. To check the feasibility of this detour route, 72-hour traffic count data was collected on Laurel Avenue near Fountain Avenue (refer to Table 4.12-3). Laurel Avenue is a two lane roadway (one travel lane in each direction) with parking on both sides of the street. Existing traffic volumes on Laurel Avenue are low. It currently serves approximately 900 daily trips and 80 hourly trips. The intersection of Fountain Avenue and Laurel Avenue is currently all-way stop controlled. For this reason, a reasonable capacity of the detour route would be approximately 800 directional vehicles per hour (Hexagon, November 2013). Based on the existing traffic counts on Pine Avenue, it can be expected that approximately 200 peak hour vehicle trips would utilize this detour route, for a total of approximately 280 directional (both



directions) peak hour trips. This would be well below the expected directional capacity of 800 vehicles per hour. Therefore, this detour route would provide adequate capacity to accommodate anticipated traffic demand.

As shown in the above analysis, current traffic volumes would be sufficiently served by the proposed detour route for this project component. However, the proposed haul routes do not contain provisions for pedestrians or cyclists, and vehicle safety along Pine Avenue may be a concern during detour operations (Hexagon, November 2013). Therefore, despite the limited addition of construction traffic and the adequacy of detour routes to serve existing traffic volumes, mitigation is required to ensure that impacts remain less than significant.

Ocean View Boulevard Conveyance. Construction of the Ocean View Boulevard Conveyance improvements would require lane and block closures over a period of two to three and a half weeks. The Ocean View Boulevard Conveyance would be constructed primarily within the Ocean View Boulevard right-of-way from Forest Avenue west to the former PGWTP at the Point Pinos Lighthouse Reservation. The two primary work zones on Ocean View Boulevard would be located (1) just east of Coral Street and (2) just east of Sea Palm Avenue. The site location and haul route are shown on Figure 4.12-4.

The truck hauling requirements for the primary work zones of the Ocean View Boulevard Conveyance would be minimal. For the work zone near Coral Street, it is anticipated that one truck would operate continuously for eight hours, for one day, resulting in eight total daily truck trips with two total truck trips per hour (one in/one out). For the work near Sea Palm Avenue, it is anticipated that one truck would operate for eight hours each day, for approximately two days, resulting in eight total daily truck trips with two total truck trips per hour (one in/one out). Thus, assuming work on both sites would occur simultaneously, there would be a maximum of four hourly truck trips (two in/two out). From this site, truck trips would be routed from Ocean View Boulevard to Asilomar Avenue, Lighthouse Avenue, Seventeen Mile Drive, Sunset Drive, Forest Avenue, and SR 68. Assuming a PCE of 1.5 for each truck equates to approximately six hourly PCE trips (three in/three out). This volume of additional traffic could be accommodated on the proposed haul route (Hexagon, November 2013).

In addition to new truck trips, the Ocean View Boulevard Conveyance would require approximately two to three and a half weeks of block closures of Ocean View Boulevard between Clyde Street and Coral Street. It is expected that the block closures would begin on 7th Street and progress to 19th Street. Each block would be closed for approximately nine days. These lane closures would occur during the weekday daytime hours only; roadway openings would be covered for nighttime use by drivers. Ocean View Boulevard is a two-lane roadway with parking on both sides of the street. During construction, one lane is expected to remain open on Ocean View Boulevard (traffic breaks with flaggers would control directional travel). This would allow for access by adjacent parcels. Parking would be prohibited on each block where construction activity is occurring. Based on field observations on Ocean View Boulevard, there would be ample parking on adjacent blocks and street segments to accommodate the temporary parking prohibition (Hexagon, November 2013). After work is completed, the street would be repaved with asphalt. This process would be expected to take one to two weeks.



To determine whether one lane is adequate to accommodate existing traffic on Ocean View Boulevard, 72-hour traffic counts were conducted on Ocean View Boulevard near Sea Palm Street and Coral Street. A summary of these traffic counts is shown in Table 4.12-3 above. As described in Section 4.12.1, Ocean View Boulevards generally has between 2,500 and 700 daily trips (both directions). During the peak hours, it experiences peak hour flows of between 110 trips and 250 trips. Typically, each travel lane on an urban street has a capacity of at least 1,200 vehicles per hour when no traffic control devices (such as stop signs, roundabouts, or traffic signals) are present. For this reason, the proposed plan to allow one lane in each direction on Ocean View Boulevard would generally provide sufficient capacity to accommodate the traffic demand on most street segments (Hexagon, November 2013).

As shown in the above analysis, current traffic volumes would be sufficiently served by the proposed detour route for this project component. However, the proposed haul routes do not contain provisions for pedestrians or cyclists, and vehicle safety along Ocean View Boulevard may be a concern during detour operations (Hexagon, November 2013). Therefore, despite the limited addition of construction traffic and the adequacy of detour routes to serve existing traffic volumes, mitigation is required to ensure that impacts remain less than significant.

Point Pinos Stormwater Treatment Facility and Crespi Pond, and Diversions to MRWPCA. At any given time, it is anticipated that these components of the project would generate up to six new truck trips per hour (three in/three out) on nearby streets in the project vicinity. Depending on the ultimate scheduling of these facilities, there could be up to 22 truck trips per hour (11 in/11 out) at any one time on the roadway network, assuming simultaneous construction. These would be spread throughout the study area on David Avenue, Pine Avenue, Forest Avenue, Lighthouse Avenue, Seventeen Mile Drive, and Sunset Avenue. When considering the relatively few number of hourly truck trips from these activities and the likely staggered construction schedule for each area, the truck traffic would not result in any level of service or capacity problems for the streets affected.

In addition, short daytime lane closures (for a period of ten working days or less) would be necessary to support these components of the project. These lane closures would occur during the weekday daytime hours only; roadway openings would be covered for nighttime use by drivers. Only one direction of each affected street would be closed, which would allow for access by adjacent parcels. Short-term roadway work is common in the public right-of-way during the construction season and generally does not warrant detailed study; however, short-term traffic detours would be necessary for these components of the project, which may have an impact on traffic in the area. Mitigation is therefore required to reduce impacts to a less than significant level.

Mitigation Measures. The following mitigation measures are required.

- T-1(a) Temporary Traffic Handling Plans.** Plans shall be prepared for the proposed lane reductions on Pine Avenue and Ocean View Boulevard as part of the Pine Avenue Conveyance and Ocean View Boulevard Conveyance components of the project, respectively. The plans shall be prepared in accordance with the latest California Manual on Uniform Traffic Control Devices (CA



MUTCD) and Work Area Traffic Control Handbook (WATCH) manual requirements (where appropriate) and contain provisions for handling bike and pedestrian traffic, as well as ensuring access to neighboring facilities and residences during construction and ensuring emergency access to fire hydrants along all roadways. The plans shall be reviewed and approved by the City of Pacific Grove Public Works Department prior to construction. At each of the lane closure locations and at the intersection of Pine Avenue and Forest Avenue, a traffic flagger shall be utilized to ensure that traffic can be safely accommodated through the closures during construction. In addition, traffic flaggers shall be utilized to handle school/pedestrian traffic crossing if construction on Pine Avenue is to occur during school hours.

- T-1(b) City Staff Coordination.** For the Point Pinos Stormwater Treatment Facility and Crespi Pond and Diversions to MRWPCA Components of the project, the project administrator shall coordinate with City staff regarding the duration and locations of short-term traffic diversions. Temporary traffic handling plans shall be prepared when necessary to detour traffic to appropriate locations. In addition, the daytime hours of traffic diversion shall be restricted to allow for adequate traffic flow at high traffic volume locations during peak commute hours.

Significance After Mitigation. With implementation of the above mitigation measures, impacts would be reduced to a less than significant level.

- Impact T-2 Construction of the proposed project would generate temporary traffic at the intersection of David Avenue and Forest Avenue. Impacts to this intersection's level of service would be Class III, less than significant.**

The impact of construction traffic was evaluated at the intersection of David Avenue and Forest Avenue for the AM and PM peak hours assuming all project components with a haul route through the intersection. As a worst case scenario, this analysis assumes that all project components would be constructed simultaneously. In reality, many of the project components would occur at different times during the construction process.

Assuming concurrent construction, up to 38 hourly truck trips (19 in/19 out) would occur at the intersection of David Avenue and Forest Avenue during the AM and PM peak hours. Assuming a PCE of 1.5, this equates to approximately 57 PCE hourly trips (28 in/28 out). The resulting level of service calculations are shown on Table 4.12-4. As shown therein, the intersection currently operates at LOS C during the AM and PM peak hours, and would continue to operate at LOS C during construction of the proposed project. Thus, it is not anticipated that the construction truck activity would create a significant impact at the David Avenue and Forest Avenue intersection.



**Table 4.12-4
 David Avenue/Forest Avenue Intersection:
 Construction Phase Level of Service**

Study Number	Intersection	Peak Hour	Count Date	Existing		During Construction	
				Avg. Delay	LOS	Avg. Delay	LOS
1	David Avenue and Forest Avenue	AM	10/29/13	24.4	C	24.3	C
		PM	10/29/13	25.7	C	25.7	C

Source: Hexagon, November 2013.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Additional development with the ASBS watershed area, including a storm drain pipeline replacement and re-alignment from Sinex Avenue to Gibson Avenue, a Lovers Point storm drain retrofit, and the Pacific Grove Local Water Project (PGLWP), would cumulatively increase the potential for traffic impacts to occur. The proposed Monterey-Pacific Grove ASBS Stormwater Management Project’s contribution to this impact would only occur during the construction phase of the project, and could incrementally contribute to this cumulative effect if the other projects in the vicinity were under construction during the same time period. This is unlikely to occur, especially for the PGLWP, which is located at Point Pinos, on a site that coincides with the ASBS component. If the PGLWP construction was completed and immediately followed by construction on the Point Pinos Stormwater Treatment Facility and Crespi Pond Component of the project, the length of time during which traffic impacts would occur could be extended. However, impacts associated with individual development projects would be addressed on a case-by-case basis and appropriate mitigation would be applied, where required. Assuming that all traffic impacts are adequately addressed for each individual development proposal, cumulative impacts related to traffic would be less than significant.



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4.13 EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the *State CEQA Guidelines* requires an EIR to briefly describe any possible significant effects that were determined not to be significant and were, therefore, not discussed in detail. This section addresses such effects of the proposed Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project. The thresholds of significances used herein are contained in the environmental checklist form included in Appendix G of the *State CEQA Guidelines*. Any items not addressed in this section are addressed in Sections 4.1 through 4.12 of this EIR.

4.14.1 Aesthetics

a. Thresholds of Significance. Pursuant to the *State CEQA Guidelines*, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

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

Items 1, 3, and 4 are discussed in Section 4.1, *Aesthetics*. Item 2 is discussed below.

b. Assessment of Impacts. State Route 68 (also locally known as Holman Highway) is a State-designated scenic highway from Highway 1 in Monterey, east to the Salinas River (California Department of Transportation [Caltrans], 2011). The segment west of Highway 1, which travels within approximately 0.4 miles of the David Avenue Reservoir component of the project, is not designated as a State scenic highway. There are no other State-designated scenic highways in the project vicinity. Therefore, the proposed project would not damage scenic resources within a state scenic highway. There would be *no impact*.

4.14.2 Agriculture and Forestry Resources

a. Thresholds of Significance. Pursuant to the *State CEQA Guidelines*, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;*
- 2) *Conflict with existing zoning for agricultural use, or a Williamson Act contract;*
- 3) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));*



- 4) *Result in the loss of forest land or conversion of forest land to non-forest use; and/or*
- 5) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.*

Items 1 through 5 are discussed below.

b. Assessment of Impacts. Project component sites are located in an urbanized setting where there are no agricultural or timberland areas. As noted in Section 2.0, *Project Description*, project components would be located primarily in roadway rights-of-way or in areas designated as Open Space (O) and Open Space - Institutional (OSI) in the Pacific Grove General Plan. Therefore, the proposed project would not conflict with existing zoning for agricultural or timberland uses, or a Williamson Act contract. None of the project components contain Prime Farmland or Farmland of Statement Importance; rather, all five components are designated as Urban or Built-Up Land (California Department of Conservation, 2012). In addition, none of the project component areas are designated, zoned, or used for agriculture or forestry purposes. Given the already developed and urbanized nature of the component sites, the project would not result in the loss of forest land or the conversion of forest land to non-forest use. There would be *no impact*.

4.14.3 Air Quality

a. Thresholds of Significance. Pursuant to the *State CEQA Guidelines*, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Conflict with or obstruct implementation of the applicable air quality plan;*
- 2) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
- 3) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);*
- 4) *Expose sensitive receptors to substantial pollutant concentrations; and/or*
- 5) *Create objectionable odors affecting a substantial number of people.*

All of the above thresholds are analyzed in Section 4.2, *Air Quality*. Thus, there will be no further discussion herein.

4.14.4 Biological Resources

a. Thresholds of Significance. In accordance with Appendix G of the *State CEQA Guidelines*, impacts would be potentially significant if the proposed project would result in any of the following:

- 1) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional*



plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- 2) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*
- 3) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; and/or*
- 4) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*
- 5) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or*
- 6) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

Items 1, 3, and 5 are discussed in Section 4.3, *Biological Resources*. Items 2, 4, and 6 are discussed below.

b. Assessment of Impacts. None of the five project components are located within a riparian corridor or the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation agreement. As described in Section 4.3, *Biological Resources*, none of the project components contain riparian habitat or other sensitive natural community. Therefore, the project would not have a substantial adverse effect on any of riparian or natural communities, and would not conflict with the provisions of any local, regional, state or other conservation plans.

The Point Pinos Stormwater Treatment Plan and Crespi Pond component of the project is located within the Point Pinos Lighthouse Reservation, an area identified as of “Scientific and Ecological Significance” within the City of Pacific Grove Local Coastal Program (LCP); however, the specific locations of the project site in this area are identified as low sensitivity in the LCP. The marine habitat adjacent to the Diversions to the Monterey Regional Water Pollution Control Agency (MRWPCA) component of the project is within the limits of the Monterey Bay National Marine Sanctuary. In addition, the Lovers Point State Marine Reserve (adjacent to the Ocean View Boulevard Conveyance and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project) is designated as an Area of Special Biological Significance (ASBS) and provides habitat for a variety of sensitive species, including harbor seals (*Phoca vitulina*). This project would have no direct impacts on these sensitive areas or the species that utilize marine habitat. Once the project is completed, urban runoff that previously entered the Pacific Grove ASBS directly would instead be treated at a wastewater treatment plant. As a result, the Pacific Grove ASBS habitat would likely be enhanced in the long term through the reduction in pollutants that are typically found in urban runoff. Therefore, the project would not have an adverse effect on any sensitive habitat or community.

The proposed project is also not located within wildlife movement corridors or nursery sites. The City of Pacific Grove General Plan Natural Resources Element identifies Crespi Pond as a stopping place for migratory birds traveling along the Pacific coast; however, project activity at Crespi Pond



would not change the pond's ability to support migrating birds. Therefore, the project would not interfere substantially with a migratory wildlife corridor.

4.14.5 Cultural Resources

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5;*
- 2) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;*
- 3) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value; and/or*
- 4) *Disturb any human remains, including those interred outside of formal cemeteries.*

Items 2 through 4 are discussed in Section 4.4, *Cultural Resources*. Item 1 is discussed below.

b. Assessment of Impacts. The proposed project would be located in previously disturbed, urbanized areas. Project component sites do not contain buildings that would be eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, the California Historical Landmarks, the California Points of Historical Interest, or the California Historic Resources Inventory. None of the project components would modify existing buildings. The Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project would be located on the site of the retired Pacific Grove Wastewater Treatment Plan (PGWTP). Two circular tank structures remain on the retired PGWTP site, including a clarifier/administrative office (east tank) and a sludge digester (west tank); the majority of the site is comprised of dirt driveways, with storage of construction material and debris along the periphery (Denise Duffy & Associates, July 2013). The two tank structures may qualify as historic resources (Archives and Architecture, n.d.). However, the proposed project would not utilize these existing structures or cause them to be damaged (refer to Section 2.0, *Project Description*). Therefore, impacts to historical resources would be *less than significant*.

4.14.6 Geology and Soils

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 - i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;*
 - ii. *Strong seismic shaking*
 - iii. *Seismic-related ground failure, including liquefaction,*
 - iv. *Landslides;*



- 2) *Result in substantial soil erosion or the loss of topsoil;*
- 3) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;*
- 4) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; and/or*
- 5) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.*

Items 1(ii) through 4 are discussed in Section 4.5, *Geology/Soils*. Items 1(i) and 5 are discussed below.

b. Assessment of Impacts. The project is located in a seismically active area (refer to Figure 4.5-2 in Section 4.5, *Geology/Soils*). However, there are no faults that traverse any of the five project components. In addition, the proposed project does not involve and would not necessitate development of septic systems; thus, the issue of having soils that incompatible with septic systems is not relevant. There would be *no impact*.

4.14.7 Greenhouse Gas Emissions

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

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

Both of the above thresholds are analyzed in Section 4.6, *Greenhouse Gas Emissions/Climate Change*. Thus, there will be no further discussion herein.

4.13.7 Hazards and Hazardous Materials

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*
- 2) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;*
- 3) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;*
- 4) *Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;*



- 5) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;*
- 6) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;*
- 7) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or*
- 8) *Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

Items 1 through 4 are discussed in Section 4.7, *Hazards and Hazardous Materials*. Items 5 through 8 are discussed below.

b. Assessment of Impacts. The nearest airport, the Monterey Regional Airport, is located approximately 3.6 miles southeast of the David Avenue Reservoir, the component nearest to the airport. Therefore, there would be *no impacts* related to hazards near airports and private air strips, as no such facilities are located in the project vicinity. The proposed project would include segments located within routes that are part of an existing emergency or evacuation plan. However, *no impacts* to emergency response plans or emergency evacuation plans would result. Impacts related to emergency access during construction are further addressed in Section 4.12, *Transportation/Traffic*.

The proposed project would not demolish any existing structures. Therefore, there is no potential of removing structures containing lead or asbestos.

According to the General Plan Health and Safety Element, the border of the Del Monte Forest and the City of Pacific Grove has the greatest potential for wildland fires in the City. The Del Monte Forest is approximately 0.5 miles west of the David Avenue Reservoir component of the project. All project components are surrounded by urban land uses, such as residences and roadways, or the Pacific Ocean. The proposed project would not place people or structures at a significant risk of loss, injury, or death due to wildland fires. There would be *no impact*.

4.13.8 Hydrology and Water Quality

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Violate any water quality standards or waste discharge requirements;*
- 2) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;*
- 3) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;*



- 4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- 5) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- 6) Otherwise substantially degrade water quality;
- 7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- 8) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- 9) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; and/or
- 10) Be subject to inundation by seiche, tsunami, or mudflow.

Items 1, 3 through 6, 9, and a portion of Item 10 are discussed in Section 4.8, *Hydrology and Water Quality*. Items 2, 7, 8, and a portion of Item 10 are discussed below.

b. Assessment of Impacts. The proposed stormwater conveyance upgrades would not substantially deplete groundwater supplies or interfere with groundwater recharge. The project itself would not generate demand for water. In addition, as discussed in Section 4.8, *Hydrology and Water Quality*, the project would not introduce substantial new impervious surfaces into the area, thereby inhibiting groundwater recharge. In fact, the proposed project may generate a new source of non-potable water for irrigation at the Pacific Grove Golf Links, El Carmelo Cemetery, and other feasible non-potable water demands (including, potentially, the MRWPCA's Groundwater Replenishment Project that is currently in the planning process (California Association of Sanitation Agencies, 2013). There would be *no impact* related to groundwater depletion or groundwater recharge.

The Federal Emergency Management Agency (FEMA) establishes base flood heights for the 100-year flood zone. The 100-year flood zone is defined as the area that could be inundated by the flood which has a one percent probability of occurring in any given year. The project site is not located in an area subject to flooding hazards (see Figure 4.8-1 in Section 4.8, *Hydrology and Water Quality*). The 500-year flood zone is defined as the area that could be inundated between the limits of the base flood and the 0.2-percent-annual-chance flood. It is noted that some of the polygons delineating the project component sites on Figure 4.8-1 overlap slightly with the 100-year flood designation; however, this is just a mapping issue as the actual improvements do not extend to the edges of the polygons. The proposed improvements are not located in the 100-year flood hazard area. There would be *no impact*.

Given that California is such an active seismic region and there is very little evidence of damage from Seiches in recent history on record, the potential for adverse effects from seiches is considered less than significant (USGS, Earthquake Topics for Education, accessed December 2013). Additional setting information regarding seiches is provided in Section 4.8, *Hydrology and Water Quality*.



4.13.9 Land Use and Planning

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Physically divide an established community;*
- 2) *Conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or*
- 3) *Conflict with any applicable habitat conservation plan or natural community conservation plan.*

Item 2 is addressed in Section 4.9, *Land Use and Planning*. Items 1 and 3 are discussed below.

b. Assessment of Impacts. Due to the nature of the proposed project components to re-use existing facilities and locate improvements below grade wherever feasible, the proposed project would not physically divide an established community. The proposed project is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved conservation agreement. There would be *no impact*.

4.13.10 Mineral Resources

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in either of the following:

- 1) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and/or*
- 2) *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.*

Items 1 and 2 are discussed below.

b. Assessment of Impacts. There is no land designated for mineral resources in the City of Pacific Grove (Pacific Grove General Plan, 1994). Project component sites are not located on, adjacent to, or near mineral resources or recovery sites. There are no known mineral resources known to exist on or in the vicinity of project component sites. There would be *no impact* to mineral resources.

4.13.11 Noise

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in either of the following:



- 1) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;*
- 2) *Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;*
- 3) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;*
- 4) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;*
- 5) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; and/or*
- 6) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

Items 1, 2, and 4 are discussed in Section 4.10, *Noise*. Items 3, 5, and 6 are discussed below.

b. Assessment of Impacts. Operation of the proposed project would have minimal impacts on the long-term noise levels in the surrounding areas, given that the majority of infrastructure provided as part of the project would be underground (e.g. conveyance pipelines and equalization basins/storage facilities) that would not generate operational noise. Some operational noise could result from generators and/or ventilation fans associated with the four new pump stations (located in the Pine Avenue Conveyance and Ocean View Boulevard Conveyance components of the project), which would be located above ground. However, this would be limited to emergency generators. In the event that the emergency generator would be needed, the muffler would emit a maximum of 20 dBA (City of Pacific Grove, email communication, May 16, 2012). Operational noise impacts would be *less than significant*.

The proposed improvements would require occasional maintenance vehicle trips; however, these vehicle trips would be infrequent and relatively short, and would not result in a substantial permanent increase in ambient noise levels. Impacts would be *less than significant*.

In addition, the project component sites are located outside of any airport noise impact contours and the project would not involve the construction of residences or office buildings. Therefore, the project would not expose residents or workers to excessive noise levels from airport or private air strip operations. There would be *no impact*.

4.13.12 Population and Housing

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);*
- 2) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and/or*



- 3) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.*

Item 1 is discussed in Section 5.0, *Long-Term Impacts*. Items 2 and 3 are discussed below.

b. Assessment of Impacts. The majority of project components would be constructed within existing roadway rights-of-way. The David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project are both located in areas previously used for public facilities. None of the project components contain residences. As such, the project would not displace any houses or people or require the construction of replacement housing elsewhere. There would be *no impact*.

4.13.13 Public Services

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*
 - i. *Fire protection;*
 - ii. *Police protection;*
 - iii. *Schools;*
 - iv. *Parks; and/or*
 - v. *Other public facilities.*

Items 1(i) through 1(v) are discussed below.

b. Assessment of Impacts. The proposed project includes installation of new and improved stormwater infrastructure, and would not generate an increase in population that would increase demand for fire or police protection, thus necessitating the provision of new or additional fire or police facilities. Additionally, the proposed project would not generate students or otherwise increase demand for schools. The proposed project would not generate additional population, and therefore would not increase citywide demand for parks. There would be *no impact* to these public services.

The Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project would be located adjacent to the Pacific Grove Golf Links. Construction activities would not be expected to interrupt course play, and the course would not be negatively impacted during operation of the project. There would be *no impact*.



4.13.14 Recreation

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or*
- 2) *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

Items 1 and 2 are discussed below.

b. Assessment of Impacts. The proposed project would not create an increase in population or promote activities that would increase the use of existing parks and recreational facilities. Additionally, the proposed project would not include any recreational facilities or promote any activities that would require the construction or expansion of recreational facilities. The Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project would be located adjacent to the Pacific Grove Golf Links. Construction activities would not be expected to interrupt course play, and the course would not be adversely affected during operation of the project. There would be *no impact*.

4.13.15 Transportation/Traffic

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit;*
- 2) *Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;*
- 3) *Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);*
- 4) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;*
- 5) *Result in inadequate emergency access; and/or*
- 6) *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

Items 1, 2, and 5 are discussed in Section 4.11, *Transportation/Traffic*. Items 3, 4, and 6 are discussed below.



b. Assessment of Impacts. After construction, all roadways would be returned to pre-construction conditions. Therefore, during operation of the project, no design features would affect vehicular or non-vehicular traffic. During construction, temporary diversions have the potential to increase hazards to pedestrians and bicyclists. These hazards are addressed in Section 4.12, *Transportation/Traffic*.

The nearest airport, the Monterey Regional Airport, is located approximately 3.6 miles southeast of the David Avenue Reservoir, the component nearest to the airport. The proposed project is not located within the vicinity of any public or private air strips. Additionally, the proposed project would not require any additional air traffic to service the project site. The project would not result in any changes in air traffic patterns. There would be *no impact*.

The proposed project would not conflict with adopted policies or programs supporting alternative transportation. There would be *no impact*.

4.13.16 Utilities and Service Systems

a. Thresholds of Significance. Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the proposed project would result in any of the following:

- 1) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;*
- 2) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*
- 3) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*
- 4) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;*
- 5) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;*
- 6) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or*
- 7) *Comply with federal, state, and local statutes and regulations related to solid waste.*

Items 3, 6, and 7 are discussed in Section 4.11, *Public Services and Facilities*. Items 1, 2, 4, and 5 are discussed below.

b. Assessment of Impacts. The primary goal of the Pacific Grove ASBS stormwater management project is to improve stormwater quality discharged into the ASBS located along the Pacific Grove coastline, in compliance with State Water Resources Control Board (SWRCB) standards. The project includes the diversion of both wet weather and dry weather flows into an upgraded stormwater collection and treatment system from both Pacific Grove and New Monterey watershed areas. As proposed, flows would be directed to either a proposed Point Pinos Wastewater Treatment Plant at the retired PGWTP or to the MRWPCA RTP in Marina.



The objective of the project is to achieve up to a 90 percent reduction in pollutant loading during storm events to comply with the ASBS water quality standards. The proposed Point Pinos Stormwater Treatment Facility would be designed to meet applicable Regional Water Quality Control Board (RWQCB) standards, and overall water quality effects would be expected to be beneficial. Therefore, impacts related to exceeding wastewater treatment requirements would be *less than significant*.

The project would not generate additional demand for water or wastewater services, and would not, therefore, require the construction of new water or wastewater treatment facilities. Similarly, the project would not require additional water supply. In fact, the proposed project may generate a new source of non-potable water for irrigation at the Pacific Grove Golf Links, El Carmelo Cemetery, and other feasible non-potable water demands (including, potentially, the MRWPCA's Groundwater Replenishment Project that is currently in the planning process (California Association of Sanitation Agencies, 2013), thereby offsetting existing potable water demand. There would be *no impact*.



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5.0 LONG-TERM IMPACTS

5.1 GROWTH-INDUCING EFFECTS

Section 15126(d) of the *CEQA Guidelines* requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth inducing potential is therefore considered significant if it could result in significant physical effects in one or more environmental issue areas. The most commonly cited example of how an economic effect might create a physical change is where economic growth in one area could create blight conditions elsewhere by causing existing competitors to go out of business and buildings to be left vacant for extended periods.

5.1.1 Population and Economic Growth

The proposed project does not propose any new homes and would therefore not directly induce substantial population growth. The proposed project would directly generate short-term employment during construction of project components. Construction of proposed project components would occur over a maximum estimated 97 weeks construction period, with the possibility of overlapping of construction of individual project components.

The proposed project would generate short-term employment opportunities during construction of project components and a limited amount of long-term employment opportunities associated with the operation and maintenance of components. However, both temporary and long-term employment opportunities would be expected to be filled from within the existing community and long-term employment would be nominal. Therefore, construction and operation of project components would not be considered growth inducing and impacts related to direct or indirect population growth would be less than significant.

5.1.2 Removal of Obstacles to Growth

Proposed project components would be located in an urbanized area, generally served by existing infrastructure. The proposed project would not provide for any capacity-increasing transportation and circulation improvements. No new roadways are proposed. The project essentially constitutes refurbishment and upgrades to existing infrastructure within an urbanized area, and would not expand services so as to provide for additional opportunities for growth. Rather, the proposed drainage infrastructure would serve the existing urbanized area within the Pacific Grove Area of Special Biological Significance (ASBS) watershed.

The proposed project does not include changes in land use or zoning designations, nor does it include changes in density limits. Therefore, the proposed project would not facilitate growth in the surrounding area by removing any land use, zoning, or density restrictions, which could currently be considered obstacles to such growth.



5.2 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL EFFECTS

The *State CEQA Guidelines* specify that an EIR shall include a discussion of significant irreversible environmental changes which would occur if the proposed project were implemented. This includes analysis of the use of nonrenewable resources, primary and secondary impacts which commit the project area to similar uses in the future, and irreversible environmental damage.

Construction and maintenance of proposed project components would consume building materials and energy, some of which are non-renewable resources. However, the primary purpose of the project is to improve stormwater quality prior to being discharged into the ASBS, in accordance with State Water Resources Control Board (SWRCB) standards. A secondary project purpose is to provide stormwater as a source of non-potable recycled water supply for local irrigation and regional groundwater replenishment. Therefore, the proposed project would improve water quality and result in a new source of non-potable recycled water supply, thereby reducing demand for potable water. Resources that would be consumed as a result of project implementation include water, electricity, and fossil fuels during construction and operations; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. Compliance with all applicable building codes, as well as City policies, and the mitigation measures identified in this EIR would ensure that all natural resources are conserved to the extent feasible.

CEQA also requires decision makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this EIR identifies that there are no Class I, *significant and unavoidable* impacts relative to the implementation of the proposed project.



6.0 ALTERNATIVES

As required by Section 15126(d) of the *State CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed Monterey-Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project that could feasibly achieve similar objectives. Included in this analysis are the CEQA-required “no project” alternative and two design alternatives.

The primary goal of the project is to improve stormwater quality discharged into the Monterey-Pacific Grove ASBS. In addition, key objectives of the project are:

1. *To meet the ASBS Special Protection requirements to implement structural BMPs to achieve up to a 90 percent reduction in pollutant loading during storm events, if the wet weather discharges are impacting natural water quality to comply with the ASBS water quality standards set by the State Water Resources Control Board (SWRCB);*
2. *To conserve potable water by developing dry and wet weather storm system flows as a source of non-potable water for irrigation at the Pacific Grove Golf Links, El Carmelo Cemetery, and other feasible non-potable water demands;*
3. *To restore the David Avenue Reservoir to a year-round continuous reservoir;*
4. *To install necessary stormwater infrastructure and structural BMPs to comply with the Special Protections and NPDES permit requirements, including: new stormdrain pipelines, stormwater treatment units, equalization basins, and lift stations so that runoff can be managed in an effective manner to protect water quality, and to allow the reuse of runoff either locally from David Avenue Reservoir, the proposed equalization systems, the planned Point Pinos Stormwater Treatment System and/or at the Monterey Regional Water Pollution Control Agency (MRWPCA) future groundwater replenishment project;*
5. *To construct improvements in such a way as to allow the future addition of stormwater BMPs into the system to further enhance water quality and local reuse activities;*
6. *To expand the existing dry weather diversion system to collect runoff west of Lovers Point for discharge to the Point Pinos Stormwater Treatment Facility or the MRWPA system for reuse in North Monterey County or the proposed groundwater replenishment project in Seaside.*
7. *To reduce regulatory uncertainty by addressing the requirements of the ASBS Special Protections that may impact the cities of Monterey and/or Pacific Grove if they do not participate in the project;*
8. *To construct a project that is both financially and technically feasible;*
9. *To construct a project that does not exceed MRWPCA Regional Wastewater Treatment Plant (WTP) capacity; and*
10. *To construct a project that can be eligible for multiple funding opportunities.*

Based on the potentially significant impacts that could result from implementation of the project, as identified in Section 4.0 of this EIR, and the objectives identified above, three alternatives were chosen for analysis in this section. These alternatives include the following:

- *Alternative 1: No Project*
- *Alternative 2: Treatment at the MRWPCA WTP*
- *Alternative 3: Treatment at the Retired PGWTP*



Table 6-1 provides a comparison of the proposed project and the three alternatives. Each alternative is described in greater detail in the sections that follow.

**Table 6-1
 Comparison of Alternatives**

Characteristic	Alternative			
	Proposed Project	Alt. 1: No Project	Alt. 2: Treatment at MRWPCA	Alt. 3: Treatment at PGWTP
Diversion Structures	8	None	32	32
Pipelines	7,940 feet*	None	74,755 feet	21,886 feet
Pump Stations	4 new, 3 new pumps at existing stations	None	10	7
Equalization Basins	4**	None	7	7
Treatment Location	Retired PGWTP and MRWPCA WTP	n/a	MRWPCA WTP	Retired PGWTP
Treatment Type	Filtration and UV Disinfection	None	Wet Pond	Filtration and UV Disinfection

* Does not include leak detection and collection pipelines at the David Avenue Reservoir.

** Includes storage at the restored David Avenue Reservoir, Pine Street vicinity, Caledonia Avenue, and at the retired PGWTP.

As required by CEQA, this section also includes a discussion of the “environmentally superior alternative” among those studied.

6.1 ALTERNATIVES CONSIDERED BUT REJECTED

The following discussion summarizes previous alternatives to the proposed project that were considered but rejected during the formulation of the project described in Section 2.0, *Project Description*, and analyzed throughout this EIR.

6.1.1 MACTEC Alternatives

Prior to adoption of the ASBS “Special Protections” (described in Section 2.0, *Project Description*), the City of Monterey obtained a Proposition 50¹ grant from the State Department of Water Resources (DWR) to analyze a suite of options to address regulatory restrictions under consideration by the SWRCB for stormwater discharges to the ASBS. The ASBS analysis was presented in a study completed in 2006 by MACTEC Engineering and Consulting, Inc. (MACTEC, 2006). The focus of this study was to address stormwater discharges to the Pacific Grove and Carmel Bay ASBS. The MACTEC study identified and analyzed 22 alternative projects for the Pacific Grove ASBS, including local projects that would collect and treat runoff in Pacific Grove before it is discharged to the Monterey Bay, regional projects that would pump runoff to the MRWPCA WTP in Marina, and other potential projects. The 22 alternative projects included:

1. *Treat dry weather flows on-site*
 - a. *Treat New Monterey and Pacific Grove flows (Option 1)*
 - b. *Treat Pacific Grove flows only (Option 2)*

¹ The California River Parkways Grant Program.



2. *Treat dry and wet weather flows in Pacific Grove*
 - a. *Treat New Monterey and Pacific Grove flows (Option 3)*
 - b. *Treat only New Monterey flows (Option 4)*
 - c. *Treat only Pacific Grove flows (Option 5)*
3. *Treat dry weather flows at the MRWPCA WTP*
 - a. *Treat both New Monterey and Pacific Grove flows (Option 6)*
 - b. *Pump New Monterey flows only (Option 7)*
 - c. *Pump Pacific Grove flows only (Option 8)*
4. *Treat dry and wet weather flows at the MRWPCA WTP*
 - a. *Both New Monterey and Pacific Grove flows (Option 9)*
 - b. *Pump New Monterey flows only (Option 10)*
 - c. *Pump Pacific Grove flows only (Option 11)*
5. *Divert dry and wet weather flows out of the ASBS to Monterey waters*
 - a. *Divert both New Monterey and Pacific Grove Flows (Option 12)*
 - b. *Divert New Monterey flows only (Option 13)*
6. *Do nothing approach (Options 14 and 15)*
7. *Treat dry weather, wet weather, and sanitary sewer flows on-site*
 - a. *Treat both New Monterey and Pacific Grove flows (Option 16)*
 - b. *Treat Pacific Grove flows only (Option 17)*
8. *Pump wet weather flows and sanitary sewer flows to the MRWPCA WTP*
 - a. *Pump New Monterey and Pacific Grove flows and sewage (Option 18)*
 - b. *Pump New Monterey flows only (Option 19)*
 - c. *Pump Pacific Grove flows only (Option 20)*
9. *Divert Pacific Grove dry and wet weather flows out of the ASBS to Pacific Grove waters and divert Monterey dry and wet weather flows out of the ASBS to Monterey waters (Option 21)*
10. *Reuse the David Avenue Reservoir (Option 22)*

The current engineering scope of work, which identified the proposed project for analysis in this EIR, was initiated to refine and select a preferred and alternate project from the MACTEC study alternatives, as listed above. Several meetings with the cities of Monterey and Pacific Grove, key stakeholders (California American Water [CalAm], MRWPCA, and New Monterey District neighborhood representatives), and the project engineer were held to revisit and refine the various project alternatives. After a review and screening of the 22 alternatives identified in the 2006 MACTEC Study, six (6) project alternatives were identified and refined with input from the cities of Monterey and Pacific Grove. All six alternatives would treat both dry and wet-weather flows from Pacific Grove and New Monterey, and include the following:

- A. *Alternative A would treat flows at the retired Pacific Grove Wastewater Treatment Plant (PGWTP). Treated water would be used to irrigate the Pacific Grove Golf Links and El Carmelo Cemetery.*
- B. *Alternative B would treat flows at the retired PGWTP. Equalization would be provided at the David Avenue Reservoir by diverting runoff from Upper New Monterey flows via gravity at the David Avenue Reservoir. Treated water would be used to irrigate the Pacific Grove Golf Links and the El Carmelo Cemetery.*
- C. *Alternative C would treat flows at the David Avenue Reservoir. Flows from Pacific Grove and Lower New Monterey would be pumped up to the reservoir. Treated water would be used to irrigate the Pacific Grove Golf Links and the El Carmelo Cemetery and two parks in New Monterey close to the Reservoir.*



- D. *Alternative D would treat flows at the MRWPCA Regional Wastewater Treatment Plant (WTP). This stormwater would be comingled with domestic wastewater and, once treated, would be either discharged into the ocean during the winter months or recycled for irrigating farmland in North Monterey County, as is current MRWPCA practice.*
- E. *Alternative E would treat flows from Pacific Grove at the PGWTP and flows from New Monterey at the David Avenue Reservoir. Treated water from the PGWTP would be used to irrigate the Pacific Grove Golf Links and the El Carmelo Cemetery, while treated water from the David Avenue Reservoir would be used to irrigate two parks near the Reservoir.*
- F. *Alternative F would treat flows at the MRWPCA Wastewater Treatment Plant, as in Alternative D, with additional detention for runoff from Upper New Monterey at the David Avenue Reservoir. Runoff stored at the David Avenue Reservoir would be released at a lower rate into the modified MRWPCA collection system.*

A screening analysis of these six project alternatives was completed in May 2013 to identify a preferred and alternate project (refer to Appendix B for complete analysis). The screening analysis compared the six project alternatives based on the following 16 screening criteria:

1. *Water quality benefits/ability to meet ASBS requirements;*
2. *MRWPCA Wastewater Treatment Plant capacity;*
3. *Potential funding opportunities;*
4. *Achieving multiple benefits;*
5. *Capital, operation and maintenance costs, and equivalent annual costs;*
6. *Permitting requirements and difficulty;*
7. *Land and/or facility availability and entitlements;*
8. *Safety and vector control;*
9. *Aesthetic benefits;*
10. *Number of institutional agreements required;*
11. *Biotic and cultural resource issues;*
12. *Stakeholder involvement and support;*
13. *Constructability;*
14. *Project complexity and timing;*
15. *Geologic, liquefaction, and hydrogeologic issues; and*
16. *Water rights considerations.*

Based on this screening analysis, Alternative B was selected as the preferred project and Alternative F was selected as the alternate project. The remaining alternatives (A, C, D, and E) were not selected because they scored relatively low in several of the above screening criteria, including environmental concerns (criterion 1, 8, 9, 11, and 15) and/or feasibility (criterion 2, 3, 5, 6, 7, 10, and 13). Because these alternatives were comparatively environmentally inferior to the proposed project and/or potentially infeasible, they are not analyzed further in this EIR.

As the project team further developed the preferred and alternate project concepts, a hybrid project between Alternatives B and F was identified and considered environmentally superior and more cost effective compared to either project individually. The hybrid project, as described in Section 2.0, *Project Description*, and analyzed throughout this EIR, maximizes the use of existing infrastructure and planned projects within the cities of Monterey and Pacific Grove. Because the proposed project was deemed environmentally superior to both Alternatives B and



F, and because the proposed project is ultimately a hybrid of these two alternate projects, these alternatives are not individually analyzed further in this EIR.

6.1.2 Stormwater Recycling Alternatives

In 2009, the City of Pacific Grove retained an engineering firm to complete Feasibility and Basis of Design studies to evaluate the feasibility of collecting and recycling stormwater within the City of Pacific Grove (Pirnie, 2009). These studies evaluated five alternative projects, including:

1. *Congress Diversion.* This alternative would utilize stormwater runoff from the Congress Drain which drains to the Spanish Bay, and would include a hydraulic runoff diversion structure, conveyance to the David Avenue Reservoir, and treatment. Treated water would be used to irrigate the Pacific Grove Golf Links, George Washington Park, El Carmelo Cemetery, and Pacific Grove Middle School.
2. *Greenwood Park Diversion.* This alternative would be similar to the Congress Diversion alternative, but would utilize stormwater runoff from the Greenwood Park drain, which discharges into the Pacific Grove ASBS.
3. *Beach Storm Drains.* This alternative would divert stormwater from several drains along Ocean View Boulevard to the retired PGWTP, where a new treatment plant would be constructed. Treated water would be used at the Pacific Grove Golf Links.
4. *Golf Course Storage.* This alternative would be similar to the Beach Storm Drains alternative, but would bury storage tanks at the Pacific Grove Golf Links. A new treatment plant would be constructed at the retired PGWTP, and treated water would be used to irrigate the Golf Links and El Carmelo Cemetery.
5. *Greenwood Park/8th Street Diversion.* This alternative would divert and combine the Greenwood Park and 8th Street outfalls, which both discharge into the Pacific Grove ASBS. This alternative would include hydraulic diversion structures, conveyance to the retired PGWTP, and treatment. Treated water would be used to irrigate the Pacific Grove Golf Links.

The primary objective of the above alternatives was water recycling and not necessarily protection of the ASBS. As a result, the various projects did not fully address the requirements of the ASBS Special Protection Provisions adopted by the SWRCB in 2012, nor would they meet proposed project objectives. Because these alternatives would not meet the project objectives, they are not further analyzed in this EIR.

6.1.3 Other Design Alternatives

During the course of identifying the proposed project, the project team refined component-level design features to minimize environmental impacts, fully achieve project objectives, and reduce implementation costs. During the process, several designs were eliminated from consideration, and are thus eliminated from this alternatives analysis. These are briefly described below, for informational purposes.

David Avenue Reservoir Alternatives. In August 2013, a screening analysis was conducted of four identified alternatives for the David Avenue Reservoir site (refer to Appendix B). These included:



- *Alternative 1: Rebuilding the dam to the original elevation (dam replacement)*
- *Alternative 2: Rebuilding the dam to a lower elevation (smaller dam)*
- *Alternative 3: Installing a geomembrane liner system within the existing reservoir and modifying the existing spillway*
- *Alternative 4: Installing sheet pile to reinforce the existing dam structure*

The screening analysis considered impacts to aesthetics, air quality, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, noise, and transportation and traffic. Based on this analysis, Alternative 3 was selected as the environmentally superior alternative because it would require less earthworks and associated soil disturbance, thus minimizing impacts to the aforementioned issue areas. This alternative is what is currently proposed, as described in Section 2.0, *Project Description*. Because the remaining three design alternatives would be environmentally inferior to the proposed David Avenue Reservoir design, they are not considered further in this EIR.

Golf Course Conveyance Route. Early in the design process, conveyance to the retired PGWTP was envisioned to occur through the existing Pacific Grove Golf Links, rather than along Ocean View Boulevard, as currently proposed. This route was eliminated from consideration because it would result in potentially significant impacts to archaeological resources and tree and vegetation removal. In addition, the proposed Ocean View Boulevard conveyance route would further reduce impacts related to site disturbance and grading (including air quality, greenhouse gas emissions, and noise) by utilizing existing infrastructure. Because a new conveyance pipeline through the Pacific Grove Golf Links would increase these impacts compared to the proposed project, such an alternative is not considered in this analysis.

100 percent Capture. As described in Section 2.0, *Project Description*, the ASBS Special Protections require that, if receiving water monitoring finds natural water quality is degraded by stormwater discharges, pollutant loads be reduced by 90 percent during wet-weather (among other requirements). One potential alternative would include reducing pollutant loads by 100 percent, thus exceeding regulatory requirements. According to the project engineering team, exceeding these requirements and achieving a 100 percent reduction would be cost prohibitive. Therefore, while such an alternative would improve water quality compared to the proposed project, it is considered potentially infeasible, and has therefore been excluded from further analysis.

6.2 ALTERNATIVE 1: NO PROJECT

6.2.1 Description

Under the No Project Alternative, construction and operation of the proposed ASBS Stormwater Management Project would not occur, and current uses of the five component sites would continue. Specifically, no improvements to the David Avenue Reservoir would be constructed, and the site would continue to be used as a CalAm maintenance, operations, and materials storage area. Similarly, conveyance facilities, pump stations, and equalization/storage facilities would not be constructed along Pine Avenue or Ocean View Boulevard. The retired PGWTP site would be unaltered, and thus would continue to be used by the City of Pacific Grove as a corporation yard and water storage facility. It should be noted, however, that the proposed



Pacific Grove Local Water Project (PGLWP) may still move forward under this alternative, and thus, some improvements to the PGWTP site, outside of those proposed as part of this project, may still occur. Finally, the City of Pacific Grove's existing dry weather urban diversion system would not be upgraded under this alternative, and would therefore continue to convey only dry weather flows to the MRWPCA WTP.

Stormwater runoff under this alternative would continue to flow to the Monterey Bay as under current conditions. As a result, if water quality monitoring finds that stormwater discharges are altering natural ocean water quality, this alternative would not comply with the ASBS Special Protections, which may result in fines or other penalties. However, because of these existing regulatory requirements, an alternate project may be constructed elsewhere in the ASBS watershed under this alternative, in order to comply with the Special Protections and avoid penalties for noncompliance.

6.2.2 Impact Analysis

With the implementation of the No Project Alternative, no new development would occur within the project component areas. Since new development would not occur, potential impacts related to construction and long-term site disturbances would also not occur. This includes impacts to: aesthetics; air quality; biological resources; cultural resources; geology and soils; greenhouse gas emissions; hazards and hazardous materials; hydrology and water quality; and noise. In addition, since no construction-related vehicle trips would be added to local roadways, temporary impacts to the transportation network, including those resulting from temporary road closures, would not occur. It should be noted, however, that the proposed project would comply with the ASBS Special Protections, thereby improving the quality of runoff entering the Pacific Grove ASBS in the Monterey Bay. In addition, the proposed project would generate a new source of water that could be used for irrigation purposes, thereby offsetting existing potable water demand. Because this alternative would not divert and treat stormwater runoff, it would not result in beneficial impacts to water quality, and would not offset existing water demand.

Overall, impacts would be less than for the proposed project, although beneficial water quality and supply impacts would not occur.

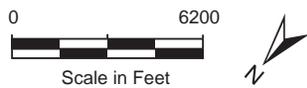
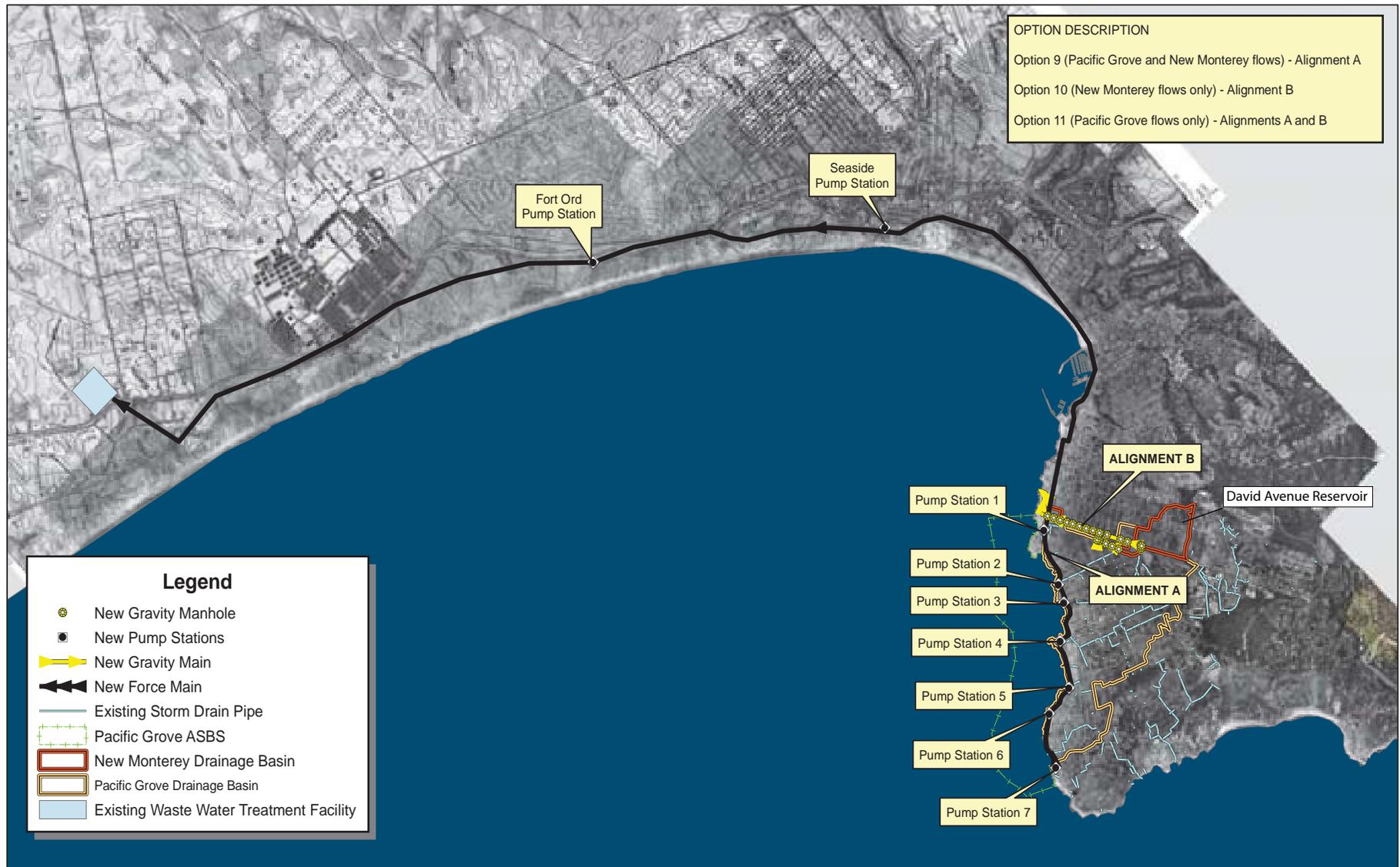
6.3 ALTERNATIVE 2: TREATMENT AT THE MRWPCA WTP

6.3.1 Description

This alternative would divert both dry and wet-weather runoff from both Pacific Grove and New Monterey to the MRWPCA WTP in Marina. This alternative is similar to "Option 9" analyzed in the MACTEC study, with the addition of the David Avenue Reservoir (considered as part of "Option 22" in the MACTEC study). This alternative would include the following components (refer also to Figure 6-1).

David Avenue Reservoir. Similar to the proposed project, this alternative would involve improvements to the former David Avenue Reservoir. This would include upgrading the reservoir to current standards for stability, providing overflow capability for storm events, and proving an aesthetic benefit to adjacent residents. Runoff from the portion of the ASBS





Alternative 2: Treatment at the MRWPCA WTP
 (Option 9/Alignment A)

watershed within the City of Monterey would be captured and released into the existing storm drain system for conveyance into the rest of the system. Improvements within the reservoir would be similar to the proposed project, as described in Section 2.0, *Project Description*.

Pipeline and Diversion Structures. Under this alternative, wet weather and dry weather flows would be diverted from the City of Monterey and City of Pacific Grove storm drain systems at five primary locations and 27 secondary locations. The primary locations would divert dry weather flows from the five largest drainage basins within Pacific Grove, while the secondary locations would divert flows from smaller drainage basins that comprise storm drain outfalls serving one or two catch basins. Stormwater and dry weather flows diverted at these structures would flow through gravity lines into wet wells for pumping. Underground force mains would connect the pump stations to a wet pond located at the MRWPCA WTP in Marina. These force mains would approximately parallel the existing force main that conveys sanitary sewage to the MRWPCA WTP.

Flow Equalization Basins. A total of seven underground flow equalization facilities would be required within the City of Pacific Grove for this alternative. The facilities would be sized in conjunction with the pump stations to store the total volume of runoff generated for each of the sub-watersheds subtracting what is being pumped out.

Pump Stations. A total of seven pump stations would be constructed within the City of Pacific Grove to pump diverted wet weather and dry weather flows from the wet wells to a force main and three additional booster stations between Pacific Grove and the MRWPCA WTP. A remote control/monitoring system would be required for the operation and monitoring of the regional lift station systems. Each lift station would be fitted with a remote control/monitoring system and tied to a central monitoring system.

Treatment Facility and Outfall. The force main would discharge into a wet pond at the MRWPCA WTP. Dry weather flows entering the unlined sedimentation basin could then be discharged into the WTP during low flow periods so as not to exceed existing capacity or discharged into an infiltration basin during periods when the WTP could not accept flows. The wet pond would be constructed to hold the wet weather water quality volume and would settle out sediment and other floatable debris and remove various pollutants through biological uptake. The infiltration basin would be sized to infiltrate the entire wet weather water quality volume over a 72-hour period.

6.3.2 Impact Analysis

a. Aesthetics. As with the proposed project, this alternative would place new infrastructure in visually sensitive locations, and improvements may be viewed from public viewing locations. This has the potential to adversely affect scenic vistas and/or degrade the existing character or quality of the area. In addition, alternative improvements may introduce new sources of light and glare into the area, as would the proposed project.

Because the David Avenue Reservoir component of the project would be identical under this alternative, such impacts associated with this improvement would be similar between this alternative and proposed project. Specifically, the re-establishment of a water feature at the site



would result in a beneficial visual impact for viewers, including those elevated above the site. This and other aesthetic impacts associated with the David Avenue Reservoir would be less than significant, similar to the proposed project.

This alternative would eliminate the need for improvements within the Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project, because wastewater would instead be treated at the MRWPCA WTP in Marina. Therefore, this alternative would eliminate any visual impacts associated with alterations to the retired PGWTP area. This includes impacts to scenic vistas, degradation of visual character, and introduction of light and glare. There would be no impact from this alternative, compared to less than significant impacts for the proposed project.

Compared to the proposed project, this alternative would result in 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. The installation of these improvements would result in greater construction-related disturbances, thereby resulting in greater short-term impacts to aesthetic resources. However, as with the proposed project, the majority of these improvements would be located below-ground and would not, therefore, result in long-term impacts to scenic vistas, visual character, or light and glare. Nevertheless, because this alternative would result in more above-ground facilities (associated with diversion structures and pump stations), these impacts would be slightly increased compared to the proposed project, but would remain less than significant.

b. Air Quality. Similar to the proposed project, the Treatment at the MRWPCA WTP Alternative would not contribute to population growth, and would therefore be consistent with growth assumptions in the *Air Quality Management Plan (AQMP)*. This impact would be less than significant, similar to the proposed project.

As noted in Section 4.2, *Air Quality*, construction of the proposed project would generate short-term air emissions; however, such emissions during construction would not exceed Monterey Bay Unified Air Pollution Control District (MBUAPCD) standards. This alternative would require similar construction at the David Avenue Reservoir, but would eliminate any construction at the former PGWTP site. This alternative would also require the installation of 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. The additional pipeline alone represents an 842 percent increase compared to the proposed project. Therefore, despite the elimination of the Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project, air emissions would be greater under this alternative. Impacts would be expected to be significant but mitigable.

This alternative would treat runoff at the existing MRWPCA WTP in Marina, thus eliminating need to construct a new treatment facility at the retired PGWTP site. Potential odors associated with this new facility would therefore be eliminated under this alternative; there would be no impact, compared to less than significant impacts for the proposed project.

c. Biological Resources. As described in Section 4.3, *Biological Resources*, the proposed project would result in potentially significant impacts to California red-legged frog (CRLF) and



western pond turtle. These impacts would result from implementation of the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project; impacts to these species would not result from in-road improvements. The Treatment at the MRWPCA WTP Alternative would result in similar improvements to the David Avenue Reservoir, but would eliminate the stormwater treatment plant at Point Pinos. Because one component generating the impacts would be eliminated, overall impacts to these species would be reduced when compared to the proposed project. However, impacts associated with the David Avenue Reservoir would continue to be significant but mitigable, and mitigation identified in Section 4.3, *Biological Resources*, would continue to be required.

As noted previously, this alternative would require the installation of 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. Because additional ground disturbance would occur, it is anticipated that a greater number of trees would be trimmed and/or removed under this alternative. Impacts to tree removal, white-tailed kite, and other nesting bird species would therefore be greater for this alternative than for the proposed project. Mitigation identified in Section 4.3, *Biological Resources*, would continue to be required for white-tailed kit and nesting birds, and would continue to reduce such impacts to a less than significant level. Similarly, compliance with the City of Pacific Grove's 2013 Amended Urban Forestry Tree Ordinance would reduce tree removal impacts to a less than significant level, as with the proposed project.

The proposed David Avenue Reservoir improvements would directly remove established wetland habitat on-site. Because this alternative would result in similar improvements to this existing reservoir, impacts to wetland habitat would be similar and would remain significant but mitigable. In addition, although this alternative eliminates construction of the Point Pinos Stormwater Treatment Facility, water would be conveyed to the MRWPCA RTP in Marina, where it would be used for irrigation or discharged into the Monterey Bay after treatment. The Monterey Bay is a water of the U.S., and discharges of treated surface water into the Bay would be subject to the jurisdiction of the RWQCB. Because runoff could ultimately enter the Monterey Bay, similar to the proposed project, impacts to waters of the U.S. would also be similar. Mitigation identified in Section 4.3, *Biological Resources*, would continue to be required.

Finally, the proposed project would construct improvements in areas with suitable habitat for hoary bat. However, because project construction activity would be limited to daytime hours (when the hoary bat is inactive) and would not remove three-dimensional structures of any bat foraging habitats, impacts would be less than significant. Although the Treatment at the MRWPCA WTP Alternative would increase the overall area of disturbance, construction of this alternative would similarly occur during daytime hours. Impacts would therefore be slightly greater under this alternative, but would continue to be less than significant.

d. Cultural Resources. Although this alternative would eliminate the need for construction of the Point Pinos Stormwater Treatment Facility, this alternative would result in an overall greater level of disturbance than the proposed project. This is because, compared to the proposed project, this alternative would result in 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. The additional pipeline alone represents an 842 percent



increase compared to the proposed project. The installation of these improvements would result in greater construction-related disturbances, thereby increasing the potential to unearth or adversely impact prehistoric or historic archaeological resources as well as previously unidentified human remains. As with the proposed project, impacts to prehistoric or historic archaeological resources would be expected to be significant but mitigable, and mitigation outlined in Section 4.4, *Cultural Resources*, would continue to apply. Compliance with California Health and Safety Code Section 7050.5 would reduce impacts to previously unidentified human remains a less than significant level, as with the proposed project. Finally, given the increased ground disturbance, the potential to impact paleontological resources would increase compared to the proposed project, and mitigation outlined in Section 4.4, *Cultural Resources*, would continue to apply.

e. Geology and Soils. As described in Section 4.5, *Geology/Soils*, the David Avenue Reservoir component of the proposed project would result in significant but mitigable impacts related to seismically induced ground failure. Because this alternative would construct the same improvements to this reservoir as the proposed project, such impacts would be similar, and mitigation measures identified in Section 4.5, *Geology/Soils*, would continue to apply.

Impacts resulting from the remaining project components (Pine Avenue Conveyance, Ocean View Boulevard Conveyance, Point Pinos Stormwater Treatment Facility and Crespi Pond, and Diversions to MRWPCA) would result in less than significant impacts related to seismically induced ground failure. The Treatment at the MRWPCA WTP Alternative would eliminate the need for the Point Pinos Stormwater Treatment Facility, but would increase overall disturbance by adding additional diversion structures, pump stations, storage basins, and in-ground pipelines. Because of the greater area of disturbance, the potential for exposure to seismically induced ground failure hazards would increase when compared to the proposed project. However, it is still anticipated that these effects would be less than significant with compliance with City of Pacific Grove Standard Specifications.

Although this alternative would require a greater level of disturbance than the proposed project, construction of this alternative would be required to comply with a stormwater pollution prevention plan (SWPPP) and construction Best Management Practices (BMPs), which would both limit the potential for construction-related erosion. In addition, this alternative would similarly utilize existing infrastructure and/or construct new facilities within existing (disturbed) roadway rights-of-way. Therefore, while erosional impacts would increase when compared to the proposed project, they would continue to be less than significant.

As noted in Section 4.5, *Geology/Soils*, some components of the proposed project (including David Avenue Reservoir and Pine Avenue Conveyance) would be located on soils with moderate or high shrink-swell potential. Because this alternative would include similar improvements to the David Avenue Reservoir and result in an overall increase in disturbance area, impacts associated with shrink-swell potential would be expected to increase. Mitigation measures outlined in Section 4.5, *Geology/Soils*, would continue to apply, and would be expected to reduce impacts to a less than significant level.

f. Greenhouse Gas Emissions. As described in Section 4.6, *Greenhouse Gas Emissions/Climate Change*, the proposed project would generate greenhouse gas (GHG)



emissions, primarily during construction. These emissions would be substantially below the applicable significance threshold of 1,150 metric tons (MT) of CO₂ per year. Although the Treatment at the MRWPCA WTP Alternative would result in a greater level of construction disturbance, it is not anticipated that this would generate GHG emissions exceeding the applicable threshold. Therefore, while impacts would increase when compared to the proposed project, they would continue to be less than significant.

As this alternative would construct drainage-related infrastructure, similar to the proposed project, it would not conflict with California GHG reduction goals, or any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be less than significant, similar to the proposed project.

g. Hazards and Hazardous Materials. As with the proposed project, construction and operation of this alternative may include the use, storage, and/or transport of hazardous materials. Because this alternative would construct more facilities than the proposed project, such impacts would be anticipated to increase when compared to the proposed project. It should be noted, however, that this alternative would eliminate the need for the proposed Point Pinos Stormwater Treatment Facility. As described in Section 4.7, *Hazards and Hazardous Materials*, this facility would not require permanent chemical-storage on-site. However, during operation, suspended solids would be filtered out of the stormwater, dried, and stored on-site before being disposed of at the Marina Regional Solid Waste Management Facility. Compliance with all applicable regulations would ensure that hazardous materials-related impacts from this facility would be less than significant for the proposed project. Nonetheless, because this alternative eliminates this treatment facility, such impacts would not occur.

Because this alternative would require more ground disturbance than the proposed project, construction would have an increased potential to be affected by the presence of underground utility lines, as well as an increased potential to be located on a site containing hazardous materials. Impacts related to underground utility lines would be increased when compared to the proposed project, but would continue to be significant but mitigable. Mitigation measures outlined in Section 4.7, *Hazards and Hazardous Materials*, would continue to be required. Given the nature of the alternative, impacts related to hazardous materials sites would remain less than significant, similar to the proposed project.

As with the proposed project, components of this alternative would be located within ¼ mile of a school. However, this alternative would not include the handling or emitting of acutely hazardous materials. Therefore, impacts would be similarly less than significant.

h. Hydrology and Water Quality. Compared to the proposed project, this alternative would result in 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. The installation of these improvements would result in greater construction-related disturbances, thereby resulting in greater short-term impacts to water quality due to erosion and sedimentation. However, as with the proposed project, compliance with existing federal, state, and local requirements would ensure that impacts remain less than significant.



Although the Treatment at the MRWPCA WTP Alternative would include an overall greater level of disturbance than the proposed project, improvements would occur within already developed sites and/or within existing street rights-of-way. Thus, this alternative would not be expected to increase impervious surfaces compared to existing conditions, similar to the proposed project. The potential for this alternative to result in downstream flooding or increased erosion as a result of additional impervious surfaces would therefore be less than significant, similar to the proposed project.

Although this alternative eliminates the proposed Point Pinos Stormwater Treatment Facility, it would divert stormwater within the Pacific Grove ASBS watershed to the existing MRWPCA WTP in Marina, where it would then be discharged into a wet pond and treated in accordance with existing treatment requirements at the facility. The beneficial water quality and supply impacts of the proposed project would therefore be similarly beneficial under this alternative.

As with the proposed project, this alternative would install new drainage infrastructure in an area that is subject to inundation by a tsunami. Although additional facilities would be installed, the facilities would be mostly subterranean, and would not exacerbate vulnerability to a tsunami hazard. Therefore, impacts would be less than significant, similar to the proposed project.

Finally, because the proposed David Avenue Reservoir component of the project would be the same under this alternative, impacts related to dam failure would be similar. Mitigation measures outlined in Section 4.5, *Geology/Soils*, would continue to be required, and would ensure that the dam is constructed in accordance with applicable oversight agency requirements and geotechnical recommendations. Impacts would be significant but mitigable.

i. Land Use and Planning. As described in Section 4.9, *Land Use and Planning*, based on the design of project components and following implementation of the mitigation measures identified throughout this EIR, the proposed project would be consistent with applicable policies of the City of Pacific Grove's General Plan, including its Local Coastal Program. Because this alternative would construct drainage-related infrastructure, similar to the proposed project, it is anticipated that it, too, would be consistent with applicable City policies. Mitigation measures outlined in Sections 4.1 to 4.12 would achieve consistency with applicable policies included in the adopted General Plan, including the Local Coastal Program, and would similarly apply to this alternative. Impacts would be significant but mitigable.

j. Noise. As noted in Section 4.10, *Noise*, operation of heavy equipment during construction of all components of the proposed project would result in a temporary noise level increase and short-term groundborne vibration that could disturb nearby sensitive receptors. This noise impact, although temporary, would be considered significant and unavoidable. This alternative would require similar construction at the David Avenue Reservoir, but would eliminate any construction at the former PGWTP site. This alternative would also require the installation of 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. The additional pipeline alone represents an 842 percent increase compared to the proposed project. Therefore, despite the elimination of the Point Pinos Stormwater Treatment Facility and Crespi



Pond component of the project, construction-related noise and vibration would be greater under this alternative. Mitigation measures outlined in Section 4.10, *Noise*, would continue to be required, and impacts would be significant and unavoidable, similar to the project.

As with the proposed project, given the nature of the improvements, this alternative would not generate substantial sources of long-term operational noise. Impacts would be less than significant, similar to the proposed project.

k. Public Services and Utilities. Compared to the proposed project, this alternative would eliminate the need for the proposed Point Pinos Stormwater Treatment Facility, but would result in 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. Overall, this alternative would require more construction than for the proposed project, and would therefore generate more solid waste during construction. However, given the remaining capacities at nearby landfills (refer to Section 4.11, *Public Services and Utilities*) and the temporary nature of construction, such impacts would remain less than significant.

As noted in Section 4.11, *Public Services and Utilities*, the proposed project would divert approximately 148 acre feet per year (AFY) (0.13 million gallons per day [MGD]) of runoff annually to the MRWPCA RTP in Marina; the remaining captured runoff (433 AFY, or 0.39 MGD) would be conveyed to the new Point Pinos Stormwater Treatment Facility. Under this alternative, the new treatment facility would be eliminated, and 100 percent of the captured flows would be conveyed to the MRWPCA RTP. This would equate to a total of 581 AFY (0.52 MGD).

This MRWPCA RTP has the capacity to treat 29.6 MGD and currently treats an average of 18.5 MGD, leaving a remaining capacity of 11.1 MGD (MRWPCA, 2013). The total runoff diverted under this alternative (0.52 MGD) represents 4.7 percent of this remaining capacity. Although this is higher than the remaining capacity used by the proposed project, this alternative could still be served by the existing treatment plant in Marina. Therefore, impacts would be less than significant, similar to the proposed project.

l. Transportation/Traffic. Compared to the proposed project, this alternative would eliminate the need for the proposed Point Pinos Stormwater Treatment Facility, but would result in 24 additional diversion structures, six additional pump stations, three additional equalization/storage basins, and nearly 67,000 linear feet of additional in-ground pipeline. Overall, this alternative would require more construction than for the proposed project, and would therefore generate more road closures and construction-related vehicle trips than the proposed project. Impacts associated with this alternative would therefore be greater than for the proposed project, but would remain significant but mitigable. Mitigation measures identified in Section 4.12, *Transportation/Traffic*, would continue to be required.



6.4 ALTERNATIVE 3: TREATMENT AT THE RETIRED PGWTP

6.4.1 Description

This alternative would divert 100 percent of runoff to the retired PGWTP for treatment, rather than diverting a portion of the drainage area to the MRWPCA WTP, as in the proposed project. This alternative is similar to “Option 3” analyzed in the MACTEC study, with the addition of the David Avenue Reservoir (considered as part of “Option 22” in the MACTEC study). This alternative would include the following components (refer also to Figure 6-2).

David Avenue Reservoir. Similar to the proposed project, this alternative would involve improvements to the former David Avenue Reservoir. This would include upgrading the reservoir to current standards for stability, providing overflow capability for storm events, and providing an aesthetic benefit to adjacent residents. Runoff from the portion of the ASBS watershed within the City of Monterey would be captured in the reservoir and released into the existing storm drain system for conveyance into the rest of the system. Improvements within the reservoir would be similar to the proposed project, as described in Section 2.0, *Project Description*.

Pipeline and Diversion Structures. Under this alternative, wet weather and dry weather flows would be diverted from New Monterey and City of Pacific Grove storm drain systems at five primary locations and 27 secondary locations. The primary locations would divert dry weather flows from the five largest drainage basins within Pacific Grove while the secondary locations would divert flows from smaller drainage basins that comprise storm drain outfalls serving one or two catch basins. Diverted wet and dry weather flows would flow through approximately 4,105 linear feet of gravity lines into equalization basins for pumping. A total of 12,786 linear feet of underground force main pipe would connect the pump stations to a media filter or constructed wetlands/wet pond located at the retired PGWTP. This force main would be constructed beneath Ocean View Boulevard.

Flow Equalization Basins. A total of seven underground flow equalization facilities would be required within the City of Pacific Grove to equalize wet weather flows and minimize the size of pumps required. The equalization basins would be sized in conjunction with the pump capacities to store the total volume of runoff generated for each of the sub-watersheds subtracting what is being pumped out.

Pump Stations. A total of seven pump stations with wet wells would be constructed within the City of Pacific Grove. Each pump station would have two dual submersible pumps in a wet well (a 6-foot diameter precast concrete manhole with two submersible pumps). The second pump would be a redundant pump in case the primary pump failed for some reason. A larger wet well would be required for pumps greater than 50 horsepower or if a variable frequency drive (VFD) pump is used. A separate valve pit would be located next to the pump station. An above ground free standing electrical control panel would be located nearby. A superstructure would need to be constructed to house the control panel and for a VFD drive pump or pumps greater than 100 horsepower. A remote control/ monitoring system (i.e., SCADA) would be required for the operation and monitoring of the regional lift station





Alternative 3: Treatment at the Retired PGWTP
 (Option 3/Alignment A)

Source: MACTEC, 2006

systems. Each lift station would be fitted with a remote control/ monitoring system and tied to a central monitoring system.

Treatment Facility and Outfall. Similar to the proposed project, a new wastewater treatment facility would be constructed at the retired PGWTP; however, this facility would be larger than the proposed project to accommodate the additional flows. All treatment system components would be located within the existing PGWTP site footprint. As with the proposed project, the two existing tanks on the site could be refurbished as part of the Pacific Grove Local Water Project (PGLWP) and made available for seasonal use by the proposed project. The anticipated facilities and treatment processes would be similar to the proposed project, as described in Section 2.0, *Project Description*.

6.4.2 Impact Analysis

a. Aesthetics. As with the proposed project, this alternative would place new infrastructure in visually sensitive locations, and improvements may be viewed from public viewing locations. This has the potential to adversely affect scenic vistas and/or degrade the existing character or quality of the area. In addition, alternative improvements may introduce new sources of light and glare into the area, as would the proposed project.

Because the David Avenue Reservoir component of the project would be identical under this alternative, aesthetic impacts associated with this improvement would be similar. Specifically, the re-establishment of a water feature at the site would result in a beneficial visual impact for viewers, including those elevated above the site. This and other aesthetic impacts associated with the David Avenue Reservoir would be less than significant, similar to the proposed project.

This alternative would construct a wastewater treatment facility at the retired PGWTP site, similar to the proposed project. However, as part of this alternative the facility would be larger to accommodate the additional flows. Despite the larger size, it is anticipated that the facility would continue to be screened from Sunset Boulevard and the Pacific Grove Golf Links by an existing fence and vegetation. Impacts related to scenic vistas, degradation of visual character, and introduction of light and glare would therefore be less than significant, similar to the proposed project.

Compared to the proposed project, this alternative would result in 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. The installation of these improvements would result in greater construction-related disturbances, thereby resulting in greater short-term impacts to aesthetic resources. However, as with the proposed project, the majority of these improvements would be located below-ground and would not, therefore, result in long-term impacts to scenic vistas, visual character, or light and glare. Nevertheless, because this alternative would result in more above-ground facilities (associated with diversion structures and pump stations), these impacts would be slightly increased compared to the proposed project, but would remain less than significant.



b. Air Quality. Similar to the proposed project, the Treatment at the Retired PGWTP Alternative would not contribute to population growth, and would therefore be consistent with growth assumptions in the AQMP. This impact would be less than significant, similar to the proposed project.

As noted in Section 4.2, *Air Quality*, construction of the proposed project would generate short-term air emissions; however, such emissions during construction would not exceed MBUAPCD standards. This alternative would require similar construction at the David Avenue Reservoir and slightly more intensive construction at the retired PGWTP site. This alternative would also require the installation of 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. The additional pipeline alone represents a 176 percent increase compared to the proposed project. Therefore, air emissions would be greater under this alternative. However, impacts would be expected to be less than significant.

This alternative would treat runoff at the retired PGWTP, similar to the proposed project, but would treat slightly more runoff. Potential odors associated with this new facility would therefore increase under this alternative; however, impacts would remain less than significant.

c. Biological Resources. As described in Section 4.3, *Biological Resources*, the proposed project would result in potentially significant impacts to CRLF and western pond turtle. These impacts would result from implementation of the David Avenue Reservoir and Point Pinos Stormwater Treatment Facility and Crespi Pond components of the project; impacts to these species would not result from in-road improvements. The Treatment at the Retired PGWTP Alternative would result in similar improvements to the David Avenue Reservoir and slightly greater improvements at the retired PGWTP site. However, given the relatively minor increase in treatment that would be required, and the fact that the facility would be constructed in an already disturbed area, overall impacts to these species would be similar to the proposed project. Impacts would continue to be significant but mitigable, and mitigation identified in Section 4.3, *Biological Resources*, would continue to be required.

As noted previously, this alternative would require the installation of 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. Because additional ground disturbance would occur, it is anticipated that a greater number of trees would be trimmed and/or removed under this alternative. Impacts to tree removal, white-tailed kite, and other nesting bird species would therefore be greater for this alternative than for the proposed project. Mitigation identified in Section 4.3, *Biological Resources*, would continue to be required for white-tailed kit and nesting birds, and would continue to reduce such impacts to a less than significant level. Similarly, compliance with the City of Pacific Grove's 2013 Amended Urban Forestry Tree Ordinance would reduce tree removal impacts to a less than significant level, as with the proposed project.

The proposed David Avenue Reservoir improvements would directly remove established wetland habitat on-site. Because this alternative would result in similar improvements to this existing reservoir, impacts to wetland habitat would be similar and would remain significant but mitigable. In addition, because this alternative would continue to discharge treated runoff



into the Monterey Bay, impacts to waters of the U.S. would also be similar. Mitigation identified in Section 4.3, *Biological Resources*, would continue to be required.

Finally, the proposed project would construct improvements in areas with suitable habitat for hoary bat. However, because project construction activity would be limited to daytime hours (when the hoary bat is inactive) and would not remove three-dimensional structures of any bat foraging habitats, impacts would be less than significant. Although the Treatment at the Retired PGWTP Alternative would increase the overall area of disturbance, construction of this alternative would similarly occur during daytime hours. Impacts would therefore be slightly greater under this alternative, but would continue to be less than significant.

d. Cultural Resources. This alternative would result in an overall greater level of disturbance than the proposed project. This is because, compared to the proposed project, this alternative would require a slightly larger treatment facility at the retired PGWTP site, and would result in 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. The additional pipeline alone represents a 176 percent increase compared to the proposed project. The installation of these improvements would result in greater construction-related disturbances, thereby increasing the potential to unearth or adversely impact prehistoric or historic archaeological resources as well as previously unidentified human remains. As with the proposed project, impacts to prehistoric or historic archaeological resources would be expected to be significant but mitigable, and mitigation outlined in Section 4.4, *Cultural Resources*, would continue to apply. Compliance with California Health and Safety Code Section 7050.5 would reduce impacts to previously unidentified human remains a less than significant level, as with the proposed project. Finally, given the increased ground disturbance, the potential to impact paleontological resources would increase compared to the proposed project, and mitigation outlined in Section 4.4, *Cultural Resources*, would continue to apply.

e. Geology and Soils. As described in Section 4.5, *Geology/Soils*, the David Avenue Reservoir component of the proposed project would result in significant but mitigable impacts related to seismically induced ground failure. Because this alternative would construct the same improvements to this reservoir as the proposed project, such impacts would be similar, and mitigation measures identified in Section 4.5, *Geology/Soils*, would continue to apply.

Impacts resulting from the remaining project components (Pine Avenue Conveyance, Ocean View Boulevard Conveyance, Point Pinos Stormwater Treatment Facility and Crespi Pond, and Diversions to MRWPCA) would result in less than significant impacts related to seismically induced ground failure. The Treatment at the Retired PGWTP Alternative would increase overall disturbance by increasing the size of the treatment facility and adding additional diversion structures, pump stations, storage basins, and in-ground pipelines. Because of the greater area of disturbance, the potential for exposure to seismically induced ground failure hazards would increase when compared to the proposed project. However, it is still anticipated that these effects would be less than significant with compliance with City of Pacific Grove Standard Specifications.

Although this alternative would require a greater level of disturbance than the proposed project, construction of this alternative would be required to comply with a SWPPP and



construction BMPs, which would limit the potential for construction-related erosion. In addition, this alternative would similarly utilize existing infrastructure and/or construct new facilities within existing (disturbed) roadway rights-of-way. Therefore, while erosional impacts would increase when compared to the proposed project, they would continue to be less than significant.

As noted in Section 4.5, *Geology/Soils*, some components of the proposed project (including David Avenue Reservoir and Pine Avenue Conveyance) would be located on soils with moderate or high shrink-swell potential. Because this alternative would include similar improvements to the David Avenue Reservoir and result in an overall increase in disturbance area, impacts associated with shrink-swell potential would be expected to increase. Mitigation measures outlined in Section 4.5, *Geology/Soils*, would continue to apply, and would be expected to reduce impacts to a less than significant level.

f. Greenhouse Gas Emissions. As described in Section 4.6, *Greenhouse Gas Emissions/Climate Change*, the proposed project would generate GHG emissions, primarily during construction. These emissions would be substantially below the applicable significance threshold of 1,150 MT of CO₂ per year. Although the Treatment at the Retired PGWTP Alternative would result in a greater level of construction disturbance, it is not anticipated that this would generate GHG emissions exceeding the applicable threshold. Therefore, while impacts would increase when compared to the proposed project, they would continue to be less than significant.

As this alternative would construct drainage-related infrastructure, similar to the proposed project, it would not conflict with California GHG reduction goals, or any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be less than significant, similar to the proposed project.

g. Hazards and Hazardous Materials. As with the proposed project, construction and operation of this alternative may include the use, storage, and/or transport of hazardous materials. Because this alternative would construct more facilities than the proposed project, such impacts would be anticipated to increase when compared to the proposed project. In addition, this alternative would increase the size of the treatment facility at the retired PGWTP site. As described in Section 4.7, *Hazards and Hazardous Materials*, this facility would not require permanent chemical-storage on-site. However, during operation, suspended solids would be filtered out of the stormwater, dried, and stored on-site before being disposed of at the Marina Regional Solid Waste Management Facility. Although impacts associated with these materials would increase when compared to the proposed project, this increase would be minor, and compliance with all applicable regulations would continue to ensure that hazardous materials-related impacts from this facility would remain less than significant.

Because this alternative would require more ground disturbance than the proposed project, construction would have an increased potential to be affected by the presence of underground utility lines and an increased potential to be located on a site containing hazardous materials. Impacts related to underground utility lines would be increased when compared to the proposed project, but would continue to be significant but mitigable. Mitigation measures outlined in Section 4.7, *Hazards and Hazardous Materials*, would continue to be required. Given



the nature of the alternative, impacts related to hazardous materials sites would remain less than significant, similar to the proposed project.

As with the proposed project, components of this alternative would be located within ¼ mile of a school. However, this alternative would not include the handling or emitting of acutely hazardous materials. Therefore, impacts would be similarly less than significant.

h. Hydrology and Water Quality. Compared to the proposed project, this alternative would increase the size of the planned stormwater treatment facility and would result in 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. The installation of these improvements would result in greater construction-related disturbances, thereby resulting in greater short-term impacts to water quality due to erosion and sedimentation. However, as with the proposed project, compliance with existing federal, state, and local requirements would ensure that impacts remain less than significant.

Although the Treatment at the Retired PGWTP Alternative would include an overall greater level of disturbance than the proposed project, improvements would occur within already developed sites and/or within existing street rights-of-way. Thus, this alternative would not be expected to increase impervious surfaces compared to existing conditions, similar to the proposed project. The potential for this alternative to result in downstream flooding or increased erosion as a result of additional impervious surfaces would therefore be less than significant, similar to the proposed project.

Similar to the proposed project, this alternative would divert stormwater within the Pacific Grove ASBS watershed to a new stormwater treatment facility located at the retired PGWTP site; in contrast to the proposed project, 100 percent of the captured runoff would be treated at this new facility (rather than a small portion being treated at the existing MRWPCA WTP in Marina, as in the proposed project). Because the same level of treatment would occur, the beneficial water quality and supply impacts of the proposed project would be similarly beneficial under this alternative.

As with the proposed project, this alternative would install new drainage infrastructure in an area that is subject to inundation by a tsunami. Although additional facilities would be installed, the facilities would be mostly subterranean, and would not exacerbate vulnerability to a tsunami hazard. Therefore, impacts would be less than significant, similar to the proposed project.

Finally, because the proposed David Avenue Reservoir component of the project would be the same under this alternative, impacts related to dam failure would be similar. Mitigation measures outlined in Section 4.5, *Geology/Soils*, would continue to be required, and would ensure that the dam is constructed in accordance with applicable oversight agency requirements and geotechnical recommendations. Impacts would be significant but mitigable.

i. Land Use and Planning. As described in Section 4.9, *Land Use and Planning*, based on the design of project components and following implementation of the mitigation measures



identified throughout this EIR, the proposed project would be consistent with applicable policies of the City of Pacific Grove's General Plan, including its Local Coastal Program. Because this alternative would construct drainage-related infrastructure, similar to the proposed project, it is anticipated that it, too, would be consistent with applicable City policies. Mitigation measures outlined in Sections 4.1 to 4.12 would achieve consistency with applicable policies included in the adopted General Plan, including the Local Coastal Program, and would similarly apply to this alternative. Impacts would be significant but mitigable.

j. Noise. As noted in Section 4.10, *Noise*, operation of heavy equipment during construction of all components of the proposed project would result in a temporary noise level increase and short-term groundborne vibration that could disturb nearby sensitive receptors. This noise impact, although temporary, would be considered significant and unavoidable. This alternative would require similar construction at the David Avenue Reservoir, and would increase the size of the treatment facility at the retired PGWTP site. This alternative would also require the installation of 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. The additional pipeline alone represents a 176 percent increase compared to the proposed project. Therefore, construction-related noise and vibration would be greater under this alternative. Mitigation measures outlined in Section 4.10, *Noise*, would continue to be required, and impacts would be significant and unavoidable, similar to the project.

As with the proposed project, given the nature of the improvements, this alternative would not generate substantial sources of long-term operational noise. Impacts would be less than significant, similar to the proposed project.

k. Public Services and Utilities. Compared to the proposed project, this alternative would increase the size of the wastewater treatment facility at the retired PGWTP site, but would result in 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. Overall, this alternative would require more construction than for the proposed project, and would therefore generate more solid waste during construction. However, given the remaining capacities at nearby landfills (refer to Section 4.11, *Public Services and Utilities*) and the temporary nature of construction, such impacts would remain less than significant.

As noted in Section 4.11, *Public Services and Utilities*, the proposed project would divert approximately 148 acre feet per year (AFY) (0.13 million gallons per day [MGD]) of runoff annually to the MRWPCA RTP in Marina; the remaining captured runoff (433 AFY, or 0.39 MGD) would be conveyed to the new Point Pinos Stormwater Treatment Facility. Under this alternative, no flows would be diverted to the MRWPCA RTP in Marina. Therefore, impacts associated with remaining capacity at this existing facility (which would be less than significant), would be eliminated.

l. Transportation/Traffic. Compared to the proposed project, this alternative would expand the proposed treatment facility at the retired PGWTP site and would result in 24 additional diversion structures, three additional pump stations, three additional equalization/storage basins, and nearly 14,000 linear feet of additional in-ground pipeline. Overall, this alternative would require more construction than for the proposed project, and



would therefore generate more road closures and construction-related vehicle trips than the proposed project. Impacts associated with this alternative would therefore be greater than for the proposed project, but would remain significant but mitigable. Mitigation measures identified in Section 4.12, *Transportation/Traffic*, would continue to be required.

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

This section evaluates the impact conclusions for the proposed project and the three alternatives under consideration. It then identifies the environmentally superior alternative. In accordance with the *State CEQA Guidelines*, if the No Project Alternative is identified as the environmentally superior alternative, the alternative among the remaining scenarios that is environmentally superior must also be identified.

Table 6-2 shows whether each alternative’s environmental impact is greater, lesser, or similar to the proposed project for each issue area.

**Table 6-2
 Impact Comparison Summary**

Issue	Proposed Project	Alt. 1: No Project	Alt. 2: Treatment at MRWPCA	Alt. 3: Treatment at PGWTP
Aesthetics				
<i>Scenic Vistas</i>	=	+	+/-	=/-
<i>Visual Character</i>	=	+	+/-	=/-
<i>Lighting</i>	=	+	+/-	=/-
<i>Glare</i>	=	+	+/-	=/-
Air Quality				
<i>AQMP Consistency</i>	=	+	=	=
<i>Construction Emissions</i>	=	+	-	-
<i>Odors</i>	=	+	+	-
Biological Resources				
<i>CRLF</i>	=	+	-	=
<i>Western Pond Turtle</i>	=	+	-	=
<i>Nesting Birds</i>	=	+	-	-
<i>Wetland Habitat</i>	=	+	=	=
<i>Tree Removal</i>	=	+	-	-
<i>Hoary Bat</i>	=	+	-	-
Cultural Resources				
<i>Identified Resources</i>	=	+	-	-
<i>Previously Unidentified Resources</i>	=	+	-	-
<i>Previously Unidentified Human Remains</i>	=	+	-	-
<i>Paleontological Resources</i>	=	+	-	-
Geology and Soils				
<i>Seismic-Related Ground Failure</i>	=	+	=/-	=/-
<i>Erosion</i>	=	+	-	-
<i>Shrink-Swell</i>	=	+	-	-



**Table 6-2
Impact Comparison Summary**

Issue	Proposed Project	Alt. 1: No Project	Alt. 2: Treatment at MRWPCA	Alt. 3: Treatment at PGWTP
Greenhouse Gas Emissions				
<i>GHG Emissions</i>	=	+	-	-
<i>GHG Policy Consistency</i>	=	+	=	=
Hazards and Hazardous Materials				
<i>Use, Storage, Transport of Hazardous Materials</i>	=	+	-/+	-
<i>Underground Utility Lines</i>	=	+	-	-
<i>School Adjacency</i>	=	+	=	=
<i>Hazardous Materials Sites</i>	=	+	-	-
Hydrology and Water Quality				
<i>Erosion and Sedimentation</i>	=	+	-	-
<i>Water Quality</i>	=	-	=	=
<i>Downstream Flooding and Erosion</i>	=	+	=	=
<i>Tsunami Inundation</i>	=	+	=	=
<i>Dam Failure</i>	=	+	=	=
Land Use and Planning				
<i>Policy Consistency</i>	=	+	=	=
Noise				
<i>Construction Equipment Noise</i>	=	+	-	-
<i>Construction Vehicle Noise</i>	=	+	-	-
<i>Vibration</i>	=	+	-	-
<i>Operational Noise</i>	=	+	=	=
Public Services and Utilities				
<i>Solid Waste</i>	=	+	-	-
<i>MRWPCA Capacity</i>	=	+	-	+
Transportation/Traffic				
<i>Traffic Operations</i>	=	+	-	-
<i>David Avenue and Forest Avenue Intersection</i>	=	+	-	-
Overall	=	+	-	-

- + Superior to the proposed project
- Inferior to the proposed project
- +/- Both better and worse than the proposed project
- = Similar impact to the proposed project

Based on the comparison provided in Table 6-2, the No Project alternative (Alternative 1) is considered environmentally superior, since it would eliminate nearly all of the anticipated environmental effects of the project. However, this alternative would not accomplish any of the objectives of the proposed project, including: meeting the ASBS Special Protection requirements; conserving potable water; restoring the David Avenue Reservoir; installing stormwater infrastructure and BMPs; and reducing regulatory uncertainty. Further, the proposed ASBS Stormwater Management Project, as well as Alternatives 2 and 3, would comply with the ASBS Special Protections, thereby improving the quality of runoff entering the Pacific Grove ASBS in the Monterey Bay. In addition, the proposed project would generate a new



source of water that could be used for irrigation purposes, thereby offsetting existing potable water demand. Because this alternative would not divert and treat stormwater runoff, it would not result in beneficial impacts to water quality, and would not offset existing water demand.

Of the remaining two alternatives, neither is environmentally superior to the proposed project; however, Alternative 3 is environmentally superior to Alternative 2. This is primarily because Alternative 3 would utilize the retired PGWTP site, located in Pacific Grove, for stormwater treatment. In contrast, Alternative 2 would convey runoff to the MRWPCA RTP in Marina, thus requiring substantially more in-ground pipeline. By keeping stormwater treatment within the ASBS watershed area, Alternative 3 would reduce ground disturbance, thus reducing impacts relative to Alternative 2. However, both alternatives would require a greater level of disturbance than the proposed project. As a result, both would generate increased impacts related to construction emissions, geologic hazards, hazardous materials, erosion and sedimentation, construction-related noise and vibration, solid waste, and traffic. It should be noted, however, that most of these impacts are short-term, construction-related impacts. Given the nature of the improvements, most long-term impacts would be similar or only slightly greater than the proposed project, and most would be less than significant.



7.0 REFERENCES AND PREPARERS

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8.0 RESPONSES to COMMENTS

This section includes the comments received during circulation of the Draft Environmental Impact Report (EIR) for the Monterey-Pacific Grove ASBS Stormwater Management Project (Project) and responses to those comments. Where a comment resulted in a change to the Draft EIR text, a notation is made in the response indicating that the text is revised. Changes in text are signified by strikeouts (~~strikeouts~~) where text is removed and by underlined font (underline font) where text is added. (Other minor clarifications and corrections to typographical errors are also shown as corrected in this format, including corrections not based on responses to comments. These changes do not introduce new information or otherwise affect the analysis or conclusions of the EIR and thus do not require recirculation under State CEQA Guidelines § 15088.5).

The Draft EIR was circulated for a 45-day public review period that began on January 17, 2014 and ended on March 3, 2014. The City of Pacific Grove (City) received 3 comment letters on the Draft EIR, including an acknowledgement from the State Clearinghouse that the City has complied with CEQA environmental review requirements. The commenters and the page numbers on which each commenter's letters appear (as applicable) are listed below.

Commenter	Page No.
1. Mike Watson, Coastal Planner, California Coastal Commission	8-2
2. PG Residents for the Preservation of Point Pinos	8-18
3. Scott Morgan, Director, State Clearinghouse, Governor's Office of Planning and Research	8-37

The comment letters and the City's responses follow. Each comment letter has been numbered sequentially and each separate issue raised by the commenter, if more than one, has also been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue (Response 2.1, for example, indicates that the response is for the first issue raised in Comment Letter 2).



CALIFORNIA COASTAL COMMISSION

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Letter 1

March 6, 2014

Sarah Hardgrave
 City of Pacific Grove Public Works Department
 2100 Sunset Drive
 Pacific Grove, CA 93950

Subject: Draft Environmental Impact Report (DEIR) for the Monterey-Pacific Grove ASBS Stormwater Management Project (SCH# 2013101005)

Dear Ms. Hardgrave:

Thank you for the opportunity to comment on the above referenced document. The project is designed to meet the goal of Special Protections for Areas of Special Biological Significance (ASBS) governing point source discharges of storm water and nonpoint source waste discharges provisions to achieve a 90% reduction in pollutant loading during storm events for the applicant's total discharges. We offer the following comments on the DEIR.

- Using site-integrated, Low Impact Development (LID) strategies throughout the Watershed Management Areas in order to reduce the scale of the proposed infrastructure is mentioned in the EIR, but not discussed in depth. The DEIR noted that non-dry weather runoff from Area 4 might alternatively be handled by using local BMP facilities, but further investigation of using LID as a supplement or alternative should be evaluated in the EIR. It would also be helpful to include a discussion of LID in the EIR to inform future decisions on the implementation of LID strategies in concert with the proposed project. 1.1
- The runoff from Watershed Management Areas 1, 2 and 3 will be routed to the Pacific Grove Water Treatment Plant (PGWTP), where a new water management facility will treat up to the 85th percentile design flow volume. Flows in excess of this volume would be intercepted by a flow-control structure at the PGWTP, and directed to the Monterey Regional Water Pollution Control Agency Regional Wastewater Treatment Plant in Marina (MRWPCA).
 1. Please discuss the State Water Resources Control Board 90% reduction requirement, how it relates to flows in excess of the 85th percentile design flow, and if these excess flows would also need treatment to remove pollutants prior to discharge to the ASBS. Also please verify that this requirement to treat flows greater than the 85th percentile drives the need to route overflow from the PGWTP to the MRWPCA. 1.2
 2. Please clarify how the Ocean View Boulevard Conveyance (Component 3) will handle the overflows from the PGWTP routed in the opposite direction (towards MRWPCA). 1.3



- 3. We understand the Component 5 upgrade would handle a maximum 85th percentile design flow for runoff that originates in the expanded Area 4. Please clarify how the additional flow from the PGWTP would be handled by the facility. 1.4
- 4. It may be helpful to consider the existing, unused storage tanks on the PGWTP site in greater detail in the EIR. Storage provided by the tanks may obviate any need to consider directing 85th percentile overflows from the PGWTP to the MRWPCA. 1.5
- 5. The flow control structure at the PGWTP is slated to be 18 feet high. Please explain the need for such a tall project component. Is it hydraulic design-driven and is it related to the flow-excess that must be routed to the MRWPCA? Or, can the structure be down-sized? 1.6
- One of the project goals is to provide water for the groundwater replenishment program in Seaside. The Fall Creek Engineering Report (Appendix G, Hydrology Study) included alternative analyses for routing higher volumes of runoff (for a one-year and 2-year design flow) to the MRWPCA that conceivably could be used for this purpose, or for non-potable uses such as irrigation. 1.7
 - 1. Please clarify to what extent diversion of greater than the 85th percentile flow (the one-year and 2-year design flow) was considered in Areas 1, 2 and 3 to be routed to the PGWTP. The existing force-main was contemplated to be retrofit with a 10 to 12 inch liner, but the motivation to design the facility to handle a greater volume is not clear. If a greater volume could be routed to the PGWTP to be used as a non-potable water resource, should this option be considered in greater detail? 1.8
 - 2. Please clarify how the beneficial use of this water as recharge or irrigation was considered in the alternatives analyses. Would the cost and impacts of increasing the ability to route flows to the MRWCA outweigh the benefit of the additional water supply? 1.9
 - 3. Please explain why flows in excess of the 85th percentile design in Management Area 4 would be allowed to bypass the project and flow to the ASBS, while flows in excess of the 85th percentile design that ultimately flow to the PGWTP would need to be captured and routed to the MRWPCA. 1.10
- The existing 15-inch outfall at the PGWTP would be the primary point of discharge for up to 1,500 gpm of treated runoff to the ASBS. Is this outfall contemplated or permitted under the ASBS Exemption, since it is not currently active? The potential impact of discharge of fresh water from the outfall into tide pools or other sensitive habitats, if applicable, should be evaluated in the EIR. It should be clarified whether or not the normal rate, volume, and duration of freshwater discharge would be a similar condition as when the PGWTP plant was operational, or would present a more persistent water source than did the PGWTP. 1.11
- The DEIR indicates that new pump stations and related facilities will be installed along Ocean View Boulevard (i.e., at Lover’s Point, Sea Palm Avenue, Coral Street, Greenwood Park, Berwick Park, and Eardley Avenue), which is an area designated as highly scenic in the City’s coastal Land Use Plan. The DEIR suggests that it may be possible to construct some of these 1.12



facilities below grade and outside of the viewshed. The EIR should evaluate the possibility of undergrounding the entire proposed infrastructure. If undergrounding the entire proposed infrastructure is deemed infeasible, the EIR must provide additional detail on the dimensions and locations of all proposed above-ground project elements. The EIR must also identify and evaluate the visual impact of said development and further identify mitigation measures that will be implemented to minimize visual impacts, including via screening, coloring, landscaping, etc.

1.12

- The proposed ASBS stormwater project introduces new public works infrastructure at Point Pinos in the Asilomar Dunes planning area. The entire Asilomar Dunes planning area is environmentally sensitive habitat (ESHA), including the sand dunes surrounding this facility. The proposed stormwater infrastructure will occupy a portion of the site that is currently devoid of any development yet it retains some of its native habitat characteristics. Per coastal act requirements, only resource dependent uses are allowed in ESHA, and though the site has been used in the past for wastewater treatment, the past use has been retired and the stormwater treatment plant is not dependent upon a location in the sand dunes to operate. Accordingly, the City’s EIR must evaluate the land use compatibility of constructing a treatment facility in ESHA. The EIR must also evaluate the impacts of the additional permanent habitat loss (i.e., areas of the site proposed for development that could otherwise be restored to native dune habitat.

1.13

- From what we can tell, the ASBS stormwater project scope does not include reuse of the retired digester and clarifier tanks. There appears to be an opportunity to offset project related impacts via the removal of the existing digester and clarifier tanks and related infrastructure, followed by restoration of those portions of the site that are not necessary to the functioning of the stormwater treatment facility. The DEIR must evaluate measures to minimize disturbance, including by reducing the overall development footprint at this location, via removal of existing retired infrastructure and concomitant restoration.

1.14

- The ASBS stormwater project would significantly reduce/eliminate dry-weather and wet weather flows to the Monterey/Pacific Grove Area of Special Biological Significance. The stated purpose is to improve the quality of stormwater runoff prior to conveyance into the ASBS. The EIR should clarify whether the diversion project lends itself toward the removal or consolidation of existing stormwater outfalls that presently discharge into the ASBS. In particular, the EIR should evaluate whether it is possible to remove or relocate the outfall at Lover’s Point beach and recreation area to another location further removed from the popular visitor destination.

1.15

Thank you for the opportunity to comment on the DEIR. If you should have any questions about these comments, please contact Mike Sandeck with the CCC Water Quality Nonpoint Source Program or myself, at (831) 427-4863. With the clarifications described herein, we expect the final EIR will provide a level of detail to allow for a careful analysis of the project for Coastal Act and LUP policy conformance issues.

1.16



Sarah Hardgrave
DEIR for the Monterey/Pacific Grove ASBS Stormwater Management Project

Page 4

Sincerely,

Mike Watson
Coastal Planner
Central Coast District Office



Letter 1

COMMENTER: Mike Watson, Coastal Planner, California Coastal Commission

DATE: March 6, 2014

Response 1.1

The commenter notes that the possible use of Low Impact Development (LID) strategies is mentioned in the EIR to reduce the scale of the proposed infrastructure. The commenter recommends further discussion in the EIR of the use of LID as a supplement or alternative for the non-dry weather runoff from Area 4. The commenter recommends including a discussion of LID in the EIR to inform future decisions on the implementation of LID strategies in concert with the proposed project.

Low Impact Development (LID) is a stormwater management strategy concerned with maintaining or restoring natural hydrologic functions to protect water quality, manage stormwater runoff, achieve natural resource protection objectives and fulfill environmental regulatory requirements. LID strategies and practices were considered throughout the project selection and design process and the proposed project would result in a multitude of benefits associated with typical LID applications, specifically a reduction in peak stormwater flows and a de-synchronization of rainfall and associated runoff that will more closely resemble pre-development conditions. Due to the magnitude of flows that need to be managed to protect the Pacific Grove ASBS, LID practices alone were not considered as a feasible management approach.

The specific reference in the EIR that the commenter is referring to is included in Appendix G, *Hydrology*. As stated in Appendix G, LID retrofits could be included as an option to supplement stormwater management in Area 4. At the moment, three outfalls currently drain to Ocean View Boulevard in the Coral Pump Station vicinity and were determined to enter “self-treating” areas before discharging to the ASBS. In the 15% submittal these areas were identified as potential LID retrofit opportunities. Per SWRCB Resolution No. 2012-0012: “To control storm water runoff discharges (at the end-of-pipe) during a design storm, permittees must first consider, and use where feasible, LID practices to infiltrate, use, or evapotranspire storm water runoff on-site, if LID practices would be the most effective at reducing pollutants from entering the ASBS.”

The City of Pacific Grove is currently undertaking efforts to develop LID strategies throughout the City that are separate from and in addition to the proposed project. Future project phases would continue to evaluate opportunities to retrofit existing sites to accommodate LID practices and integrate LID into the proposed project to further enhance compliance with the ASBS Special Protections. Other LID-related activities being undertaken by the City include implementation of the Central Coast RWQCB adopted Post-Construction requirements, an Urban Greening grant to develop a Citywide watershed model and LID opportunities analysis, and a commercial and residential LID retrofit program.



As noted above, the feasibility of integrating LID strategies with the proposed project would be determined during future detailed design of the individual components. The project as described in Section 2.0, *Project Description*, is the subject of the analysis included in the EIR, though in consideration of the comment the following text has been added to Section 2.4 on page 2-9 of the EIR to include a reference the potential for use of LID in concert with implementation of the proposed project:

In addition, as final design of each project component progresses, use of Low Impact Development (LID) practices would be considered to reduce flows and provide water quality pre-treatment in each of the four management areas prior to collection and conveyance by the ASBS Stormwater Management System.

Response 1.2

The commenter requests further discussion pertaining to the State Water Resources Control Board (SWRCB) 90% reduction requirement, how it relates to flows in excess of the 85th percentile design flow, and if these excess flows would also need treatment to remove pollutants prior to discharge to the ASBS. The commenter additionally requests verification that this requirement to treat flows greater than the 85th percentile drives the need to route overflow from the PGWTP to the MRWPCA.

As per SWRCB Resolution No. 2012-0012 (also known as the “ASBS Special Protections”), the proposed stormwater management measures are intended to achieve, “a 90% reduction in pollutant loading during storm events, for the applicant’s total discharges.” For the purposes of the SWRCB Resolution, the “design storm” is defined as the volume of runoff produced from one inch of precipitation per day or, if this definition is inconsistent with the discharger’s applicable storm water permit, then the design storm shall be the definition included in the discharger’s applicable storm water permit.

The proposed project would divert both wet and dry weather flows from both Pacific Grove and New Monterey watershed areas into an upgraded stormwater collection and treatment system. As proposed, flows would be directed either to a new stormwater treatment facility adjacent to Pacific Grove Golf Links at the retired Point Pinos Wastewater Treatment Plant site and/or to the Monterey Regional Water Pollution Control Agency (MRWPCA) regional wastewater treatment plant in Marina. The objective of the project is to achieve up to a 90% reduction in pollutant loading during storm events to comply with the SWRCB’s ASBS Special Protections.

Based on an analysis of alternative flows and stormwater management approaches the proposed stormwater treatment project was sized to treat up to the 85th percentile design storm because that is what is required by the ASBS Special Protections. .

Through the conveyance of stormwater to Point Pinos and the MRWPCA, the discharge of stormwater into the ASBS would be eliminated during storms less than or equal to the design storm, i.e. the 85th percentile storm. Runoff to the ASBS would also be reduced during rainfall events in excess of the design storm because runoff would continue to be diverted into the proposed stormwater collection and treatment system. Runoff exceeding the system design



capacity would continue to discharge through existing outfalls. Treatment of additional runoff resulting from storm events in excess of the 85th percentile event were determined to be cost prohibitive and are not a regulatory requirement.

In addition, results of the Central Coast Regional ASBS Water Quality Monitoring Program will inform the decision about whether the proposed project needs to be implemented to comply with the SWRCB's water quality requirements to protect the ASBS. The monitoring results will also indicate if the proposed project needs to be modified and will also inform the stormwater treatment plant design, specifically the refinement of the proposed treatment system.

In response to the commenter's second question, flows diverted to the MRWPCA from the PGWTP would be for the treatment of the runoff to meet compliance requirements of the ASBS and potentially as a supplemental source of water for the MRWPCA's Groundwater Replenishment Project or Recycled Water supply. The MRWPCA connection is also intended as a back-up to the Point Pinos Stormwater Treatment Facility, in the event it is not operationally effective to manage storm events less than or equal to the 85% event. As stated above, flows in excess of the 85th percentile design storm would be diverted to the existing stormwater drainage system and not to the MRWPCA.

Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 1.3

The commenter requests clarification how the Ocean View Boulevard Conveyance component would handle the overflows from the PGWTP routed in the opposite direction, toward MRWPCA.

The Ocean View Boulevard Conveyance would move stormwater east to west towards Point Pinos. Overflow from the Point Pinos Stormwater Treatment Facility would be conveyed through an existing sanitary sewer line that currently conveys wastewater along Ocean View Boulevard from west to east towards the MRWPCA Coral Pump Station in a separate pipeline. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 1.4

The commenter requests clarification of how the additional flow from the PGWTP during the 85th percentile design flow originating in Area 4 would be handled by Component 5 [Diversion to MRWPCA] upgrades.

Component 5 (Diversions to MRWPCA) upgrades would be within the existing dry-weather urban diversion system that conveys stormwater to the MRWPCA at its Fountain Avenue Pump Station. Flows from Fountain Ave are diverted to the regional treatment plant in Marina. Additional flows from the PGWTP would enter the MRWPCA system at the Coral Street Pump Station, as described in Response 1.3, above. The MRWPCA Coral Street pump station moves water towards the MRWPCA Fountain Avenue pump station then to the treatment plant in



Marina. The MRWPCA wastewater conveyance system is separate from the dry-weather urban diversion system and the conveyance improvements proposed on Ocean View Boulevard. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 1.5

The commenter suggests that it may be helpful to consider the existing storage tanks on the PGWTP site in greater detail in the EIR, as storage provided in the tanks may obviate any need to consider directing 85th percentile overflows from the PGWTP to the MRWPCA.

The comment is noted. The two existing tanks on the retired PGWTP property are currently proposed for use in the City of Pacific Grove's Local Water Project, a satellite recycled water facility intended to meet irrigation demands. Please see the Notice of Preparation for the City of Pacific Grove Local Water Project for further details (SCH#2014021058; available at: <http://www.ci.pg.ca.us/>). It is possible treated stormwater from the ASBS Stormwater Management Project could be used a supplemental source of water and also stored in the 210,000 gallon clarifier tank (east tank) as part Local Water Project. Blending and subsequent use of these two supplies would require regulatory agency approval and this approach will be considered in more detail during final project design as well as in the Local Water Project. As part of this project it has been assumed that blending would not occur and using the on-site clarifier for storage of treated stormwater is not considered in detail in the EIR.

Response 1.6

The commenter requests clarification as to why the flow control structure at the PGWTP is required to be 18 feet in height and whether it could be downsized.

Following publication of the Draft EIR, the design of the proposed flow control structure at the Point Pinos Stormwater Treatment Facility was modified to reduce the height of the structure to approximately 9 to 10 feet high and similar in height to the other stormwater treatment technologies that would be on the site. This alteration to the design of the facility has been noted in Section 2.0, *Project Description*, Section 4.1, *Aesthetics*, and Section 4.9, *Land Use and Planning*, of the EIR as described below. This alteration to design of the proposed flow control structure would not introduce previously unidentified or new impacts to the project component site and thus does not represent significant new information requiring recirculation of the EIR.

The language on page 2-23 in Section 2.0, *Project Description*, of the EIR in the third full paragraph on the page has been modified to read as follows:

The flow control structure would be an ~~18-foot tall~~ approximately 9 to 10 feet tall structure located behind the sludge digester (west tank), and would divert water to three possible locations: the stormwater treatment system; the equalization tank; or the MRWPCA Regional Wastewater Treatment Plant in Marina.

The language on page 2-24 in Section 2.0, *Project Description*, of the EIR in the second full paragraph on the page has been modified to read as follows:



The flow control structure would be approximately 9 to 10 feet high and would be located southwest of the former digester tank (west tank), which has a height of 19.5 feet above the ground surface, providing a visual screening of the flow control structure from the main entrance gate to the facilities from Ocean View Boulevard.

The language on page 4.1-14 in Section 4.1, *Aesthetics*, of the EIR in the second paragraph on the page has been modified to read as follows:

The only new “structure” proposed by the project would include an ~~18-foot~~ approximately 9 to 10-foot tall flow control structure located within the treatment facility enclosure.

The language on page 4.1-16 in Section 4.1, *Aesthetics*, of the EIR in the first full paragraph on the page has been modified to read as follows:

The only new “structure” would include an ~~18-foot~~ approximately 9 to 10-foot tall flow control structure located within the treatment facility enclosure.

The language on page 4.9-13 in Section 4.9, *Land Use and Planning*, of the EIR within Table 4.9-1 on the page has been modified to read as follows:

The only new “structure” proposed by the project would include an ~~18-foot~~ approximately 9 to 10-foot tall flow control structure located on the retired PGWTP site. This structure would be located over 150 feet from Sunset Drive, and would not exceed the maximum height of 18 feet above grade.

Response 1.7

The commenter states one of the project goals is the provision of water for the groundwater replenishment program in Seaside. The commenter adds that the engineering report prepared for the project included alternative analyses for routing higher volumes of runoff to the MRWPCA, which conceivably could be used for this purpose, or for non-potable uses such as irrigation.

The comment is noted and is a summary of information included in Appendix G, *Hydrology*, of the Draft EIR. As noted in Response 1.1, the primary objective of the proposed project is to manage and treat stormwater discharges into the Pacific Grove ASBS. However, the proposed project would capture runoff from approximately 23% of the total 950 acre ASBS drainage area and convey it to the MRWPCA Regional Wastewater Treatment Plant in Marina. Therefore, the proposed project would provide a potential supply of water for reuse by the MRWPCA at its recycled water project or the proposed groundwater replenishment project. On average, approximately 150 acre-feet per year of urban runoff would be delivered to the MRWPCA. As this comment does not challenge or question the analysis or conclusions in the Draft EIR, no further discussion is required.



Response 1.8

The commenter requests clarification as to what extent diversions greater than the 85th percentile flow (the 1-year and 2-year design flow) was considered in Areas 1, 2, and 3 to be routed to the PGWTP. The commenter suggests the motivation to design the facility to handle a greater volume, based on the retrofit of the existing force-main with a 10 to 12 inch liner, is unclear. The commenter questions whether the option to route a greater volume to the PGWTP to be used as a non-potable water resource should be considered in greater detail.

As identified in Appendix G of the Draft EIR, the 15% conceptual design and engineering report considered routing and treatment of the 85th percentile, 1-year storm event and 2-year storm event. The re-lining of the existing 14-inch sewer force main with 10 or 12-inch liner would accommodate the 85th percentile flow. To accommodate the 1-year storm event the existing pipeline along this road would need to be increased in diameter to 24-inches and require numerous and sizeable stormwater storage locations. This would be prohibitively expensive and result in a greater level of environmental impact; therefore, the 85th percentile event was selected as the design storm. As previously discussed under Response 1.2, in this case the 85th percentile event was considered optimal because treats the majority of storm events in the Pacific Grove ASBS project area and it maximizes the use of existing infrastructure. In addition, as noted previously in Response 1.2, the results of the Central Coast Regional ASBS Water Quality Monitoring Program will inform the decision about whether the proposed project needs to be implemented to comply with the SWRCB's water quality requirements to protect the ASBS. The monitoring results will also indicate if the proposed project needs to be modified and will also inform the stormwater treatment plant design, specifically the refinement of the proposed treatment system.

Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 1.9

The commenter requests clarification as to how the beneficial use as recharge or irrigation of water routed to MRWPCA was considered in the alternative analyses contained in Appendix G of the Draft EIR. The commenter questions if the cost and impacts of increasing the ability to route flows to the MRWPCA would outweigh the benefit of the additional water supply.

As described in Appendix B of the Draft EIR, a screening analysis of project alternatives was prepared in May 2013. Six project alternatives were evaluated in the assessment, including Alternative D, which considered the treatment of both dry and wet weather flows from Pacific Grove and New Monterey at the MRWPCA WTP. This alternative considered treated water would be either discharged to the ocean by the MRWPCA WTP, used for irrigating farmland in North Monterey County, or used for recharging the Seaside aquifer, should the groundwater replenishment project move forward.

Each alternative was ranked against each other for the 16 water quality, environmental regulatory, cultural and financial criteria considered. Criterion 4 (Achieves Multiple Benefits) considered each alternative's ability to achieve multiple benefits or objectives, such as water



supply, recreational and wildlife benefits in addition to ASBS water quality benefits. Of the six alternatives considered by the project alternatives screening analysis, Alternative D was determined to be the least favorable option for Criterion 4 because it minimized local storage, treatment and reuse opportunities. In addition, Alternative D's long-term costs associated with its potential to require expanded capacity at the MRWPCA WTP were considered by the analysis to be some of the highest of the alternatives considered.

Finally, it should be noted that the proposed project provides the opportunity to reuse collected stormwater for irrigation as a secondary benefit to its use as a stormwater treatment system. Specifically, the proposed project would install three storage facilities located in the vicinity of where irrigation is currently occurring with potable water from Cal-Am; at the Robert Down Elementary School, Caledonia Park and Pacific Grove Golf Links. Potential reuse demands at these locations for recycled water or stormwater have been identified in two previous studies. It is anticipated that with additional releases from the rehabilitated David Avenue Reservoir, stormwater could be managed to meet 5 acre-feet per year (AFY) of irrigation demand at the Robert Down Elementary School, 1 AFY of irrigation demand at Caledonia Park and approximately 6.3 AFY of irrigation demand at Point Pinos (either at the Golf Links, El Carmelo Cemetery or truck filling), for a total of 12.3 AFY.

Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 1.10

The commenter requests clarification as to why flows in excess of the 85th percentile design in Management Area 4 would be allowed to bypass the project and flow to the ASBS, while flows in excess of the 85th percentile design that ultimately flow to the PGWTP would need to be captured and routed to the MRWPCA.

In response to this comment, it should be clarified that the portion of flows in all Management Areas in excess of 85th percentile design flows would bypass the system as described in Response 1.2. The fraction of flows in excess of the 85th percentile design would not flow to the Point Pinos Stormwater Treatment Facility, nor would they be captured and routed to the MRWPCA. Also, see Response 1.5 for further information. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project, no further response is required.

Response 1.11

The commenter states that the existing 15-inch outfall at the PGWTP would be the primary point of discharge for up to 1,500 gpm of treated runoff to the ASBS. The commenter goes on to question whether this outfall is contemplated or permitted under the ASBS Exemption, since it is not currently active. The commenter also suggests that potential impact of discharge of fresh water from the outfall into tide pools or other sensitive habitats, if applicable, should be evaluated in the EIR. Finally, the commenter requests clarification as to whether or not the normal rate, volume, and duration of freshwater discharge would be a similar condition as



when the PGWTP plant was operational, or would present a more persistent water source than did the PGWTP.

First, it should be clarified that the proposed project would not utilize the existing 36-inch outfall at the retired PGWTP as stated by the commenter. Instead the proposed project would discharge treated stormwater to the Pacific Ocean via the existing 15-inch outfall from Crespi Pond, which is located approximately 500 feet southeast of the outfall from the retired PGWTP. Neither of these outfalls discharges to the ASBS.

When operational, the PGWTP operated at a capacity of 2 MGD, equating to approximately 1,400 gpm, with a separate 36-inch RCP outfall, west of the 15-inch outfall from Crespi Pond. In addition, during operation discharge from the PGWTP is considered to have been essentially constant throughout the year as is typical of wastewater treatment facilities.

Discharge from the proposed Point Pinos Stormwater Treatment Facility would be routed through Crespi Pond and freshwater would flow into the Pacific Ocean through the Crespi Pond outlet at an irregular rate during only a portion of the year as storm events occur. Diversion of the 85th percentile 24-hour storm event is expected to divert 2.27 MGD towards Point Pinos, with a discharge at a rate of up to 1,500 gpm anticipated through the Crespi Pond outfall. Therefore, at the Point Pinos Stormwater Treatment Facility design maximum, outflow from Crespi Pond would be at a similar flow rate as when the PGWTP was operational, though the overall duration of flow would be shorter and total discharge volume lower throughout the year than when the PGWTP was operational. While treated freshwater runoff through Crespi Pond would be increased as a result of the proposed project during storm events, overall freshwater runoff into the ASBS from Pacific Grove would be significantly reduced due to the diversion of flows from other existing outfalls.

It should be noted that a significant volume of stormwater some of that water would be detained in the proposed stormwater storage facilities at the restored David Avenue Reservoir, Robert Down Elementary School (240,000 gallon capacity), Lower Caledonia Park (320,000 gallon capacity), and the Wet Weather Equalization Basin (430,000 gallon capacity). The amounts detained would depend on available capacity at the start of each storm. These facilities could be managed so as to maximize their available capacities prior to a storm event and to minimize the discharge through the Crespi pond outfall, i.e. to de-synchronize rainfall and runoff.

As output would be equivalent to or less than occurred during the operation of the PGWTP, analysis of potential impacts to tide pools was not applicable, and is not included in the EIR. In addition, the monitoring efforts undertaken as part of the Central Coast Regional ASBS Water Quality Monitoring Program (described in Response 1.2) will evaluate potential stormwater impacts in the mixing zone as related to freshwater and stormwater pollutants.

Response 1.12

The commenter suggests that the EIR should evaluate the possibility of undergrounding the entire Ocean View Boulevard Conveyance component. The commenter expresses the opinion that if undergrounding the entire proposed infrastructure is deemed to be infeasible, then the



EIR should provide additional detail on the dimensions and locations of all proposed above-ground elements and evaluate the visual impact of this development.

The majority of structures proposed within the Ocean View Boulevard Conveyance component are underground, except for proposed electrical control panels. One electrical control panel would be provided for each of the four proposed pump stations. The proposed panels, located at the new stormwater pump stations, would be similar in size and style as the existing panels installed to support the dry-weather diversion system. These panels would be approximately 5 feet tall and 3 feet deep. To the maximum extent feasible, these structures would be located, sized and colored to minimize visual impacts. With regards to location, these panels are proposed to be located in close proximity to other existing structures, so as not to result in new visual features in the corridor. As identified under Impacts AES-1 and AES-2, the inclusion of these minor components in the viewshed would not result in significant impacts on a scenic vista or degrade the existing visual character or quality of the area and impacts would be less than significant. Additionally, for project components requiring the removal of existing vegetation and landscaping, preparation and approval of a landscaping plan would be required, in accordance with City of Pacific Grove Local Coastal Program Policy 2.5.4.5.

However, for clarity and in consideration of this comment the following text has been added to Section 2.4.3 on page 2-17 of the EIR:

The three new pump stations along Ocean View Boulevard would be designed to convey stormwater through the retrofitted existing sewer force main to the retired PGWTP site. The new pump stations would be located at the Lovers Point parking lot; in a median separating Ocean View Boulevard and a scenic turnout, north of the intersection of Sea Palm Avenue/Moss Street and Ocean View Boulevard; and near the intersection of Coral Street and Ocean View Boulevard. All three of these pump stations would be located below ground. The only aboveground features would be the electrical control panels located at the new stormwater pump stations. These panels would be similar in size and style as the existing panels installed to support the dry-weather diversion system and would be located sized and colored to minimize visual impacts. The features of each pump station are described below.

Beyond compliance with existing requirements, no mitigation measures are required as described in Section 4.1, *Aesthetics*, as impacts would be less than significant.

Response 1.13

The commenter states that the proposed project would introduce new public works infrastructure at Point Pinos in the Asilomar Dunes planning area and that this area is located in an environmentally sensitive habitat (ESHA), including the sand dunes surrounding the facility. The commenter adds that proposed infrastructure would be located within an area which retains some native habitat characteristics. The commenter states that per Coastal Act requirements, only resource dependent uses are allowed in ESHA areas, and goes on to suggest that though the site has been used in the past for wastewater treatment, the past use has been retired and the stormwater treatment plant is not dependent upon a location in the sand dunes to operate. The commenter suggests the EIR should evaluate the land use compatibility of construction of a treatment facility in ESHA and evaluate the impacts of the additional



permanent habitat loss (i.e. areas of the site proposed for development that could otherwise be restored to native dune habitat).

The City of Pacific Grove Local Coastal Plan (LCP) identifies several habitats within the coastal zone that are considered environmentally sensitive, including shoreline pine forest/sand dune association and pine/eucalyptus overwintering habitat for monarch butterfly. The public works infrastructure at Point Pinos is proposed for development within the retired PGWTP adjacent to Crespi Pond. This facility occurs on land zoned as Open Space Institutional (City/ Coast Guard Facilities; Figure 4 of the LCP), and is located within the Point Pinos Lighthouse Reservation. The Point Pinos Lighthouse Reservation is identified in the Open Space Element as an area of Scientific and Ecological Significance and active recreational area (see Section 2.3.3 of the LCP); however, the LCP identifies only specific habitats (tide pools and dune habitats) within the Lighthouse Reservation as Environmentally Sensitive Habitat Areas (ESHAs; see Section 3.4.1 of the LCP). The LCP also identifies Crespi Pond as an ESHA in section 2.2.4 (General Policies).

The existing conditions within the retired facility site include graded and cleared areas, existing structures, and non-native plants. The site does not contain any existing native dune, forest, tidal, or wetland features and does not consist of any sensitive natural habitat. The site is in active use by the City of Pacific Grove Public Works Department and Golf Links as an extension of the City's corporation yard, including use for materials storage and non-potable water supply. The LCP characterizes the facility (and the surrounding area and golf course) as low sensitivity (Sensitivity D on Figure 2 of the LCP). The LCP does provide recommendations that should be incorporated into the Coastal Parks Plan (as presented in *General Policy 2.3.4.3*) regarding areas of extreme sensitivity (habitats identified as A-1 on the Sensitivity Map), and protection of Crespi Pond, but does not address lower sensitivity areas within the Lighthouse Reservation. Section 30240 (a) and (b) of the Coastal Act requires protection of ESHAs against significant disruption of habitat values, and requires that development adjacent to ESHAs must be sited and designed so to avoid such impacts.

The existing facility does not include any highly sensitive habitat, and consists solely of cleared, disturbed and ruderal land. Project development in this area would not directly impact sensitive dune habitat, and existing dune habitat in the vicinity would not be affected by construction or operation of the proposed facility. Therefore, for all of the reasons identified above, evaluation of the land use compatibility of construction of a treatment facility in ESHA and evaluation of permanent habitat loss is not required in the EIR.

Response 1.14

The commenter suggests that there is an opportunity to offset project-related impacts via the removal of the existing digester and clarifier tanks and related infrastructure on the retired PGWTP site, followed by restoration of those portions of the site that are not necessary to the functioning of the proposed stormwater treatment facility. The commenter suggests the EIR should evaluate measures to minimize disturbance, including by reducing the overall development footprint at this site, via removal of existing retired infrastructure and concomitant restoration.



The new development proposed for the retired PGWTP site does not involve impacts to any sensitive communities, and the development footprint in this area is as limited as possible given design requirements. Because the project would not directly impact existing sensitive dune habitat within the vicinity of the retired PGWTP site, the EIR did not evaluate measures to offset impacts at this site. No further response is necessary.

Response 1.15

The commenter states that the EIR should clarify whether the proposed project lends itself toward the removal or consolidation of existing stormwater outfalls that presently discharge into the ASBS. The commenter adds that in particular, the EIR should evaluate whether it is possible to remove or relocate the outfall at Lover's Point beach and recreation area to another location further removed from the popular visitor destination.

With implementation of the proposed project, the existing ASBS stormwater outfalls would receive less annual outflow, i.e. no dry-weather outflows would occur and during precipitation events outflows would only occur during events exceeding 0.8 inches. For example, during the 2-inch storm event, 0.8 inches of runoff would be diverted toward Point Pinos, so 1.2 inches would flow toward the original/existing outfall locations. Currently, the entirety of the runoff from a 2-inch storm event would flow towards the existing outfall locations.

With respect to Lover's Point, with implementation of the proposed project this outfall would receive less wet-weather outflow during all storm events, which would reduce disturbance at this popular beach destination.

In addition, long-term monitoring of the project, once implemented, could evaluate where outfall consolidation is a reasonable option. However, that would be part of a separate undertaking and is not part of the proposed project at this time. As this comment is focused on the design of the proposed project rather than the merits of the analysis included in the EIR itself, no changes to the text of the EIR are warranted.

Response 1.16

The commenter expresses gratitude for having had the opportunity to provide comments on the Draft EIR and provides contact information for further discussion of any comments provided in the comment letter.

The comment is noted.

In addition the commenter submitted one additional comment via email on March 10, 2014, after the close of the comment period. For completeness and in consideration of the Coastal Commission's role as a responsible agency for the proposed project, a response is provided here.

Response 1.17

In his e-mail, the commenter states that on page 2-29 of the DEIR under the heading of Point Pinos Stormwater Treatment Facility and Crespi Pond, the City anticipates roughly 2,200 cu/yr



of cut and 2,000 cu/yd of off-site disposal of material (sand?). If the material is dune sand, it must be retained for use within the Asilomar Dunes complex. The commenter requests that the DEIR distinguish between sand and other material and indicate that the sand will be staged/stored for use in dune rebuilding projects in Asilomar.

In response the following text has been added to p. 2-29 of the Final EIR:

Point Pinos Stormwater Treatment Facility and Crespi Pond. The Point Pinos Stormwater Treatment Facility improvements would be constructed over an estimated 17 weeks, and would require approximately 2,200 CY of cut, 200 CY of fill, and 1,400 linear feet (lf) of trenching. The remaining 2,000 CY of material would be hauled off-site and disposed of at the Monterey Regional Waste Management District landfill in Marina, with the exception of any excavated dune sand material, which would be reserved for use within the Asilomar Dunes complex. Grading and trenching would take approximately 22 days.

A note to this effect will also be added to the 40% design plan set for the proposed project.



February 27, 2014

Letter 2

RECEIVED

FEB 27 2014

To: Sarah Hardgrave

CITY OF PACIFIC GROVE
COMMUNITY DEV DEPT

From: PG Residents for the Preservation of Point Pinos

Re: Monterey Pacific Grove ASBS Storm Water Management Project Draft
EIR – Comments

First of all, we want to say we are fully supportive of the cities storm water management needs. The Point Pinos site seems like a good location if done properly. The key to the project is simply that at the end of construction the newly operating storm water treatment facility operates LIKE IT NEVER EVER HAPPENED. Especially in three critical areas. Site, Sound and Smell.

2.1

The Point Pinos area, where this project will take place, is in an environmentally & economically sensitive area to Pacific Grove. The area is zoned as OS-R or Open Space Recreational and is limited to low-intensity, day time recreational use only.

2.2

Question: Does this new use conform to the LUP, 3.3-4.3 and the General Plan 2.15.5 Open space?

Additionally, the proposed site is subject to conditions spelled out in the Quitclaim Deed dated August 23rd, 2006 between the United States of America and the CITY OF PACIFIC GROVE. Recorded as document 2006074277 with the Monterey County Recorder.

2.3

Question: Does the new use of the property as a storm water treatment facility violate any covenants or restrictions of that quitclaim deed?

A great deal of unique wild life lives at Point Pinos in harmony with many tourists who visit the area right next to the proposed treatment facility. We understand the “site” problem is most likely taken care of since the project will be within the confines of the current fencing around the tanks so there will be no appearance change as you see it now on Sunset Ave or from surrounding areas. (Please confirm that understanding in any response) However, Sound and smell of any kind must be confined to the same area or we risk killing the goose that laid the golden egg. While sounds of the

2.4

Ocean waves can drown out many sounds there are plenty of days and nights when the Ocean is perfectly calm and all that can be heard is the bell buoy. The city would not want to establish a mechanical sound out near the point or have a smell occur that would lower the economic value of this tourist and local's destination of solitude and beauty. Based on our own due diligence of similar water treatment facilities noise of any kind should be easily confined to the fenced area surrounding the water tanks and treatment facility using normal soundproofing installation methods for treatment plants of this type. It is also are understanding that no smell is attached to storm water treatment but we want to make sure the City takes every precaution and mitigates these three areas to the fullest. A good example is the pump stations along the coast going to Marina. Not one member of our group can remember ever hearing any kind of sound emanating from those pump stations. Likewise any pumping devices at the Point Pinos treatment site should be similar in nature. So with that in mind we would like to address some issues during construction and ask some questions about the operation after construction.

2.4

CONSTRUCTION PERIOD.

1. CONSTRUCTION TIMES. Our understanding is that construction times for the project at Point Pinos are until 7pm weekdays. Other sites of construction have a 5pm cutoff. We ask that construction end at 5pm on weekdays the same as other construction sites in the EIR draft.

2.5

2. NOISE LEVELS during construction at Point Pinos are proposed to be at a higher DB range than at other proposed construction sites in the EIR draft. We ask that the Point Pinos site be subject to the same lower DB ranges during construction.

2.6

3. POINT PINOS AREA HAUL ROUTES NEED CHANGED. Traffic routed on Asilomar Ave, up Lighthouse to 17 mile drive and then out Hiway 68 as depicted in Figure 4.12-5 (Haul Routes) is not a good route. Instead we recommend that all traffic stay on Sunset during construction. Why? Following the proposed haul route in the EIR draft from Asilomar Ave up to Lighthouse Ave. you have numerous considerations. First, trucks must stop and turn on Oceanview at Asilomar Ave. Cars are often parked on either side of Asilomar Ave. for the Golf driving range making it hard to maneuver for larger vehicles. Most trucks would have to travel over the center line to

2.7

pass through. Add in tourists walking in the area, this could be hazardous. Trucks, using this route, must then pass by the, the 18th tee, the 18th green, the Clubhouse, the El Carmelo Cemetery and historic Point Pinos Lighthouse before going by the 10th tee and green causing excessive noise and traffic bottlenecks in the area. Trucks will most likely need to stop many times at the crosswalk next to the Clubhouse causing disturbance on numerous occasions. Dirt and debris will likely fall from trucks during stops and starts on the route leaving the Clubhouse area a mess. The area above the Clubhouse is often filled with cars for funerals at the Chapel and tourists visiting the Lighthouse, again slowing or stopping will be required. Trucks will need to stop again at Lighthouse before turning left, then transverse up the steep hill right by many hotels and motels disturbing occupants and causing traffic snarls. Additionally on Lighthouse Ave the school district picks up and drops off school children on buses which will cause more stopping for the trucks. Add in the fact the trucks will be passing by the environmentally sensitive Monarch Butterfly sanctuary and heavily trafficked area around the Adult school, this just doesn't make sense. Another stop must then be made at 17 mile drive to turn right going by many residential homes and the Ball field which can fill the neighborhood with parked cars. A final stop at 17 mile drive and Hiway 68 will need to be made.

A much less stop filled and safer route would be for all trucks to simply stay on Sunset Ave. coming and going to Hiway 68. Sunset Ave is a non-stop route and will not affect golfers, the clubhouse, the cemetery, historic Lighthouse area, Butterfly sanctuary and many lodging businesses and residential areas close to the road. Homes on Sunset are back from the roadway and no stopping and starting will occur as it is a direct shot without stop signs or congested areas. Traffic on Sunset is minimal during the week. Using the Sunset only route will create less noise, traffic and disturbances in critical tourist destinations like the Clubhouse and Lighthouse. Trucks will end and begin in the same place as in the proposed route, at the corner of 17 mile drive and Sunset to make their way up or down Hiway 68. While the proposed route may be a shorter route (about half a mile) it is without a doubt a longer in time route with fuel costs higher due to the frequent stopping and starting. Less down gearing will be required on the Sunset only route so trucks on that route will be quieter then normal for the task at hand. We would ask that compression breaks only be used if necessary on all routes. Additionally all signage used during construction should be at

2.7

street level and out of view from residential and scenic areas. Mitigating the blight from these signs during construction is critical.

↑ 2.7

Questions:

How long will the construction portion of the project take?

2.8

How many signs will be needed during construction and where are they proposed to be placed on Oceanview and Sunset Ave?

2.9

How will construction people be identified?

2.10

Will all construction equipment be required to be equipped with well-maintained mufflers and other sound control devices equal to or better performing than those originally supplied by the manufacturer?

2.11

Will noisy portable equipment such as generators and compressors be located as far away from residential receptors as practical and muffled within enclosures?

2.12

Will equipment be allowed to idle for long periods of time or be shut off when not being used?

2.13

ON GOING OPERATION OF POINT PINOS STORMWATER TREATMENT FACILITY AFTER CONSTRUCTION

OPERATIONAL IMPACTS

LIGHTING: Under the Quitclaim deed between the USA and Pacific Grove, the grantee shall not construct, maintain, operate or permit any structures, buildings or activities on the property which shall interfere with the beam of light from the Federal Aid-to-Navigation associated with the property. Namely the Point Pinos Lighthouse

2.14

Question: How will lighting at the proposed site for the treatment facility be installed so as not to interfere or cause confusion with the beam of light from the Federal Aid-to-Navigation Lighthouse?

Question: How many additional lights will be needed at the treatment facility?

2.15

Question: Do they need to stay on all night or when no one is around?

2.16

Question: What will be done to insure lighting does not create a glare?

2.17

Question: How high will the lights need to be? | 2.18

NOISE: The following types of operational noise are associated with treatment facilities and/or pump stations:

Noise from the operation of mechanical equipment, including pumps, blowers, fans, centrifuges, and co generation engine or turbine generators. | 2.19

Question: Will any of the above be used at the Point Pinos Site?

Noise from standby electrical generation equipment (e.g. backup generators for treatment facilities or pump station during a power outage. | 2.20

Question: Will any of the above be used at the Point Pinos Site?

Noise from electrical power substations | 2.21

Question: Will an electrical power substation be required at Point Pinos?

Noise from water flowing over Weirs should be enclosed. | 2.22

Question: Will Weirs be used at Point Pinos?
If Weirs are used will they be enclosed? | 2.22

Question: Will all treatment plant noise sources with tonal qualities, such as engines, fans and blowers be designed with noise reductions in the appropriate frequency bands to reduce tonal components of the spectrum to limited levels over the existing minimum hour ambient noise levels in the same frequency band as the tonal source? | 2.23

Vibration may occur from the operation of mechanical equipment at treatment plant and pump stations. | 2.24

Question: Is the equipment to be used at the Point Pinos site capable of generating vibration high enough to be detected by sensitive properties? Including golfers at the 16th green and 17th tee? | 2.24

Question: Will all pumps, blowers, centrifuges, fans and engine generators be designed with the necessary vibration isolation and damping foundations | 2.25

to reduce transmission of force to the supporting structures to levels below the threshold of human perception of the nearest tourist and residential area?

↑ 2.25

Question: Will Vapor-phase or liquid-phase technologies be used to control any possible odor omitting from the treatment building?

2.26

Times of operation

Question: Will the storm water treatment facility need to operate all the time?

2.27

Question: Obviously in a drought water may not be available to be treated, we take it the plant will therefore not operate at that time, is that correct? Or likewise in a very rainy season when excessive water fills the tanks will the plant need to operate at that time? Does the plant need to operate at night to meet its goals? Does the OS-R zoning, where the facility will operate, prohibit nighttime activities requiring that it be non-operational at night?

2.28

Storage of water in tank.

Question: How much treated water can be stored at the Point Pinos site at one time?

2.29

Question: The tanks on site are very old, have they been tested structurally to make sure they can handle full capacity or will they only be able to handle a less then capacity amount of treated water?

2.30

Size of Treatment Facility.

Question: What will be the storm water treatment plants full capability in terms of gallons of water treated daily?

2.31

Question: New buildings for the treatment facility appear to be built on the west side of the current tanks at Point Pinos. What is the size of those buildings?

2.32

Question: Does the amount of water treated in anyway affect the ability to keep Crespi pond full of water year round?

2.33

On going traffic or haul routes for ongoing maintenance and operation.

Question: We don't see any specific route plans after the facility is built for ongoing maintenance and operations. Since the city will be sending personnel from the main public works yard on Sunset Ave to the site can traffic for those needs stay confined between Point Pinos and the public works yard on Sunset Ave only? We think this would be prudent considering it is the shortest distance between two points and other routes pose problems with commercial City businesses like the Clubhouse and Cemetery.

2.34

Again, we see no effect whatsoever on surrounding residential areas once the construction has ended and the ongoing operation of the storm water treatment facility has began. Our goal and Cities goal should be that once the construction is over, IT'S LIKE NOTHING EVER HAPPENED. We want to see the vital environmental and economic viability of the Point Pinos Point area to remain unchanged. The Point Pinos storm water treatment facility should and will then be seen as a "MODEL" program for other cities.

2.35

Additional comments

The fencing that was put up in front of the tanks for restoration purposes was suppose to be a temporary fence. We do not like that kind of fencing in view sensitive areas. While you can see through the fencing "straight on" at an angle you cannot. The fence was not appropriate for the topography of the area as it blocked out the views when driving on Sunset. We ask that as part of the project the fence be taken down or replaced with a rope fence like those used in the Asilomar dunes for the area just in front of the treatment facility and driveway and extending around the corner just before where the old foghorn was located.

2.36

Thank you for the consideration of our ideas and in answering our questions.

Please mail responses for the above questions to:
PG Residents for the Preservation of Point Pinos
C/O John Bridges
Fenton & Keller Law Firm
P.O. Box 791
Monterey, CA 93942-0791

Letter 2

COMMENTER: PG Residents for the Preservation of Point Pinos

DATE: February 27, 2014

Response 2.1¹

The commenter suggests that activities proposed for the site of the Point Pinos Treatment Facility must occur “like it never ever happened”. In particular, the commenter expresses concerns regarding potential impacts to aesthetics, noise and odors.

The comment is noted. Sections 4.1, *Aesthetics*, 4.2, *Air Quality*, and 4.10, *Noise*, of the EIR include discussions of potential visual, odor, and noise impacts from implementation of each of the proposed project components, both during the construction and operational phases. As discussed in Section 4.1, the EIR determined that potential impacts to aesthetics would be less than significant for all project components. With regards to the potential for odors to result in potentially significant impacts, Section 4.2 determined these would also be less than significant for all project components. Finally, Section 4.10 identified that impacts from construction noise at all project components except the Point Pinos Stormwater Treatment Facility and Crespi Pond would be less than significant with mitigation incorporated. Construction impacts in the vicinity of Point Pinos would be less than significant without implementation of mitigation. Also, see Responses 2.2 through 2.36, which further address the commenter’s concerns regarding these specific environmental topics for the Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project.

Response 2.2

The commenter questions if the proposed Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project conforms to the City’s LUP, 3.3-4.3, and Section 2.15.5 of the General Plan Land Use Element.

Sections 3.3 through 4.3 of the City’s Land Use Plan, which forms a part of the City’s Local Coastal Plan, describe priority uses in the Coastal Zone and the policies supporting these, Environmental Sensitive Habitat Areas, and other Coastal Zone uses as well as policies related location and operation of public facilities in the Coastal Zone.

The retired PGWTP site is currently used by the City of Pacific Grove as a corporation yard and water storage facility and is recognized in the LUP as a City facility site. The proposed Point Pinos Stormwater Treatment Facility would be constructed primarily along the western section of the site and all treatment system components would be located within the retired PGWTP site footprint. As the proposed project component would result in a similar use on the site and would not expand beyond the existing footprint of the site, this component would be consistent with the former use of the site and existing conditions for re-use of existing facilities.

¹ As all comments included in Letter 2 concern the Point Pinos Stormwater Treatment Facility and Crespi Pond component of the proposed project, all responses provided to comments contained in Letter 2 are directly related to this specific component of the project.



Furthermore, as public access to the site is currently restricted, construction and operation of the proposed project would not result in a loss of open space, infringe on existing open space or open spaces uses, or inhibit existing coastal access in any way.

Furthermore, the LUP states: “Where existing or planned public works can accommodate only a limited amount of new development, priority is given to recreation, coastal-dependent land uses, essential public services, and basic industries vital to the economic health of the region, state, or nation.” The stormwater treatment facility, as a component of the overall project, is proposed to provide a substantial public service and is therefore considered to be in compliance with the policies and intentions of the LUP.

Section 2.15.5 of the General Plan Land Use Element defines the Open Space and Open Space Institutional land use designations. The retired PGWTP site is designated as Open Space-Institutional in the General Plan. This designation provides for coastal-related facilities and activities within the coastal zone, including existing City facilities. Implementation of the proposed stormwater treatment facility would be consistent with this designation as it would involve re-placement of an existing City facility with a new City facility which is similar in nature.

Finally, as provided in Section 4.9, *Land Use and Planning*, the proposed project would be generally consistent with policies included in the City of Pacific Grove General Plan, Zoning Ordinance, and LCP. Though minor inconsistencies with aspects of some policies could occur, all feasible mitigation measures to address these impacts have been required and are detailed in Sections 4.1 to 4.12 of the EIR.

For further discussion regarding the relationship between the proposed project component and ESHA as defined by the LUP and California Coastal Act, please see Response 1.13.

Response 2.3

The commenter questions if the proposed Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project would violate any covenants or restrictions of the Quitclaim Deed concerning the site, dated August 23, 2006.

The proposed Point Pinos Stormwater Treatment Facility and Crespi Pond would not violate any covenants or restrictions of the Quitclaim Deed for the site (dated August 23, 2006).

Response 2.4

The commenter requests clarification regarding the potential for changes in the site’s and area’s appearance with implementation of the project component. The commenter also requests that noise and odor impacts from construction and operational impact of the Point Pinos Stormwater Treatment Facility and Crespi Pond component be considered.

Based on existing conditions at the site (existing vegetation, setback distance from the roadway, and presence of existing structures) and the design of infrastructure proposed for the



component site, the post-construction appearance of the site would be similar in appearance to existing conditions from Sunset Avenue and other surrounding areas.

See Responses 2.1, 2.5, 2.6, 2.20, 2.23 and 2.35 for a discussion of potential impacts related to noise at the Point Pinos site.

See Responses 2.1 and 2.26 for a discussion of potential impacts related to odors at the Point Pinos site.

Response 2.5

The commenter requests a condition be applied to construction activities at the project component site restricting construction activities to before 5:00 PM on weekdays.

As stated in Section 4.10, *Noise*, of the EIR the nearest sensitive receptor to this component of the project is a single family residence approximately 700 feet east of the site. At that distance, the sensitive receptor would be exposed to maximum noise levels of 62 dB (refer to Table 4.10-7). This does not exceed the City of Pacific Grove's threshold of 70 dB; therefore, impacts would be considered less than significant for this component of the project. Based on this threshold, the EIR did not apply Mitigation Measures N-1(a) through N-1(e) to the component site. While the EIR concluded construction noise impacts from this project component would be less than significant, the noise restrictions provided in Mitigation Measures N-1(a) through N-1(e) would also be applied to the Point Pinos site, should the project be approved, in consideration of public concerns regarding noise generation.

Response 2.6

The commenter requests that noise levels during construction activities on the component site be subject to the same decibel ranges as for other project component sites.

As discussed in Response 2.5, construction noise impacts at this component site were determined to be less than significant by the EIR. However, in consideration of the comment received, the provisions in Mitigation Measures N-1(a) through N-1(e) would be applied to construction activities at the Point Pinos site, should the project be approved.

Response 2.7

The commenter suggests that more appropriate haul routes exist for the Point Pinos component and that these routes should be considered by the EIR.

As identified in Section 4.12, *Transportation/Traffic*, of the EIR, implementation of Mitigation Measure T-1(b) is required for the Point Pinos Stormwater Treatment Facility and Crespi Pond component of the project. That mitigation measure requires that the project administrator coordinate with City staff regarding the duration and locations of short-term traffic diversions and that temporary traffic handling plans be prepared when necessary to detour traffic to appropriate locations. In addition, the daytime hours of traffic diversion would be restricted to allow for adequate traffic flow at high traffic volume locations during peak commute hours.



As determined by the EIR, potential transportation and traffic impacts associated with this project component would be less than significant following implementation of required mitigation and thus no change in haul routes is warranted. Nevertheless, the commenter's suggestion is acknowledged and the suggestion by the commenter for consideration of alternative construction routes will be forwarded to the City for consideration.

Response 2.8

The commenter requests that the EIR disclose the duration of construction activities required for the component.

As included in Section 2.0, *Project Description*, of the EIR (page 2-25), the construction period for this project component is estimated to be approximately 17 weeks.

Response 2.9

The commenter questions how many signs would be required during construction activities of the component and the locations proposed for construction signs on Oceanview and Sunset Avenues.

Construction signage associated with the project component would be subject to the City of Pacific Grove Municipal Code, Chapter 20.4, which addresses sign regulations within the city. Additionally, construction signage would be consistent with current Caltrans standards to ensure construction worker, pedestrian and vehicle safety. Locations or numbers of signs have not been identified at this time.

Response 2.10

The commenter questions how construction personnel will be identified on the component site.

The meaning of the commenter's question is unclear; therefore, a specific response cannot be provided. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.11

The commenter questions if all construction equipment will be required to be equipped with well-maintained mufflers and other sound control devices equal to or better performing than those originally supplied by the manufacturer.

Please see Response to Comment 2.5.



Response 2.12

The commenter questions if sound-generating portable equipment such as generators and compressors would be located as far away from residential receptors as practical and muffled within enclosures.

Please see Response to Comment 2.5.

Response 2.13

The commenter questions if equipment will be allowed to idle for long periods of time or be shut off when not being used.

Please see Response to Comment 2.5.

Response 2.14

The commenter questions how lighting at the proposed component site would be installed in a manner which would not interfere or cause confusion with the beam of light from the Federal Aid-to-Navigation Lighthouse.

As discussed in Section 4.1, *Aesthetics*, of the EIR, the proposed Point Pinos Stormwater Treatment Facility would continue to be largely concealed by existing vegetation. In addition, any associated security lighting would be down-lit and directional in nature, consistent with City of Pacific Grove standards. No new lighting would be introduced at Crespi Pond. Down-lit security lighting on the largely internalized site would not interfere or cause confusion with the beam of light from the Federal-Aid-to-Navigation Lighthouse, which is located approximately 1,200 feet southeast of the site and at a slightly higher elevation. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.15

The commenter questions how many additional lights (i.e. how much additional lighting), will be required at the component site.

A detailed lighting plan for the Point Pinos Stormwater Treatment Facility has not been developed at this design stage. However, as described in Section 4.1, *Aesthetics*, of the EIR, lighting at the component site would: (1) be down-lit and respectful of the surrounding space and its natural beauty; (2) meet current safety standards for plant operations; and (3) be consistent with City of Pacific Grove lighting standards requiring lights to be downward lit and directional. Therefore, the proposed project component would not result in a significant impact due to introduction of lighting at the site.



Response 2.16

The commenter questions if lighting at the component site would be required to remain illuminated throughout the night.

Some lighting for safety and to prevent vandalism may be needed throughout the night. Two types of lighting are anticipated. These include task lighting (in key areas) and security lighting (at required intervals). Lighting at the component site would: (1) be down-lit and respectful of the surrounding space and its natural beauty; (2) meet current safety standards for plant operations; and (3) be consistent with City of Pacific Grove lighting standards requiring lights to be downward lit and directional. As described in Section 4.1, *Aesthetics*, of the EIR, impacts from lighting at the component site would be less than significant impact.

Response 2.17

The commenter enquires what measures will be taken to ensure lighting on the site does not create glare.

Please see Responses 2.14 through 2.16, which address the design of lighting proposed at this component site. Additionally, as discussed in Section 4.1, *Aesthetics*, of the EIR, proposed new facilities at the component site would be required to be consistent with City of Pacific Grove standards requiring facilities to be painted in muted colors that blend with the surrounding natural environment. Existing and new facilities on the site would continue to be largely concealed from outside viewing locations by the existing fence and mature trees present around the perimeter. Therefore, potential impacts associated with creation of glare at the project component site were determined to be less than significant in Section 4.1, *Aesthetics*, of the EIR.

Response 2.18

The commenter questions how high lights on the site would need to be located.

Per City of Pacific Grove Architectural Review Guidelines #10, the positioning of outdoor lighting would be located to avoid extending onto neighboring properties. Although the Architectural Review Guidelines are intended for residential uses in the City, this guideline is considered applicable to the project component site. The guideline states that the number, intensity, and height of light sources should be limited, illumination should be shielded from adjacent properties, and light shielding should be used in order to direct downward, non-obtrusive lighting. This guideline would apply to the component site and would be considered when a building permit for the project component is submitted for review and approval by the City.

As described in Response 2.16, two types of lighting are anticipated at the component site; task lighting (in key areas) and security lighting (at required intervals). Task lighting would be up-to 8 feet in height, which would be below the height of existing vegetation surrounding the site. Security lighting would be consistent with City of Pacific Grove standards. All proposed lighting would; (1) be down-lit and respectful of the surrounding space and its natural beauty;



(2) meet current safety standards for plant operations; and (3) be consistent with City of Pacific Grove lighting standards.

In addition, see Responses 2.14 through 2.17.

Response 2.19

The commenter inquires what mechanical equipment in the form of pumps, blowers, fans, centrifuges, and co-generation or turbine generators would be used at the component site.

A duplex pump system, comprised of two pumps, would be installed to convey water from the wet weather equalization basin to the pre-treatment system (rotary screen). All filters are mechanical equipment; each has motors, augurs, etc. that are specific to each type of equipment. Other treatment technologies have not been specified at this time and would be selected during the final design process. In all cases the treatment technology selected would be sized and designed to minimize noise from the site.

Response 2.20

The commenter inquires if standby electrical generation equipment, such as backup generators for treatment facilities or pump stations during a power outage, would be installed on the component site.

The need for a back-up power supply would depend on the final ASBS treatment requirements, which would be selected at a later time in the project design process. There is the potential for back-up generators to be required for the duplex pump system that would convey stormwater to the MRWPCA in the event of power failure at the Point Pinos site. However, the use of a back-up generator, if eventually installed, would be infrequent and only during precipitation events when the system is functioning and then only if a power outage occurs. Therefore, no long term change in the ambient noise environment would be anticipated if a back-up generator is installed at the site. As stated in Response 2.19, any future equipment would be sized and design to minimize noise from the site.

Response 2.21

The commenter inquires if an electrical power substation would be installed on the component site.

Installation of a substation at the site is not planned at this time and was not considered as part of the project description included in the EIR.

Response 2.22

The commenter inquires if weirs would be used on the component site, and, if so, if the weirs would be enclosed.



Installation of weirs at the site is not planned at this time and was not considered as part of the project description included in the EIR.

Response 2.23

The commenter inquires if all treatment plant noise sources with tonal qualities, such as engines, fans and blowers, would be designed with noise reductions in the appropriate frequency bands to reduce tonal components of the spectrum to limited levels over the existing minimum hour ambient noise levels in the same frequency band as the tonal source.

Subsequent design stages for the Point Pinos Stormwater Treatment Facility would: (1) evaluate product technology based on noise consideration; and (2) take into consideration available noise blocking technologies as a part of the treatment technology selection process. Where feasible, noise blocking measures would be included in the design of the project component.

Response 2.24

The commenter questions if equipment to be used on the component site would be capable of generating vibration high enough to be detected by nearby sensitive properties, including golfers on the 16th green and 17th tee of the adjacent golf course.

The closest sensitive receptors to the project component site are single family residences, located approximately 0.15 miles east of the project component site. No significant impacts from operational vibration on these receptors are identified in the EIR. Vibration and noise reduction measures can be incorporated into the final design of the project.

Response 2.25

The commenter inquires if all pumps, blowers, centrifuges, fans and engine generators would be designed with the necessary vibration isolation and damping foundations to reduce transmission of force to the supporting structures to levels below the threshold of human perception to the nearest tourist and residential area.

Design of the proposed Point Pinos Stormwater Treatment Facility would be compliant with existing building codes and would include all required vibration dampening engineering measures.

Response 2.26

The commenter questions if vapor-phase or liquid-phase technologies would be used to control any possible odor emitting from the treatment facility.

As described in Section 4.2, *Air Quality*, of the Draft EIR, this component of the project includes the construction of a new stormwater treatment facility on the retired Pacific Grove Wastewater Treatment Plant (PGWTP) site. Based on the MBUAPCD *CEQA Air Quality Guidelines*, stormwater treatment facilities are not a source that has the potential to emit compounds that would result in objectionable odors for nearby residences. In addition, and as discussed in



Section 4.2, the MBUAPCD recommends that potential odor impacts be evaluated based on the distance of an emitting facility to nearby sensitive receptors. The area surrounding the Point Pinos Stormwater Treatment Facility component is designated as Open-Space and for Commercial/Recreational Fishing and Planned Development. The closest residence to the component site is located on Asolimar Avenue, approximately 900 feet east of the site. Because the proposed stormwater treatment facility would not be expected to result in objectionable odors, this component of the project would not result in significant impacts to nearby residences. Therefore, inclusion of these technologies as part of the project component design is not planned at this time.

Response 2.27

The commenter questions if the stormwater treatment facility would need to operate all of the time.

The stormwater treatment plant would not operate continuously; the treatment plant would operate only when wet or dry-weather flows were sufficient to supply the treatment plant intake (e.g., at 1000 gpm). Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.28

The commenter questions if the facility would be operational during drought conditions and during very rainy seasons. The commenter questions if the facility would need to be operated at night. The commenter further questions if the OS-R zoning for the site prohibits nighttime activities, which would require the facility to be non-operational at night.

The purpose of the facility would be to improve stormwater quality prior to being discharged into the ASBS; therefore, it would be operational all year long, including during drought and very rainy conditions. However, as stated in Response 2.27 the facility would not operate continuously as would be the case with a wastewater treatment plant. Instead, the facility would operate only when wet or dry-weather flows were sufficient to supply the treatment plant intake. This could include operation during nighttime hours if a precipitation event were occurring.

For clarification the proponent site occurs on land zoned as Open Space Institutional (City/Coast Guard Facilities; Figure 4 of the LCP). Chapter 23.42 of the City of Pacific Grove Municipal Code identifies allowable uses in the City's O District including: *Parks, playgrounds, public or civic buildings, structures and parking facilities, pertinent and compatible with open land usages, subject to first securing a use permit in each case.* [Ord. 1676 N.S. § 1, 1989; Ord. 569 N.S., 1967. Proposed facilities at the project component site would be *public structures*, therefore they would be considered allowable uses in the zoning district. However, as the Code asserts, a use permit would be required. No restrictions on nighttime operations are included in the City's Open Space Institutional District. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.



Response 2.29

The commenter questions how much treated water can be stored at the facility at one time.

As part of the proposed project, treated stormwater storage would be accommodated in the existing east tank (former clarifier) at the site. This tank has a capacity of 210,000 gallons. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.30

The commenter inquires if the tanks on the site have been tested structurally to make sure they can handle full capacity or if they will only be able to handle a less than capacity amount of treated water.

A “Corrosion Engineering Evaluation of Two Concrete Water Storage Structures – 210,000 Gallon Reinforced Concrete Clarifier” was completed in July 2013 (Harper and Associates Engineering) and identified repairs necessary to return the tank(s) to service at full capacity. Repairs were less than \$200,000 and less than the cost to construct new on-site water storage facilities. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.31

The commenter requests information on the stormwater treatment plant’s full capacity in terms of gallons of water treated daily.

The Point Pinos Stormwater Treatment Facility would be designed to treat 2,000 gallons per minute (gpm) or 2.88 million gallons per day (MGD). Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.32

The commenter requests information on the size of the new buildings proposed to be built on the west side of the existing tanks at Point Pinos.

The type and manufacturer of selected treatment technology has not been finalized at this stage of project development. However, the following approximate sizes are anticipated and form the basis of the analysis included in the EIR. All sizes are reported as length x width x height unless otherwise noted.

- Flow Diversion Structure: approximately 8 feet x 8 feet x 10 feet;
- Wet Weather Equalization: 430,000 gallons of storage with a depth of 10 feet;
- Rotary Scree: approximately 13 feet x 6 feet x 15 feet;
- Disc Filters: approximately 18 feet x 8 feet x 8 feet; and
- UV: approximately 35 feet x 5 feet x 5 feet.



Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.33

The commenter questions if the amount of water treated would affect the ability to keep Crespi pond full of water year round.

The proposed project would not reduce the amount of water in Crespi Pond, and in fact would supplement its supply and keep more water in Crespi Pond during summer and drought conditions. Because the comment does not raise any specific environmental issues with the Draft EIR or the Project no further response is required.

Response 2.34

The commenter inquires if future operational trips to the site could be limited to occurring between Point Pinos and the City's public works yard on Sunset Avenue, as opposed to the route identified by the EIR. The commenter expresses the opinion that the selected route is inappropriate.

The route identified in Section 4.12, *Transportation/Traffic*, of the EIR pertains to construction activity and not operational activities. During operation of the Point Pinos component site, trips to the site would be primarily for maintenance activities, as discussed on page 4.12-2 of the Draft EIR. As described in the Draft EIR, these trips would be infrequent and they would be made by a small number of vehicles relative to the number of vehicles traveling on the roadways currently. Operational traffic would therefore not create an impact to transportation and no restrictions on the route to be taken by staff conducting maintenance activities at the component site are required by the EIR. However, the commenter's concerns are noted and will be considered by City decision-makers during deliberations on the proposed project.

Response 2.35

The commenter reiterates a desire for the completed facility to operate "like nothing ever happened" once construction activities on the site are completed.

The comment is noted. Sections 4.1, *Aesthetics*, 4.2, *Air Quality*, and 4.10, *Noise*, of the EIR include discussions of potential visual, odor, and noise impacts of all project components. In the case of the Point Pinos component site, the EIR determined that potential impacts to Aesthetics, Air Quality and Noise would be less than significant. Also, see Responses 2.1, 2.4-2.6, 2.11-2.20, 2.23, and 2.26 which further address commenter concerns with regard to these specific environmental issues at the Point Pinos Stormwater Treatment Facility and Crespi Pond site.

Response 2.36

The commenter requests that the City consider replacing existing fencing at the component site with a rope fence similar to those used in the Asilomar dunes. The fencing requested for



replacement is located in front of the treatment facility and along the driveway extending around the corner of the site.

This comment pertains to the design of the project as proposed and does not challenge or question the analysis or conclusions in the Draft EIR. It should be noted that the current fencing controls access to the site. If rope fencing or similar was installed, as suggested by the commenter, more substantial fencing could then be needed inside the treatment plant site for security and safety purposes. Nevertheless, the suggestion will be forwarded to the City for consideration.





EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

Letter 3

March 4, 2014

Thomas Frutchey
City of Pacific Grove, Public Works Department
2100 Sunset Drive
Pacific Grove, CA 93950

Subject: Monterey-Pacific Grove ASBS Stormwater Management Project EIR
SCH#: 2013101005

Dear Thomas Frutchey:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on March 3, 2014, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

**Document Details Report
State Clearinghouse Data Base**

SCH# 2013101005
Project Title Monterey-Pacific Grove ASBS Stormwater Management Project EIR
Lead Agency Pacific Grove, City of

Type EIR Draft EIR
Description Diversion of dry weather and portions of wet weather surface water runoff flows into an upgraded stormwater collection and treatment system from the ASBS watershed area, which includes much of Pacific Grove and a portion of Monterey. These flows would be directed to either a new Point Pinos stormwater treatment plant at the former Pacific Grove Wastewater Treatment Plant site or the Monterey Regional Water Pollution Control Agency Regional Water Treatment Plant in Marina. The project includes five components that would collect and treat stormwater flows: the David Avenue Reservoir, the Pine Avenue Conveyance, the Ocean View Boulevard Conveyance, Point Pinos Stormwater Treatment Facility and Crespi Pond, and Diversions to MRWPCA.

Lead Agency Contact

Name Thomas Frutchey
Agency City of Pacific Grove, Public Works Department
Phone (831) 648-5722 **Fax**
email
Address 2100 Sunset Drive
City Pacific Grove **State** CA **Zip** 93950

Project Location

County Monterey
City Pacific Grove, Monterey
Region
Lat / Long 36° 37' 13.52" N / 121° 54' 53.56" W
Cross Streets Multiple
Parcel No. Multiple
Township **Range** **Section** **Base**

Proximity to:

Highways Hwy 1, 68
Airports Monterey
Railways No
Waterways Monterey Bay, Pacific Ocean
Schools Multiple
Land Use Roadway right-of-way, open space, unclassified, residential

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Septic System; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Aesthetic/Visual

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Conservation; Department of Fish and Wildlife, Region 4; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 5; CA Department of Public Health; Air Resources Board; State Water Resources Control Board, Division of Financial Assistance; Regional Water Quality Control Board, Region 3; Native American Heritage Commission

Letter 3

COMMENTER: Governor's Office of Planning and Research, State Clearinghouse and Planning Unit

DATE: March 4, 2014

Response 3.1

The commenter acknowledges that the EIR has complied with State Clearinghouse requirements pursuant to the California Environmental Quality Act. No further response is necessary.



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