Chapter 5
Comparison of Alternatives

5.1 Introduction

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a project or to the location of a project that could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant environmental impacts. According to the State CEQA Guidelines, the EIR should compare merits of the alternatives and determine an environmentally superior alternative. The range of alternatives discussed in an EIR is governed by the "rule of reason," which requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. State CEQA Guidelines Section 15126.6(f)(1) explains that the evaluation of project alternative feasibility can consider "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site." The EIR is also not required to evaluate an alternative that 1) has an effect that cannot be reasonably identified or that has remote or speculative implementation and 2) would not achieve the basic project objectives.

5.2 Alternatives Rejected from ~~further~~ Further Consideration

Section 15126.6(c) of the State CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination. In addition to the proposed Project, several alternatives were identified during the early planning phases of the Project and during Project scoping. The lead agency has considered the alternatives and rejected them for the reasons described below.

5.2.1 Convey Effluent to Tapia Water Reclamation Facility

Under this alternative, raw wastewater would be collected in the Project area using a similar collection system as the proposed Project, but instead of being treated at a new wastewater treatment facility, the wastewater would be piped to the Tapia Water Reclamation Facility on Malibu Canyon Road, approximately 6 miles to the north of the Civic Center area. The cost of constructing a pipeline over the Santa Monica Mountains and the energy requirements of pumping the effluent uphill to the Tapia facility would be substantially higher than that of the proposed Project. This alternative was determined not to be feasible because the Tapia facility does not have capacity available to treat additional wastewater flows. Even if the treatment capacity of the Tapia Water Reclamation Facility were expanded, it would not be possible to discharge additional treated wastewater from the facility because it discharges to Malibu Creek, which has a Total Maximum Daily Load (TMDL) for nutrients (the additional discharges from the Tapia Facility would likely

result in an exceedance of the nutrient TMDL for the creek). This option has thus not been considered as a viable alternative to the proposed Project.

5.2.2 Convey Recycled Water to Pepperdine University

Under this option, effluent would be collected and treated in the same fashion as for the proposed Project. However, in addition to using recycled water for irrigation within the City of Malibu, a portion of the recycled water would be conveyed to Pepperdine University and would be used to expand their existing water recycling program. Pepperdine University is a significant user of recycled water, which is supplied from the Las Virgenes Municipal Water District and the Los Angeles County-operated Malibu Mesa Wastewater Reclamation Plant located 0.7 mile west of the proposed wastewater treatment facility site on Malibu Country Drive. During the summer months, when recycled water demands exceed the Malibu Mesa Plant's production capacity, the University also uses recycled water stored in two existing storage ponds with a total usable volume of approximately 8 million gallons, in addition to potable water. The City discussed a possible transfer/sale / increase of storage capacity of recycled water to the University with the hope of supplying up to 100,000 gpd of the Project's effluent to the University for irrigation use. However, Pepperdine University informed the City of Malibu that it does not have capacity to accept additional recycled water either at present or in the future due to the University's expansion plans which would utilize any potential storage or use capacity they may have, so this alternative has not been considered further.

5.2.3 Alternatives Suggested During Scoping

In addition to the two alternatives described above, which were considered during Project development, the City has considered several options that were suggested by members of the public during scoping. The following alternatives have been evaluated and determined not to be feasible:

Non-Injection/Complete Reuse Alternative

During scoping, it was suggested that the City examine a non-injection alternative that would recycle/reuse all of the water that would be produced at the proposed wastewater treatment facility. The City has considered whether it would be possible to reuse and/or disperse all recycled water without using injection wells, and has determined that there would not be sufficient recycled water demand to use all of the recycled water that would be produced at the wastewater treatment facility on a year-round basis. Given that recycled water demand in the Prohibition Area is estimated to be only 125,000 gpd, and Phase 1 is anticipated to generate approximately 191,000 gpd of treated wastewater, reuse of all recycled water has been determined to be infeasible due to this lack of demand and the lack of area to properly store any unused recycled water. The only way to avoid use of injection wells to dispose a portion of the recycled water would be to dispose of the excess recycled water through an ocean outfall. This EIR addresses an alternative that utilizes an Ocean Outfall (Alternative B)rather than injection as a means of disposal for the treated water.

Fisheries Habitat Alternative

A second alternative suggested during scoping was the concept of conveying recycled water into another watershed to create salmon habitat. While the wastewater treatment facility would produce recycled water that is highly suitable for irrigation use (Title 22 approved uses include irrigation of schools, parks, residential landscaping and golf courses; industrial process water; structural firefighting; decorative fountains; commercial laundries; and dust control) levels of nutrients in the

recycled water would be too high for stream discharge and are thus not suitable for fisheries. The cost of additional treatment to remove nutrients and to construct additional pipeline and pump facilities to convey water to another watershed would be substantially higher than that of the proposed Project. In addition, the potential environmental impacts of constructing the necessary pipelines would be substantially greater than those of the proposed Project. This alternative has thus been determined not to be feasible.

Recycled Water to Tapia Alternative

A third alternative suggested during scoping was the concept of using the existing purple pipe (recycled water pipeline) connecting Pepperdine University with the Tapia Water Reclamation Facility to convey recycled water to the Tapia Plant for further distribution out of the watershed. This alternative has been determined not to be feasible due to limited available capacity in the existing purple pipe and existing contractual obligations between Pepperdine University and the Tapia Water Reclamation Facility. Similar to sending untreated effluent to the Tapia alternative, the cost of additional infrastructure and the energy associated with pumping recycled uphill would be substantially greater than the proposed Project.

Alternative Wastewater Treatment Methods

Another alternative suggested was the use of alternative methods for wastewater collection and treatment. These include the potential use of a vacuum sewer system and/or STEP/STEG collection systems and the use of decentralized wastewater treatment facilities.

In nearly all of the Phase 1, 2, and 3 areas of the proposed Project, there is sufficient depth to groundwater to allow use of conventional gravity sewer and pump stations for wastewater collection and conveyance to the treatment plant. Nearly all of the planned pump stations have static lifts greater than the 13 foot static lift generally achievable with vacuum pump stations. The wide spread use of a vacuum sewer system would require more vacuum pump stations than conventional pump stations, which would increase the capital and operational costs of the system. A vacuum sewer system could, however, be a viable alternative in the Malibu Colony area, where the groundwater level is a few feet below the ground surface, the ground is relatively flat, and poor soil conditions result in difficult trenching conditions. This area is within Phase 2 and Phase 3 of the Prohibition Zone and has not yet been designed in detail. When these phases of the Project are undertaken, project-level EIR(s) describing the proposed type of collection system for this area will be prepared. These project-level EIR(s) will tier off this programmatic EIR. Therefore, the use of a vacuum sewer system was rejected from further consideration at this time.

STEP/STEG collection systems use a septic tank at each property to attenuate the peak flow rate from the property and to settle the solids out in the tank. For this proposed Project, the septic tanks would need to be water tight to ensure that brackish (i.e. salty) groundwater does not enter the system. A small degree of brackish water intrusion would increase the salt concentration in the recycle water, limiting its usability. Even in areas where brackish groundwater is not an issue, the septic tanks of a STEP/STEG system would need to be water tight to prevent rainwater infiltration in order to minimize the amount of water to be treated. Most of the septic tanks currently in place in Malibu are likely not water tight as they were constructed for use with an associated leach field, and water tight construction is not typically required for that application. Therefore, most of the existing septic tanks would have to be replaced if STEP/STEG were used in this project. This cost would be

borne by the private property owners, and would increase the total project costs even further. Additionally, because STEP/STEG settles sewage solids in the septic tank, it reduces the amount of organic carbon that will be received at the treatment plant. However, organic carbon is needed at the treatment plant to achieve the denitrification that will be required by the RWQCB. Thus, use of STEP/STEG will increase the amount of supplemental carbon that will have to be purchased and added at the treatment plant, thereby increasing the operating cost of the plant. For these reasons, STEP/STEG was not recommended for the proposed Project and was rejected from further consideration.

A decentralized treatment alternative was not considered as such an alternative will expand the physical area affected by the proposed Project and will therefore likely expand the impacts associated with this alternative. CEQA requires that feasible alternatives that will meet most of the basic project objectives and would avoid or substantially lessen any of the project's significant effects be considered. A decentralized treatment alternative is unlikely to avoid or substantially lessen any of the proposed Project's impacts; therefore, this alternative was rejected from further consideration.

The MBR process (the proposed treatment technology) is a biological wastewater treatment process that has been widely used on the type of wastewater expected from the Malibu commercial and residential properties. Because the commercial properties consist of dry retail (toilet and wash basin flows only) and restaurant uses, the character of the wastewater is similar to residential, differing in concentration rather than in composition. This difference in concentration has been taken into account in the design of the treatment plant. There are no industrial flows that could be high in toxicants or hard to treat compounds. The selection of treatment process has been reviewed by the Technical Advisory Committee that included Dr. Michael Stenstrom of UCLA. Dr. Stenstrom is an expert in wastewater treatment processes and agreed with the treatment process selection.

5.3 Alternatives to the Proposed Project

This section discusses alternatives to the proposed Project. Each of these analyses considers the ability of a particular alternative to substantially reduce or eliminate the Project's significant environmental impacts while continuing to meet the basic Project objectives. In particular, this EIR includes an alternative that contemplates an ocean outfall as a means of disposing the treated effluent from the proposed treatment plant, an alternative that proposes a different site for proposed treatment plant, and an alternative that would transfer untreated wastewater to the Hyperion Wastewater Treatment Plant. The analysis also includes a No Project Alternative as required under Section 15126(e)(1) of the ~~State~~ CEQA Guidelines so that decision-makers can compare the impacts of approving the proposed Project with the impacts of not approving the proposed Project. Other than the No Project Alternative, each of these alternatives would meet most of the treatment objectives and some of the Project objectives described in Chapter 3.

5.3.1 Alternative A – No Project

Under the No-Project/No-Build Alternative, the Project would not be implemented. This alternative was selected for consideration pursuant to Section 15126.69(e) of the Guidelines. The wastewater treatment facility would not be constructed; no collection system, centralized wastewater treatment

facility, recycled water system, dispersal areas, and associated appurtenances would be provided. Residents and commercial properties would not have an option to connect to a central wastewater facility causing these property owners to rely on existing OWDS discharges in violation of the Prohibition, or commence hauling of all wastewater to a treatment facility. In the absence of the Project, the groundwater quality benefits associated with the Project, such as abatement of seawater intrusion into the aquifer, would not be realized. Impairments in Malibu Creek, Malibu Lagoon, and nearby beaches associated with OWDS discharges, which are the purpose of the Prohibition/MOU, would have to be addressed through another means of disposal such as hauling the wastewater water from each property in the Prohibition Area to another treatment facility. These water quality impacts may have additional adverse effects on biological resources and sea life as well as the recreational use of beaches in the City. City owned facilities would continue to use imported potable water for irrigation in absence of a reliable recycled water source. Air quality and greenhouse gas emission impacts would substantially increase as a result of hauling wastewater out of the Civic Center area. Because no development of the Project would occur, no impacts to cultural resources, geology, hazardous materials, land use, noise, population and housing, or public services would occur.

5.3.2 Alternative B – Wastewater Treatment Facility with Ocean Outfall

In Alternative B, the wastewater treatment facility would be constructed as planned under the proposed Project, along with the planned collection system, associated pump stations, and recycled water delivery system. This alternative was selected for consideration as the cost associated with designing and constructing an outfall for unused recycled water dispersal was likely to be commensurate with or less than that associated with the designed injection wells of the proposed Project. Percolation into the Winter Canyon groundwater basin via percolation ponds is not considered under this Alternative. Instead of discharging the remaining unused recycled water via injection and percolation, between 300,000 and 507,000 gallons per day (gpd) of recycled water would be diverted to an ocean outfall and diffuser under buildout (Phase 3) conditions. The recycled water pipeline would be connected to the ocean outfall at one of the public beach access points located off Malibu Road, on the west side of the Prohibition Area. At its onshore and near-shore locations, the outfall would be buried; once 100 feet offshore, the outfall would be anchored to the seafloor.

The ocean outfall would be up to 10 feet in diameter at its outlet, would extend between 1,300 and 5,000 feet offshore, anchored to the sea floor, and would be discharging at a depth of 30 to 100 feet below the ocean surface. The end of the outfall would be equipped with diffusers, such as duckbill diffusers, to ensure mixing of treated effluent and seawater and to minimize the zone of initial dilution (ZID) associated with the outfall. Discharges from the outfall would occur continuously. Maintenance would involve annual subsea inspection and repairs as necessary.

The complexity and time associated with obtaining the regulatory approvals and entitlements required for a new ocean outfall, as evidenced by recent similar projects in other parts of the State, could be incompatible with the parameters/commitments set forth in the MOU and would likely impede the City's efforts to satisfy its obligations set forth in the MOU. Furthermore, public comments received by the City during the Prohibition proceedings indicate that a new ocean outfall disposal option would likely meet with significant opposition from some non-governmental organizations.

Impact analysis

Aesthetics and Visual Resources

Under this alternative, the visual impacts throughout the Civic Center Area would be the same in every way except some of the aboveground elements associated with injection wells would not be present. Accordingly, to some extent the aesthetic and visual impacts of this alternative would be less than those of the proposed Project; however, visual impacts associated with the injection well facilities are considered minor as no visual resources are disturbed by their presence given the low profile of these facilities and the fact they would generally be sited along existing roadways.

Air Quality

Air quality impacts associated with this alternative would be similar though possibly greater depending on the amount of excavation required to construct the ocean outfall system. ~~Generally it is assumed that~~Based on a 'typical' design for ocean outfalls, the excavation and overall construction requirements of this alternative would be similar enough to the proposed injection wells that air quality impacts would remain less than significant. The less-than-significant operational air quality impacts may be reduced in the long-term as fewer pump facilities would be needed to dispose of the recycled water produced by this alternative.

Biological Resources

Biological impacts to terrestrial resources would be similar to those described for the proposed Project. However, this alternative would contribute directly, rather than through gradual mixing with groundwater, a substantially greater amount of fresh water (treated effluent) to the ocean, the mixing of which can create a variety of changes to the coastal water environment that can have long lasting effects on sea life. Malibu's kelp beds generally extend from 600 to 3,000 feet offshore. Given the likely location of outfall would be between 1,000 and 5,000 feet offshore, there is potential for adverse impacts to the kelp beds and sea life using them for habitat, and to other species, such as migrating whales, whose habitat may be directly adjacent to the outfall. Based on the Ocean Dilution Analysis Technical Memorandum prepared for the Project (Appendix G1), the common rule of thumb in evaluating effluent discharges to water bodies is the requirement for complete dilution at a ratio of 1:10 effluent to sea water (RMC 2014). By this measure, discharge of the 500,000 gpd of treated effluent into the same available ocean water (approximately 160 million gpd) would result in an unacceptable dilution ratio and a significant impact. However, it is assumed that State Water Resources Control Board, U.S. Environmental Protection Agency, and permit requirements related to ocean outfall discharge would be sufficient to ensure no significant adverse impacts to ocean wildlife would occur.

Cultural and Paleontological Resources

Under this alternative as with the proposed Project, there would be no potential for significant impacts to known historical resources. In regard to subsurface archaeological and paleontological resources, the potential to uncover previously undiscovered resources would be essentially the same as the proposed Project though the absence of the proposed injection wells may somewhat reduce this potential. However, given that the potential presence of undiscovered archaeological or paleontological resources in the area of the ocean outfall pipes is unknown, the potential for impacts is ~~assumed~~ anticipated to be the same as the proposed Project. Mitigation similar to that for the proposed Project would be required to avoid potential impacts to unknown subsurface resources.

Geology

Potential impacts of this alternative related to Geology would be similar to those described for the proposed Project. Though the risk of liquefaction impacts associated with the proposed Project is considered low, the absence of injection wells would somewhat reduce this risk as groundwater elevations would not be altered by Alternative B. Otherwise impacts posed by implementation of an ocean outfall would remain the same or be similar to the proposed Project's potential seismic and landslide hazards impacts and soil erosion impacts.

Hydrology and Water Quality

As described above, wastewater flows and associated treatment objectives would be the same as the proposed Project. General improvement in water quality within the Malibu Lagoon would be expected to occur under Alternative B. Additionally, the groundwater basin would not undergo treated effluent injection or percolation and would therefore remain unaffected by this Alternative. However, as described above ocean water quality would experience greater impacts due to the mixing of fresh (treated effluent) water with saline ocean water. It is likely that this Alternative would result in an unacceptable dilution rate in the absence of the required ocean outfall permit and associated dilution and mitigation methods. Accordingly, there is a potential for Alternative B to result in a significant impact to ocean water quality.

Hazardous Materials and Waste

Under Alternative B, the potential for impacts related to the routine transport and use or accidental release of hazardous materials would be similar to that of the proposed Project. Excavation required to construct the ocean outfall may potentially upset unknown contaminated soil or groundwater; however, this risk is similar to that of the proposed Project. Otherwise, there are no other potential impacts related to hazardous materials and waste that have not been described for the proposed Project.

Land Use and Planning

In general, the land use and planning implications of Alternative B would be the same as those described for the proposed Project. However, discharge of treated effluent into the ocean would require additional permit approvals and would be subject to the requirements of the Local Coastal Program and an~~revision to~~ LCP amendment in order to include ocean outfall as an acceptable discharge in the LCP. An ocean outfall may be considered incompatible with several land use policies of the Malibu General Plan including; LU Policy 1.1.1[1]., LU Policy 1.1.2[2], C Policy 2.1.2[3], and C Policy 2.1.4[4].

Noise

Noise impacts would be similar to the proposed Project. Alternative B would not have noise impacts associated with construction of injection wells, but would result in temporary noise associated with additional construction activities along Malibu Road and a beach location for construction of the

[1] Requires the City to protect the natural environment by regulating design and permitting only land uses compatible with the natural environment.

[2] Requires the City to ensure that land uses avoid or minimize adverse impacts on water quality and other natural resources.

[3] Requires the City to protect the quality of surface and groundwater.

[4] Requires the City to encourage use of innovative alternative methods of wastewater treatment.

ocean outfall. After construction, this alternative would generate similar noise levels to those described for the proposed Project.

Population and Housing

The potential for direct impacts related to population and housing for Alternative B would be limited to the increase in employees required to operate the treatment facility, which would be the same as the proposed Project. Similarly, Alternative B would have the same potential to result in indirect impacts related to population growth, which would continue to be consistent with City General Plan density limitations. Impacts would be similar to the proposed Project.

Public Services

Under Alternative B, there would be no need for new or physically altered government facilities beyond what is described under the proposed Project. The ocean outfall facility would not affect any existing government facility. Impacts would be similar to the proposed project.

Utilities

Alternative B would result in similar utilities impacts to the proposed Project as this alternative includes a wastewater treatment facility and energy requirements would likely be similar to the proposed Project.

Recreation

As described above, it is anticipated that the wastewater would be treated to a standard that would not affect the water quality of local coastal waters and recreation at local beaches would remain unaffected. No changes to public beach access would occur as pipelines associated with the outfall would be underground and discharge would occur well offshore. Impacts related to pump stations sited in Legacy Park and Malibu Bluffs Park would be similar to those described for the proposed Project.

Greenhouse Gas Emissions

Construction activities under Alternative B would be of a similar intensity and scope to those of the proposed Project and operation of the wastewater treatment facility and collection and distribution system pump stations would also result in similar impacts. While an absence of injection wells and their associated pump and electrical needs may account for a minor reduction in greenhouse gases resulting from Alternative B, these reductions would be considered negligible. Accordingly, Alternative B would generate similar levels of greenhouse gas emissions as those described for the propose Project.

5.3.3 Alternative C – Alternative Wastewater Treatment Facility Site

Alternative C would include construction of the proposed wastewater treatment facility at an alternative location (Figure 5-1), a ~~7~~9-acre property located approximately 0.2 mile north of Civic Center Way known as the Wave property (APN 4458-022-019, 23571 Civic Center Way), instead of using the existing ~~Winter Canyon~~ wastewater treatment facility site at 24000 Civic Center Way. This alternative was selected for consideration as the property is currently undeveloped, was previously considered as a potential location for a wastewater treatment facility, and would negate potential

visual impacts to the condominium complexes adjacent to the proposed Project's treatment facility. The Wave~~is~~ property is located north of and behind the Los Angeles County Malibu public library and former Los Angeles County Superior Court, West District Office on Civic Center Way. The site is currently accessed via a narrow dirt path east of the public library. In the future, a paved access road would lead to the plant site. The proposed La Paz development is located east of this wastewater treatment plant site and the Malibu Knolls neighborhood is located north of the site. At this location, the wastewater treatment plant site would be visible from residences to the north, but would be screened from view from the south and east. From the west, residents may have far-off views of the plant site.

Similar to the Project wastewater treatment facilities proposed at 24000 Civic Center Way in Winter Canyon, a facility at this alternative site would be a membrane bioreactor facility producing recycled water that meets or exceeds current Title 22 requirements for unrestricted reuse. The treatment facility would be residentially scaled, visually screened, fully odor-scrubbed, and designed to operate quietly. The facility site would also contain a 250,000-gallon recycled water storage tank (not required for the proposed Project) and a pump station ~~(similar to the proposed Project treatment facility). Also similar to the proposed Project treatment facility, in~~In this alternative, unused recycled water could be percolated into the ground using the existing commercial leach fields located at various locations throughout the Civic Center area and/or directly injected into the groundwater basin. The collection pipelines, associated pump stations, and recycled water distribution system would be essentially the same.

Construction practices and timing at this alternative facility site would be comparable with those anticipated for the proposed Project. The proposed Project site was selected as the preferred site because it offers several advantages over the Alternative C site. The proposed Project site is owned by a willing seller, who has expressed interest in selling the site to the City of Malibu, which is not the case for the Alternative C site. The proposed Project site also already houses a wastewater treatment facility, so the proposed wastewater treatment plant is more compatible with the existing use of the site, as compared to the Alternative C site, which is completely vacant. Finally, the proposed Project site affords better percolation potential as the existing ~~percolation ponds~~seepage pits on the site could be used without the need to construct additional piping, thus spreading out percolation into two separate groundwater basins, while the Alternative C site is located in the same groundwater basin as the proposed injection wells.

Impact analysis

Aesthetics and Visual Resources

The Wave property is a vacant plot of land with very little visual screening as compared to wastewater treatment facility site for the proposed Project. The Wave property is not located in close proximity to any designated scenic resources and is barely visible from Pacific Coast Highway (PCH) due to the landscape contours of Legacy Park. In terms of vegetation removal, this alternative would have fewer impacts than the proposed Project because no known protected native trees exist on the Wave property. Viewers of the site would include motorists and pedestrians along Civic Center Way, employees and patrons of the Malibu Library, and residents along Harbor Vista Drive and Colony View Circle who overlook the site. For these viewers, implementation of this alternative could result in a substantial change in the visual quality and character of the site, a potentially significant impact. However, as would occur under the proposed Project, the design/development standards required under the LIP would continue to apply to this alternative, and the proposed LCPA/ZTA would be

modified to be specific to this site. Accordingly, impacts from this alternative would likely be less-than-significant with implementation of design standards required under the LIP.

Air Quality

Construction of this alternative would have impacts on air quality similar to those described for the proposed Project. Other than the location of the wastewater treatment facility, no substantive differences in construction or operation are proposed that would have an effect on air quality. Similar to the proposed Project, development of the Wave property into a wastewater treatment plant would require an LCPA/ZTA Overlay District or zone change from the existing Community Commercial (CC) to a district or new Overlay to make the use consistent with the City's LCP and M.M.C.~~, b~~B~~y~~ extension, this alternative would be consistent with the regional AQMP. A less-than-significant impact would occur.

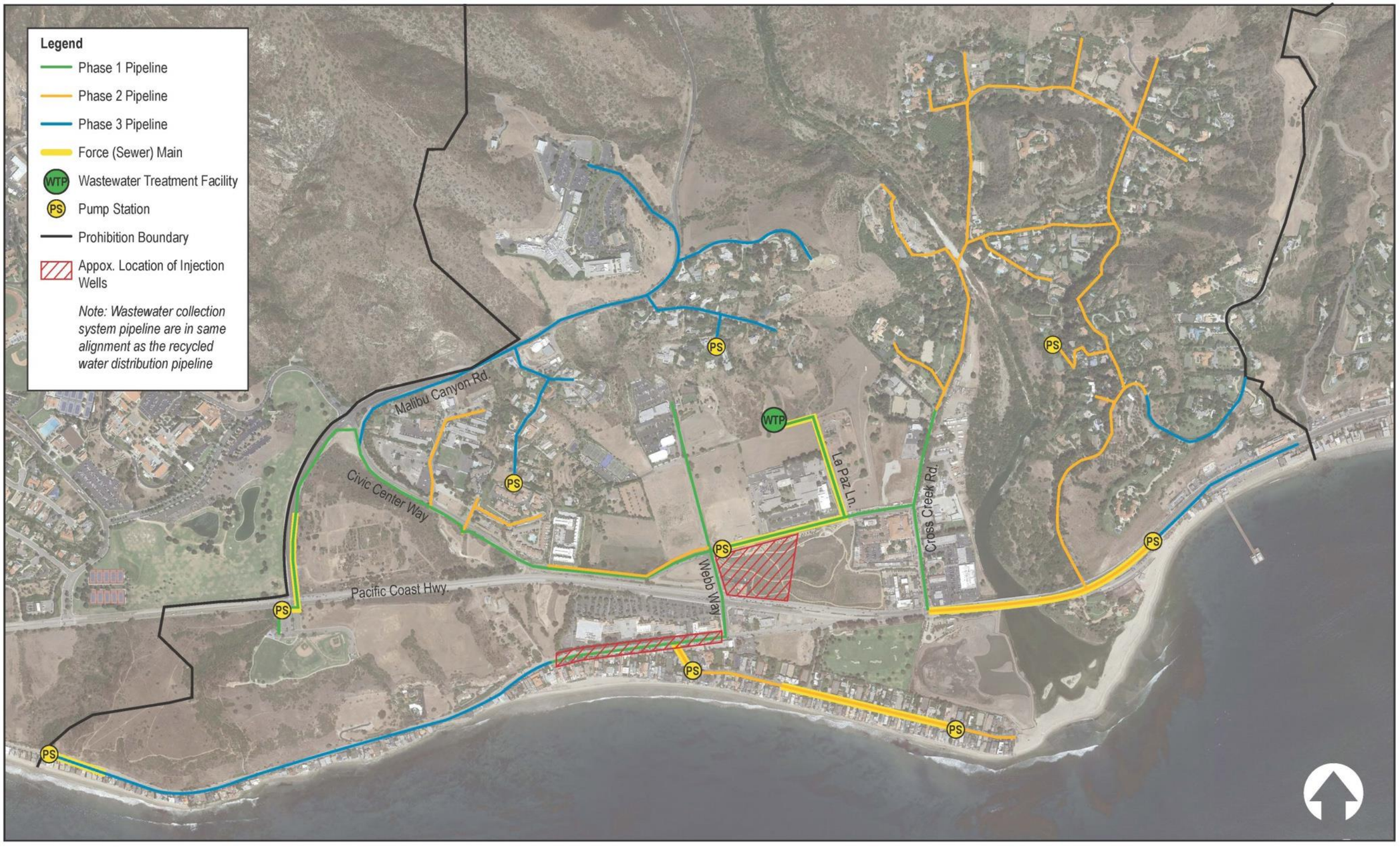
Biological Resources

Under Alternative C, there is less potential for development of the wastewater treatment facility site to affect special-status plant species, namely wetland ESHA buffer or protected native trees (e.g., California black walnut trees), as there do not appear to be any ESHA areas or buffers, or protected native trees on the Wave site. Therefore, the potential for biological impacts associated with the Wave site is anticipated to be lower that of the proposed Project.

Cultural and Paleontological Resources

As with the proposed Project, there are no known historic structures on the Wave property; therefore, impacts to historic resources would be similarly unlikely. In addition, the potential to uncover unknown subsurface archaeological or paleontological resources (moderate to high potential) would be similar to that of the proposed Project.

Figure 5-1. Alternative C – Alternate Wastewater Treatment Facility



Geology

Potential impacts under Alternative C would be similar to the proposed Project; however, the Wave property is situated below a steep slope that supports numerous homes. Additionally, a landslide area was identified on the northeastern portion of the property (Questa Engineering 2005). Disturbance of the site and construction of the wastewater treatment facility may potentially increase slope instability or the treatment facility may be subject to impacts from future landslides, which could affect operation of the facility. Based on geotechnical investigations conducted in the project area, liquefaction and expansive soil potential at the Wave property appear to be similar to that of the proposed wastewater treatment facility site at Winter Canyon.

Hydrology and Water Quality

Because Alternative C has the same methods for disposal of wastewater as the proposed Project, operational impacts would be the same. As described above under Biological Resources, there are no known water features, wetlands, or riparian ESHA within the Wave property. Construction at the Alternative wastewater treatment facility site would have the same potential for short-term impacts as the proposed Project, and similar mitigation measures would be applicable. Construction impacts would thus be expected to be less than significant.

Hazardous Materials and Waste

Under Alternative C, the potential for impacts related to the routine transport and use or accidental release of hazardous materials would be similar to that of the proposed Project. Site investigations of the Wave property have not been conducted and a review of the Department of Toxic Substances Control (DTSC) EnviroStor database has not revealed any known contamination sites that raise concern related to contaminated soils or groundwater. It is assumed that the risk of exposing contaminated soils or groundwater during construction would be similar or less than the proposed Project given the historic use of the Winter Canyon property as a wastewater treatment facility, as compared to the Wave property, which does not have a history of hazardous materials handling. Furthermore, the Wave property is located farther from sensitive land uses such as Webster Elementary School, thus reducing the potential for exposure of accidentally released hazardous materials to schools/children. Operation of the treatment facility under this alternative would utilize the same treatment process and materials as the proposed Project. Accordingly, potential impacts related to the accidental release of hazardous materials would be of a reduced concern when compared to the proposed Project.

Land Use and Planning

Land use and planning impacts under Alternative C would be the same as those described for the proposed Project. As with the proposed Project, the Wave property is similarly zoned for commercial use and would require a Conditional Use Permit and coastal development permit to develop the site with a wastewater treatment facility. The ~~w~~Wave property is vacant and development of the treatment plant would not result in division of an established community or otherwise conflict with any applicable land use or habitat conservation plan. It is anticipated that an LCP amendment and zoning text amendment, similar to that prepared for the proposed Project, would be required to ensure consistency of this Alternative with the LCP and City ~~m~~Municipal ~~c~~Code.

Noise

Construction and operation of the wastewater treatment facility under Alternative C would be in close proximity to the Malibu Public Library and residences on Harbor Vista Drive and Colony View Circle, which overlook the Wave property. Both land uses would likely be considered sensitive receptors. As such, there is potential for greater noise impacts to these two uses due to their close proximity to the alternative facility location than would occur under the proposed Project; h~~.~~ ~~H~~owever, noise impacts to Webster Elementary School, Our Lady of Malibu, and the condos along Civic Center Way would be reduced. Because Malibu Public Library is a more sensitive use, and it is of a closer proximity to anticipated construction activities for Alternative C, the noise impacts would be of greater concern. Overall, the noise impacts for a treatment facility located at the WAVE property will be similar to those at the proposed plant site and not necessarily greater. Placing the treatment plant at the WAVE property will not result in significantly fewer noise impacts than at the presently proposed location.

Population and Housing

The potential for direct impacts related to population and housing for Alternative C would be limited to the increase in employees required to operate the treatment facility, which would be the same as the proposed Project. The Wave property is currently vacant and therefore no housing would be ~~replaced~~displaced. Alternative C would also have the same potential to result in indirect impacts related to population growth, which would continue to be consistent with existing City General Plan/LCP density limitations. Impacts would be similar to the proposed Project.

Public Services

Construction of a wastewater treatment facility on the Wave property would not result in any new need for additional or altered government facilities. Construction of a wastewater treatment facility at the site would not affect any existing government facility. Impacts would be similar to the proposed Project.

Utilities

Alternative C would result in similar utilities impacts to those that would occur under the proposed Project as this alternative includes a wastewater treatment facility and energy requirements would likely be similar to the proposed Project. Drainage facilities near the Wave property would likely not require alteration though the property would undergo grading that may alter the drainage pattern of the site. No structures exist on the Wave property that would need to be demolished; therefore, no additional demand on local landfills would occur. Accordingly, impacts would be similar to the proposed Project.

Recreation

The Wave property does not contain any recreational facilities or uses. The Alternative C wastewater treatment facility would be located closer to Legacy Park (approximately 600 feet to the south) than the facility under the proposed Project (which is approximately 2,000 feet to the west), but would be separated from the park by the Malibu Public Library. Construction activities associated with development of the wastewater treatment facility would be noticeable from Legacy Park, however, no physical deterioration of the park's facilities would occur and no replacement or expansion of the park would be necessary. Alternative C would include similar pump stations in

Legacy Park and Malibu Bluffs Park and impacts associated with these facilities would be similar to those of the proposed Project.

Greenhouse Gas Emissions

Construction activities under Alternative C would be of a similar intensity and scope and long-term operation would be similar in energy consumption related to operation of the wastewater treatment facility and collection and distribution system pump stations. Accordingly, Alternative C would generate similar levels of greenhouse gas emissions as those described for the propose Project.

5.3.4 Alternative D – Pipe Effluent to the Hyperion Wastewater Treatment Plant

Under Alternative D, the proposed wastewater collection system, including all previously anticipated pump stations, would be constructed as planned, but rather than be treated locally, the wastewater would be sent to the Hyperion Wastewater Treatment Plant (HWTP), located just south of Los Angeles International Airport, in the ~~Playa del Rey area~~ City of Los Angeles, for treatment (Figure 5-2). This alternative was selected for consideration because the Hyperion Wastewater Treatment Plant is already in operation and would negate the needed for a wastewater treatment facility within the City of Malibu. The proposed wastewater treatment plant, recycled water distribution system, and dispersal system (percolation ponds and injection wells) would not be constructed. Rather, the collection system and pump stations would be constructed, along with a new pipeline to deliver 507,000 gpd of wastewater to HWTP (at buildout conditions). This pipeline would be constructed of 4-inch diameter PVC, and would connect to the proposed collection system at a pump station located in Legacy Park. In addition to the approximate 13.3 miles of collection pipeline, the transmission pipeline would be approximately 22 miles long, and would be placed in and/or along PCH using conventional cut and cover construction techniques. (Use of existing transmission pipelines is not considered feasible as these pipelines were not designed to accommodate the additional flow generated by the proposed Project. Use of anticipated closer transmission pipelines is not considered as these pipelines have not been constructed and assumption of their use under this alternative would be considered speculative.) Two additional pump stations would be located along the pipeline alignment beyond the City limits, to provide the necessary pressure for delivery of the wastewater to HWTP. These pump stations would be of similar design and construction to the proposed collection system pump stations.

Impact analysis

Aesthetics and Visual Resources

Under this alternative no wastewater treatment plant or recycled water distribution and dispersal system would be constructed. Accordingly, all impacts related to these facilities would not occur. Otherwise, impacts associated with the collection system would be the same. A less than significant impact would occur.

Air Quality

Construction of a 22-mile pipeline to the HWTP would result in substantially greater air quality emissions during the construction phase than that of the proposed Project. Construction of the proposed wastewater treatment facility accounts for roughly one third (as compared to two thirds for the conveyance system) of the criteria pollutants anticipated to be generated by the proposed Project. Alternative D proposes a far larger conveyance system that would be approximately double

the size of that proposed under the Project. In addition to regional emissions from heavy equipment and fugitive dust, traffic congestion along PCH related to construction disruption would further add to regional emissions and would exceed that of the proposed Project.

Biological Resources

Under Alternative D, there would be less potential for impacts to special-status plants and native or foraging and nesting birds as a majority of the construction and operation would occur within road rights-of-way where there is little suitable habitat for plants or wildlife. However, potential impacts to western mastiff and spotted bats and to special-status fish species would remain the same as construction work on the PCH bridge, and at the Malibu Creek crossing would still be required. Ocean water quality impacts resulting from the additional discharge through the HWTP outfall would be similar to existing ocean water quality impacts, though the proposed discharge would likely result in no to minor decreases in water quality as the additional flow generated by the proposed Project would be very small (an additional maximum discharge of 0.5 mgd) as compared to a typical discharge of approximately 350 mgd as is currently occurring at the HWTP.

Cultural and Paleontological Resources

Under Alternative D, while there would be no new wastewater treatment facility, construction along such a long corridor that covers a great deal of both developed and undeveloped land, increases the possibility and potential of impacts to historic or unknown prehistoric archaeological and paleontological resources. While a majority of the corridor under this alternative has been disturbed, numerous historic structures may be present along PCH and a great deal of ground disturbance would be required to construct the pipeline. Accordingly, the potential for impacts to cultural and paleontological resources would be greater than what could occur under the proposed Project.

Geology

Alternative D would result in a greater amount of exposed soil that may lead to increased soil erosion as compared to the proposed Project. Otherwise, there is a low likelihood of increased risk to people or structures due to seismic hazards or liquefaction and expansive soils as the pipeline under Alternative D would be below ground along an existing roadway.

Hydrology and Water Quality

As with the proposed Project, water quality improvements in the Civic Center area and Malibu Lagoon would be expected to be the same as the proposed Project as OWDSs would no longer be discharging in the Civic Center area. However, water quality and hydrology impacts related to construction would be substantially greater as a large amount of dewatering water from excavation of the pipeline would be generated and additional pollutants from roadway excavation would be contributed to surface waters and the storm drain system. As with the proposed Project, a SWPPP would be required for construction of Alternative D, which would most likely avoid or reduce any potential significant impacts associated with construction of the pipeline.

Hazardous Materials and Waste

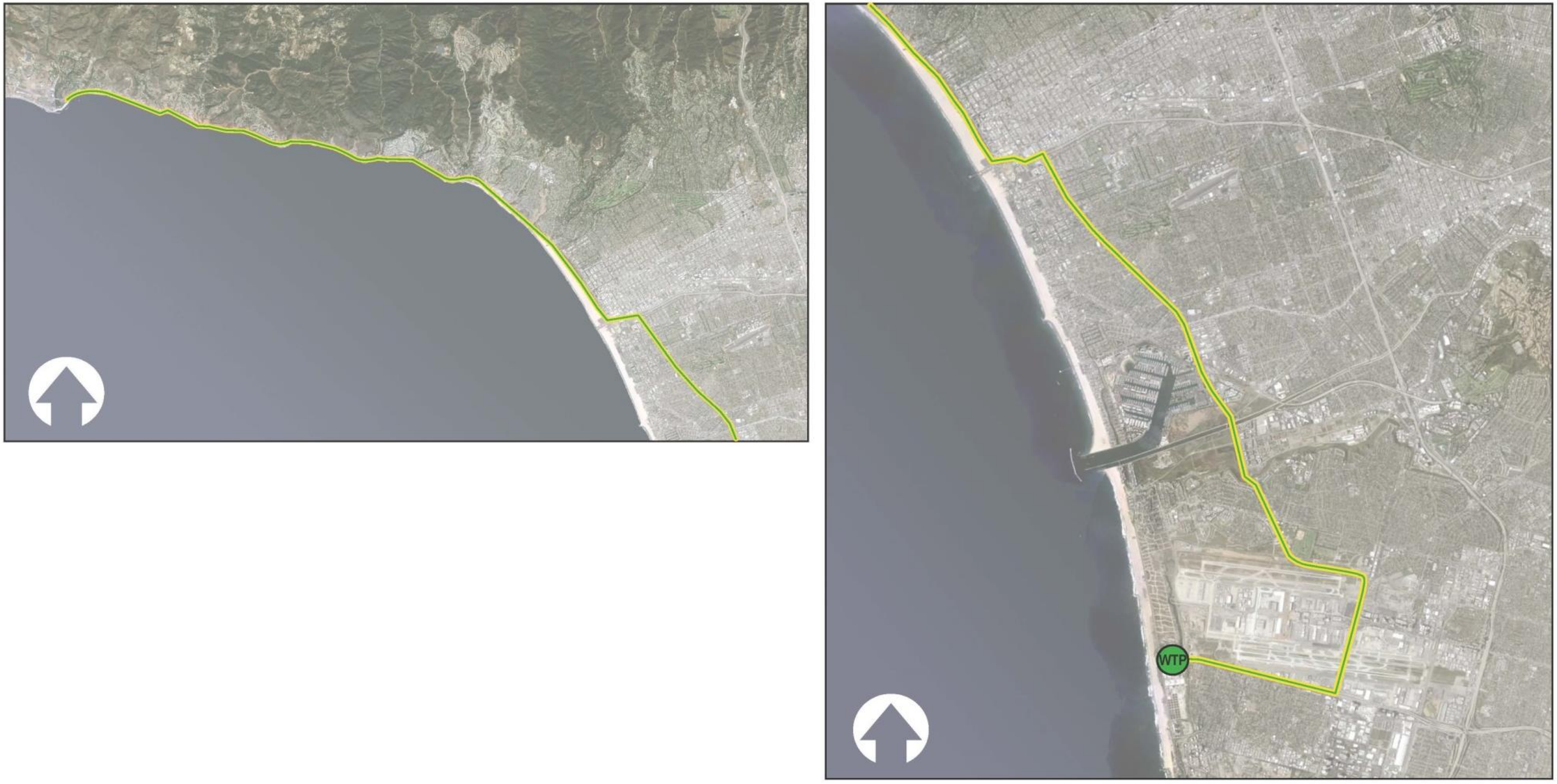
Compared to the proposed Project, construction activities associated with Alternative D would have a greater likelihood to encounter contaminated soils or groundwater due to the length of the pipeline and extensive excavation work required to construct the pipeline. Under Alternative D, no

treatment chemicals would be used, which eliminates impacts associated with the use of hazardous materials. However, untreated wastewater would be transported along a lengthy pipeline, which increases the potential for impacts related to the routine transport or accidental release of wastewater. Accordingly, while hazardous materials would not be routinely used under Alternative D, wastewater would be transported greater distances increasing the risk of accidental release. Appropriate mitigation measures to ensure the wastewater pipeline is protected from damage would be required under this alternative and the proposed Project.

Land Use and Planning

Land use and planning impacts associated with Alternative D would be limited to any easements, entitlements or land conversion required for constructing the pipeline within the roadway or its surroundings. To the extent that the pipeline could be designed to minimize the need to acquire land adjacent to the roadway, there is little potential for conflict with land use plans, policies, or regulations. However, construction of the pipeline would result in substantial traffic disruptions along a long stretch of PCH. As such, there is potential for temporary yet severe impacts related to division of communities along PCH.

Figure 5-2. Alternative D – Pipeline to Hyperion Wastewater Treatment Plant



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Noise

Construction activities under Alternative D would be extensive and would temporarily generate noise that would affect residents, businesses, and other sensitive land uses along the 22-mile stretch of PCH where the pipeline would be installed. The noise impacts for the collection system and pump stations construction would be the same as for the proposed Project, but construction of the injection wells would no longer be required or generate noise. These impacts would be similar to those described for the proposed Project, but would affect a greater number of sensitive receptors for a short period of time. Construction impacts associated with construction of the wastewater treatment facility would not occur under this alternative. Similar mitigation to that of the proposed Project would help to limit these noise impacts.

Population and Housing

The potential for direct impacts related to population and housing for Alternative D would be limited to the short-term increase in employees required to construct the 22-mile pipeline, which would not be substantially greater than that of the proposed Project. ~~The two~~Up to the three permanent employees required under the proposed Project would not be required under this Alternative. Alternative D would have the same potential to result in indirect impacts related to population growth, which would continue to be consistent with City General Plan and LCP density limitations. Impacts would be similar to the proposed Project.

Public Services

Construction activities along PCH would result in substantial traffic impacts that may affect emergency service response times. Construction activities would be coordinated with service providers to avoid substantial disruptions. Accordingly, impacts from construction on emergency response time would likely remain less than significant but would be greater than those described for the proposed Project.

Utilities

Under Alternative D, substantial construction work would take place within the PCH right of way. This work may result in a need for utility relocation and alterations to existing storm drainages. It is unknown to what extent these relocations and/or alterations would be needed, but such impacts to utilities are anticipated to be greater than that of the proposed Project.

Recreation

Alternative D would have similar potential to affect recreation as the proposed Project, as pump stations required for the collection system would continue to be required with Legacy Park and Malibu Bluffs Park. The long distance of pipeline along PCH would create construction period traffic disruptions that would diminish access to recreational facilities along the corridor, namely beaches such as Will Rogers Beach. However, it is not anticipated that impacts under this alternative would result in new or expanded recreational facilities. A less than significant impact would occur.

Greenhouse Gas Emissions

As described under the Air Quality discussion for this alternative, construction activities along a long 22-mile corridor would require a substantial amount of heavy equipment and construction vehicle trips generating greater amounts of greenhouse gases than that of the proposed Project. In addition, traffic disruptions along PCH would generate additional greenhouse gas emissions not anticipated under the proposed Project. Accordingly, Alternative D would result in a greater amount of greenhouse gas emissions than the proposed Project.

5.4 Comparison of Alternatives Analyzed

Table 5-1 summarizes the environmental advantages and disadvantages associated with the proposed Project and the four alternatives analyzed above. ~~CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives.~~

Table 5-1. Impact Comparison of Alternatives to the Proposed Project

Environmental Topic	No Project	Alternative B- Ocean Outfall	Alternative C – Alternative WWTF Site	Alternative D – Pipe Effluent to Hyperion WWTF
Aesthetics and Visual Resources	Less	Similar	Similar, but possibly greater	Less
Air Quality	Less	Similar, but possibly greater	Similar	Greater
Biological Resources	Less	Similar	Less	Less
Cultural Resources	Less	Similar	Similar	Greater
Geology	Less	Similar	Greater	Greater
Hazardous Materials	Less	Similar	Similar	Greater
Hydrology and Water Quality	Greater	Greater	Similar	Greater
Land Use	Less	Similar	Similar	Greater
Noise	Less	Similar	Greater	Greater
Population and Housing	Less	Similar	Similar	Similar
Public Services	Less	Similar	Similar	Greater
Utilities	Less	Similar	Similar	Greater
Recreation	Greater	Similar	Similar	Greater
Greenhouse Gas Emissions	Less	Similar	Similar	Greater
Project Objectives Met	None	Less	Similar	Similar

5.5 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the No-Project Alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives. As discussed in Chapter 4, the impacts resulting from the proposed Project can all be satisfactorily mitigated to less than significant levels with the exception of Noise impacts based on Los Angeles County noise impact thresholds. As demonstrated above, none of the alternatives to the proposed Project would reduce this impact to a less than significant level and Alternatives C and D have the potential to result in greater noise impacts. Accordingly, based on the analysis presented above, the proposed Project would be considered the Environmentally Superior Alternative, as it would satisfy the Project objectives while resulting in the least impact to the environment. If the proposed Project could not be constructed, Alternative B – Ocean Outfall, would be the next environmentally superior alternative.