

8 Preliminary Environmental Considerations

Consideration of the environmental impacts of each of the alternatives is essential to the selection of a preferred alternative. Environmental impacts range from the effects of the project on the natural and built environments to compliance with regulatory requirements. Coordinating with public agencies and stakeholders involved in the project area will be essential to successfully permitting and constructing the proposed flood control improvements. Due to the proximity of the construction activities to people, traffic, wetlands, coastal recreation areas, and water storage facilities, many governmental agencies will be involved in the evaluation, design, permitting, and monitoring of the project development. Generally, the environmental issues that will be investigated include effects on:

- Bird habitat;
- Beach erosion and access;
- Water quality, public health, and safety;
- Recreation activities and park resources;
- Aesthetics; and,
- Ocean resources

8.1 Ecological Setting

The natural and built environments were examined at the following locations: Lake Merced, Westlake Park, the Vista Grande Canal corridor, John Muir Drive, Fort Funston / Golden Gate National Recreation Area, and Thornton State Beach.

8.1.1 Lake Merced

South Lake and Impound Lakes are the two lakes that could be directly impacted by the Vista Grande Canal overflows. Lake Merced is the largest freshwater lake in San Francisco, and is a valuable natural resource and recreational area for nearby communities. Lake Merced is the largest expanse of wetland habitat in San Francisco and supports an array of sensitive plant and animal species, as well as being a valuable refuge for migratory birds (SFRPD, 2006). Wetland areas, particularly those at Impound Lake, are known to contain sensitive plant species. For this reason, Impound Lake and its associated wetlands are considered priority areas for conservation by the San Francisco Recreation and Park Department Natural Areas Program (RMC, 2006).

8.1.2 Westlake Park

Westlake Park consists of the City of Daly City Parks and Recreation Department, the Doelger Senior Center, the Pacelli Event Center, two baseball fields, tennis courts, a playground, a gymnasium, parking lots, and a wastewater treatment plant.

8.1.3 Vista Grande Canal Corridor

The existing Vista Grande Canal lies adjacent to the Olympic Club golf course and across John Muir Drive from Lake Merced. This corridor provides a linkage by proximity to the two areas of open space. The canal corridor consists primarily of a pine forest and mixed exotic herbaceous plants. The trees along the west edge of the Vista Grande Canal create a screen between the Olympic Club fairway and the canal, and provide habitat for migrating birds in the fall. Upland habitat north and south of this corridor and Lake Merced also provide significant habitat for sparrows and finches, which use this area for feeding from late summer through mid spring. According to the San Francisco Recreation and Park Department's Significant Natural Resource Areas Management Plan, there is a population of the sensitive species San Francisco spineflower (*Chorizanthe cuspidate* var. *cuspidata*) next to the Vista Grande Canal adjacent to

Impound Lake (SFRPD, 2006). In the southern region of the canal corridor there are large pine trees and understory brush. As the canal extends north and the corridor between the canal and John Muir Drive narrows, the vegetation becomes denser.

8.1.4 Golden Gate National Recreation Area and Thornton State Beach

Fort Funston, Golden Gate National Recreation Area

The City's existing outfall structure is located at the Fort Funston bluffs. The rocks in this area are of the Merced Formation which is generally a mix of sandstone, siltstone, and claystone. The rock at the outfall structure is mainly medium to coarse grained, poorly sorted, moderately to thinly-bedded sandstone with layers of finer-grained silt and clay. The cliff here weathers easily, especially during heavy winter rains. Because the rock has high permeability, infiltration is high. But, as soon as the capacity to store water has been exceeded, the excess runoff easily carries the rock away with it, creating the "permanent rill" (gully) erosional features. Gullies commonly form when water runs off the edge of the cliff as sheet flow from impervious surfaces such as pavement or highly compacted soil (park trails, dirt paths etc.). The estimated bluff retreat rate for the coastal cliffs of the Merced Formation is one foot per year based on the retreat over the past 50 years. Actual retreat rates will depend mostly on the frequency of intense rainfall events, which are highly episodic and tend to be concentrated during El Nino years. Currently, the bluff slopes appear to be very steep and may more susceptible to slope failure and wave undercutting.

A colony of bank swallows (*Riparia riparia*), a state-listed threatened species and federally-listed species of concern located at Fort Funston is the largest nesting colony in the San Francisco Bay Area. More than 700 burrows (approximately 40 to 50% of which are occupied) were present in 1997 (NPS, 1999). The Fort Funston Bank Swallow colony is one of only two or three remaining on the California coast. The colony is located in the bluffs at the north end of Fort Funston. Any construction south of the Hang Glider Observation Deck is not likely to have an impact on the swallows.

It will be necessary to survey the cliffs at the outfall site for evidence of Bank Swallow nesting during May and June when the swallows would be present. A survey of wintering ducks, grebes, cormorants and loons should be included in the environmental assessment for the beach outlet structure.

Ocean Beach, Golden Gate National Recreation Area

Habitat for several special status species exists at Ocean Beach, which is directly north of the project area. As habitat in the project area is similar to that at Ocean Beach, the presence of these species at the sites in question will need to be determined.

Western snowy plover (*Charadrius alexandrinus nivosus*), a federally-listed threatened species and state-listed species of special concern, winters on Ocean Beach from early July through mid May, but never during the height of the breeding season, which is mid May through June (NPS, 1997). The National Park Service established a snowy plover management area from Sloat Boulevard in the south to Stairwell 21 in the north along the O'Shaughnessey seawall, based on several years of monitoring data (NPS, 1999). The survey for Western snowy plover should incorporate both a winter and a nesting season element.

Peregrine falcon (*Falco peregrinus anatum*), a state endangered species and federal species of concern, irregularly visits Ocean Beach throughout the year (NPS, 1997). A known roost is within one mile of Ocean Beach (NPS, 1997). California brown pelican (*Pelecanus occidentalis*), a state and federally endangered species, appears just offshore most of the year and roosts near the Cliff House (NPS, 1997).

Thornton State Beach

Thornton State Beach is located within one mile north of the San Andreas Fault, which has caused instability in the coastal bluffs. There has been major slumping in the recent past, and the bluffs have moved toward the ocean, resulting in the formation of a valley. As the ocean encroaches, additional slumping and continued erosion of the shoreline is expected to occur in the future. The Merced Formation is the most abundant consolidated surface material found in the bluffs and landslide deposits at Thornton State Beach. The major constituents include sandstone, siltstone, and claystone, with some conglomerate and scattered beds of volcanic ash. The coastal strand occurs as a very small, narrow community, near the base of the bluffs in several locations. It includes sea rocket, beach bur (*Ambrosia chamissonis*) or New Zealand spinach. The northern coastal scrub is the predominant plant community in the unit and includes coyote brush, lizardtail, beach strawberry, and seaside daisy. No rare and/or endangered species are known to occur at Thornton State Beach. The rare plant, San Francisco wallflower (*Erysimum franciscanum var. franciscanum*) is reported to occur north of this unit.

The San Mateo Coast Area General Plan Inventory of Features describes Thornton State Beach as almost entirely landslide, steep cliffs, or both. It recommends that no major structures be placed on the landslide mass, or immediately above the steep cliffs. This recommendation is made because of the potential for total loss or destruction of such facilities.

8.2 Overview of the Environmental Regulatory Process

The City will need to follow prescribed environmental quality processes to permit the construction of the stormwater improvements. The lands needed to construct, operate, and maintain the stormwater improvements are owned by private, local, state, and federal entities. CEQA and NEPA prescribe the process by which state and federal agencies will evaluate the preferred alternative, and issue permits as applicable.

It is anticipated that the City will be the lead agency to coordinate the CEQA process, and that the National Park Service will be the lead agency to coordinate the NEPA process. There are many similarities between these two environmental processes, and it is possible to combine the processes into a single effort.

8.2.1 The NEPA Process

The National Environmental Policy Act (NEPA) requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. To satisfy this requirement, federal agencies prepare a detailed statement known as an Environmental Impact Statement (EIS). The Environmental Protection Agency (EPA) reviews and comments on EISs prepared by other federal agencies, maintains a national filing system for all EISs, and assures that its own actions comply with NEPA. The specific requirements can be found at the National Environmental Policy Act's website.

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking and its alternatives. There are three levels of analysis that may occur, depending on whether or not an undertaking could significantly affect the environment. These three levels are: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant

environmental impact. A number of agencies have developed lists of actions which are normally categorically excluded from environmental evaluation under their NEPA regulations.

At the second level of analysis, a federal agency prepares a written environmental assessment (EA) to determine whether or not a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI). The FONSI may address measures which an agency will take to reduce (mitigate) potentially significant impacts.

If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies, and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.

If a federal agency anticipates that an undertaking may significantly impact the environment, or if a project is environmentally controversial, a federal agency may choose to prepare an EIS without having to first prepare an EA.

After a final EIS is prepared and a decision is made, a federal agency will prepare a public record of its decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process.

8.3 Agency Consultations

The following agencies were consulted during this phase of the project: the California Coastal Commission, the National Park Service / Golden Gate National Recreation Area, the State Lands Commission, and the Bay Area Regional Water Quality Control District. Contacting and coordinating with regulatory agencies requires a considerable amount of time, but provides critical information regarding agency jurisdiction, requirements of the permitting process, and the potential for streamlining multi-agency coordination efforts.

8.3.1 Agency Consultation Summary

The agency consultations:

- Familiarized agency staff with the project and the current study effort.
- Identified agency concerns that will need to be addressed during the permit process.
- Gathered input on the range and scope of tunneling alternatives under consideration.
- Confirmed that the NEPA and CEQA processes must be followed. The agency representatives supported the development of a single coordinated NEPA/CEQA document.
- Confirmed the principal permit application requirements.
- Identified steps that can be initiated early in the process to facilitate/streamline the overall permitting effort.

8.4 Environmental Characterization Assessment of Alternative Tunnel Alignments

8.4.1 Alternative 1A – Beginning of Canal to New Outfall

Environmental Evaluation

Environmental evaluation includes evaluation of potential effects on the natural environment and on the built environment:

- Potential Effects on Natural Environment: Construction of a new outfall structure on the beach could impact the environment because of limited access to the coastline, the propensity for erosion, and the fragile nature of these cliffs. Noise effects from construction equipment may impact the natural habitat area surrounding Impound Lake.
- Potential Effects on Built Environment: The intersection of Lake Merced Boulevard and John Muir Drive, where construction staging would take place, is close to a residential area. Space for a 30-foot-diameter shaft will be required and noise from construction equipment and the TBM may impact nearby residences. Traffic may be slowed due to construction equipment and staging.

Regulatory Considerations

The following requirements for the permits and easements should be considered in the evaluation process:

- Right-of-way easements are required from the City of Daly City.
- Right-of-way easements are required from the Olympic Club for construction staging and tunneling beneath Club property.
- Various National Park Service / GGNRA regulations must be met.
 - > A special use permit is required for permanent easement for tunnel components and temporary access for construction purposes
 - > A right-of-way permit is required for utilities that pass over, under, or through NPS property.
 - > Compliance with State Lands Commission lease requirements is necessary.
 - > A NEPA permit is required.
- California Coastal Commission regulations must be met.
 - > The California Coastal Commission regulates construction that occurs within the coastal zone, which begins at the shoreline and extends from 500 yards to 5 miles inland. Lake Merced and the tunnel outlet structure are within the coastal zone and therefore fall within the jurisdiction of the Coastal Commission.
 - A Coastal Development Permit must be issued by the California Coastal Commission and/or the City of Daly City.
 - Construction must adhere to the Daly City Local Coastal Program.
 - Construction must adhere to the San Mateo County Local Coastal Plan.
- California Regional Water Quality Control Board regulations must be met.
 - > Clean Water Act §402 requires an NPDES permit for discharge of stormwater into the Pacific Ocean.
 - > Clean Water Act §401 requires water quality certification if the Vista Grande Canal is determined to be part of the “waters of the United States.”
 - > Waste Discharge Requirements (WDRs) will be needed if the canal is not determined to be part of the “waters of the United States.”
 - > A CEQA permit review is required.
- State Department of Parks and Recreation regulations must be met.
 - > An easement is required for the tunnel and beach outlet structure by California Public Resource Code §5012.
 - > Assessment of and mitigation for site-specific impacts is required, including: impacts to the public use and enjoyment of the area; visual impacts; short- and long-term impacts to beach and near-shore environment; coastal bluff impacts; and water quality issues associated with discharge.
 - > The project must satisfy all requirements and concerns of the GGNRA, as Thornton State Beach may be subject to a future land transfer between these agencies.

- California State Lands Commission regulations must be met.
 - > A general lease right-of-way is required for any work below the ordinary high-water mark in areas that are subject to tidal action (such as the tunnel outlet).
- U.S. Army Corps of Engineers
 - > Clean Water Act §404 regulates any activity where dredged or fill material is discharged in any “waters of the United States.” Building the tunnel may trigger this permit due to potential impacts to the canal.
 - > Rivers and Harbors Act §10 applies to activities that may alter or obstruct “navigable waters.” Building an outlet structure may fall within this permit requirement.

8.4.2 Alternative 4 – South of County Line along Northgate Drive

Environmental Evaluation

Environmental evaluation includes evaluation of potential effects on the natural environment and on the built environment.

- Potential Effects on Natural Environment: Construction of a new outfall structure on the beach could impact the environment because of limited access to the coastline, the propensity for erosion, and the fragile nature of these cliffs.
- Potential Effects on Built Environment: Construction of the tunnel portal in Westlake Park could disrupt recreational activities in the park and limit parking if staging and construction occur on or near the baseball fields and tennis courts. Any subsequent maintenance on the tunnel portal could also disrupt recreational activity. In addition to the recreation area, Westlake Park consists of the Doelger Senior Center and the Pacelli Event Center. Noise effects from construction equipment may disrupt activities in these two facilities. Connecting the new tunnel with the existing 60-inch culvert under Cliffside Drive would require several months of construction in the residential neighborhood of Cliffside Drive. Noise, lighting, and construction-vehicle-generated air pollution may impact the neighborhood and traffic on the narrow streets.

Regulatory Considerations

The following requirements for the permits and easements should be considered in the evaluation process:

- Right-of-way easements are required from the City of Daly City.
- Right-of-way easements are required from the Olympic Club for construction staging and tunneling beneath Club property.
- Various National Park Service / GGNRA regulations must be met.
 - > A special use permit is required for permanent easement for tunnel components and temporary access for construction purposes
 - > A right-of-way permit is required for utilities that pass over, under, or through NPS property.
 - > Compliance with State Lands Commission lease requirements is necessary.
 - > A NEPA permit is required.
- California Coastal Commission regulations must be met.
 - > The California Coastal Commission regulates construction that occurs within the coastal zone, which begins at the shoreline and extends from 500 yards to 5 miles inland. Lake Merced and the tunnel outlet structure are within the coastal zone and therefore fall within the jurisdiction of the Coastal Commission.
 - A Coastal Development Permit must be issued by the California Coastal Commission and/or the City of Daly City.
 - Construction must adhere to the Daly City Local Coastal Program.
 - Construction must adhere to the San Mateo County Local Coastal Plan.

- California Regional Water Quality Control Board regulations must be met.
 - > Clean Water Act §402 requires an NPDES permit for discharge of stormwater into the Pacific Ocean.
 - > Clean Water Act §401 requires water quality certification if the Vista Grande Canal is determined to be part of the “waters of the United States.”
 - > Waste Discharge Requirements (WDRs) will be needed if the canal is not determined to be part of the “waters of the United States.”
 - > A CEQA permit review is required.
- State Department of Parks and Recreation regulations must be met.
 - > An easement is required for the tunnel and beach outlet structure by California Public Resource Code §5012.
 - > Assessment of and mitigation for site-specific impacts is required, including: impacts to the public use and enjoyment of the area; visual impacts; short- and long-term impacts to beach and near-shore environment; coastal bluff impacts; and water quality issues associated with discharge.
 - > The project must satisfy all requirements and concerns of the GGNRA, as Thornton State Beach may be subject to a future land transfer between these agencies.
- California State Lands Commission regulations must be met.
 - > A general lease right-of-way is required for any work below the ordinary high-water mark in areas that are subject to tidal action (such as the tunnel outlet).
- U.S. Army Corps of Engineers
 - > Clean Water Act §404 regulates any activity where dredged or fill material is discharged in any “waters of the United States.” Building the tunnel may trigger this permit due to potential impacts to the canal.
 - > Rivers and Harbors Act §10 applies to activities that may alter or obstruct “navigable waters.” Building an outlet structure may fall within this permit requirement.

8.4.3 Alternative 5B – 1/3 up Canal to Existing Outfall

Environmental Evaluation

Environmental evaluation includes evaluation of potential effects on the natural environment and on the built environment.

- Potential Effects on Natural Environment: Modifications to the existing outfall structure may contribute to erosive impacts on the dunes and cliffs at Fort Funston. There may be potential public access limitations around the outfall during construction. Excavating a shaft to accommodate the TBM will occupy a 30-foot-diameter space in addition to the construction staging area. Construction will take place along the Vista Grande Canal corridor and may be within proximity of a population of the San Francisco Spineflower (*Chorizanthe cuspidata* var. *cuspidata*).
- Potential Effects on Built Environment: Traffic flow may be disrupted along this stretch of John Muir Drive during construction. Noise and air pollution, lighting, and traffic disturbances may affect this area for up to one year.

Regulatory Considerations

The following requirements for the permits and easements should be considered in the evaluation process:

- Right-of-way easements are required from the City of Daly City.
- Right-of-way easements are required from the Olympic Club for construction staging and tunneling beneath Club property.

- Various National Park Service / GGNRA regulations must be met.
 - > A special use permit is required for permanent easement for tunnel components and temporary access for construction purposes
 - > A right-of-way permit is required for utilities that pass over, under, or through NPS property.
 - > Compliance with State Lands Commission lease requirements is necessary.
 - > A NEPA permit is required.
- California Coastal Commission regulations must be met.
 - > The California Coastal Commission regulates construction that occurs within the coastal zone, which begins at the shoreline and extends from 500 yards to 5 miles inland. Lake Merced and the tunnel outlet structure are within the coastal zone and therefore fall within the jurisdiction of the Coastal Commission.
 - Adhere to the City of San Francisco’s Local Coastal Program Western Shoreline Plan requirements. A Coastal Development Permit may be issued by San Francisco’s Local Coastal Program and/or the California Coastal Commission.
- California Regional Water Quality Control Board regulations must be met.
 - > Clean Water Act §402 requires an NPDES permit for discharge of stormwater into the Pacific Ocean.
 - > Clean Water Act §401 requires water quality certification if the Vista Grande Canal is determined to be part of the “waters of the United States.”
 - > Waste Discharge Requirements (WDRs) will be needed if the canal is not determined to be part of the “waters of the United States.”
 - > A CEQA permit review is required.
- California State Lands Commission regulations must be met.
 - > A general lease right-of-way is required for any work below the ordinary high-water mark in areas that are subject to tidal action (such as the tunnel outlet).
- U.S. Army Corps of Engineers
 - > Clean Water Act §404 regulates any activity where dredged or fill material is discharged in any “waters of the United States.” Building the tunnel may trigger this permit due to potential impacts to the canal.
 - > Rivers and Harbors Act §10 applies to activities that may alter or obstruct “navigable waters.” Building an outlet structure may fall within this permit requirement.

8.4.4 Alternative 6 – 2/3 up Canal to Existing Outfall

Environmental Evaluation

Environmental evaluation includes evaluation of potential effects on the natural environment and on the built environment.

- Potential Effects on Natural Environment: The potential staging area for construction under this alternative may occur within a zone currently maintained for mixed forest-grassland under the Lake Merced Management Area as part of the Significant Natural Resource Areas Management Plan. Modifications to the existing outfall structure may contribute to erosive impacts on the dunes and cliffs at Fort Funston. There may be potential public access limitations around the outfall during construction.
- Potential Effects on the Built Environment: Traffic flow may be disrupted along this stretch of John Muir Drive during construction. Noise and air pollution, lighting, and traffic disturbances may affect this area for up to one year.

Regulatory Considerations

The following requirements for the permits and easements should be considered in the evaluation process:

- Right-of-way easements are required from the City of Daly City.
- Right-of-way easements are required from the Olympic Club for construction staging and tunneling beneath Club property.
- Various National Park Service / GGNRA regulations must be met.
 - > A special use permit is required for permanent easement for tunnel components and temporary access for construction purposes
 - > A right-of-way permit is required for utilities that pass over, under, or through NPS property.
 - > Compliance with State Lands Commission lease requirements is necessary.
 - > A NEPA permit is required.
- California Coastal Commission regulations must be met.
 - > The California Coastal Commission regulates construction that occurs within the coastal zone, which begins at the shoreline and extends from 500 yards to 5 miles inland. Lake Merced and the tunnel outlet structure are within the coastal zone and therefore fall within the jurisdiction of the Coastal Commission.
 - Adhere to the City of San Francisco’s Local Coastal Program Western Shoreline Plan requirements. A Coastal Development Permit may be issued by San Francisco’s Local Coastal Program and/or the California Coastal Commission.
- California Regional Water Quality Control Board regulations must be met.
 - > Clean Water Act §402 requires an NPDES permit for discharge of stormwater into the Pacific Ocean.
 - > Clean Water Act §401 requires water quality certification if the Vista Grande Canal is determined to be part of the “waters of the United States.”
 - > Waste Discharge Requirements (WDRs) will be needed if the canal is not determined to be part of the “waters of the United States.”
 - > A CEQA permit review is required.
- California State Lands Commission regulations must be met.
 - > A general lease right-of-way is required for any work below the ordinary high-water mark in areas that are subject to tidal action (such as the tunnel outlet).
- U.S. Army Corps of Engineers
 - > Clean Water Act §404 regulates any activity where dredged or fill material is discharged in any “waters of the United States.” Building the tunnel may trigger this permit due to potential impacts to the canal.
 - > Rivers and Harbors Act §10 applies to activities that may alter or obstruct “navigable waters.” Building an outlet structure may fall within this permit requirement.

8.4.5 Alternative 7 – Parallel Tunnel South of the Existing Tunnel

Environmental Evaluation

Environmental evaluation includes evaluation of potential effects on the natural environment and on the built environment.

- Potential Effects on Natural Environment: The potential staging area for construction may be across the street from an important bird habitat along the Lake Merced shoreline, as identified in the Lake Merced Significant Natural Resource Areas Management Plan. Additionally, staging area for construction under this alternative may occur within a zone currently maintained for mixed forest-grassland under the Lake Merced Management Area as part of the Significant Natural Resource Areas Management Plan. Modifications to the existing outfall structure may

contribute to erosive impacts on the dunes and cliffs at Fort Funston. There may be potential public access limitations around the outfall during construction.

- Potential Effects on Built Environment: Traffic flow may be disrupted along this stretch of John Muir Drive during construction. Noise and air pollution, lighting, and traffic disturbances may affect this area for up to one year.

Regulatory Considerations

The following requirements for the permits and easements should be considered in the evaluation process:

- Right-of-way easements are required from the City of Daly City.
- Right-of-way easements are required from the Olympic Club for construction staging and tunneling beneath Club property.
- Various National Park Service / GGNRA regulations must be met.
 - > A special use permit is required for permanent easement for tunnel components and temporary access for construction purposes
 - > A right-of-way permit is required for utilities that pass over, under, or through NPS property.
 - > Compliance with State Lands Commission lease requirements is necessary.
 - > A NEPA permit is required.
- California Coastal Commission regulations must be met.
 - > The California Coastal Commission regulates construction that occurs within the coastal zone, which begins at the shoreline and extends from 500 yards to 5 miles inland. Lake Merced and the tunnel outlet structure are within the coastal zone and therefore fall within the jurisdiction of the Coastal Commission.
 - A Coastal Development Permit must be issued by the California Coastal Commission and/or the City of Daly City.
 - Construction must adhere to the Daly City Local Coastal Program.
 - Construction must adhere to the San Mateo County Local Coastal Plan.
- California Regional Water Quality Control Board regulations must be met.
 - > Clean Water Act §402 requires an NPDES permit for discharge of stormwater into the Pacific Ocean.
 - > Clean Water Act §401 requires water quality certification if the Vista Grande Canal is determined to be part of the “waters of the United States.”
 - > Waste Discharge Requirements (WDRs) will be needed if the canal is not determined to be part of the “waters of the United States.”
 - > A CEQA permit review is required.
- California State Lands Commission regulations must be met.
 - > A general lease right-of-way is required for any work below the ordinary high-water mark in areas that are subject to tidal action (such as the tunnel outlet).
- U.S. Army Corps of Engineers
 - > Clean Water Act §404 regulates any activity where dredged or fill material is discharged in any “waters of the United States.” Building the tunnel may trigger this permit due to potential impacts to the canal.
 - > Rivers and Harbors Act §10 applies to activities that may alter or obstruct “navigable waters.” Building an outlet structure may fall within this permit requirement.

8.4.6 Alternative 9 – Detention Basins at Westlake Park

Environmental Evaluation

Environmental evaluation includes evaluation of potential effects on the natural environment and on the built environment.

- Potential Effects on Natural Environment: As this alternative would be constructed in a largely built environment the potential impacts to the natural environment would be minimal.
- Potential Effects on the Built Environment: Construction for the stormwater storage located in Westlake Park could disrupt recreational activities in the park if staging and construction occur on or near the baseball fields or tennis courts. Any subsequent maintenance on the storage unit would also disrupt recreational activity. In addition to the recreation area, Westlake Park consists of the City of Daly City Parks and Recreation Department, the Doelger Senior Center, and the Pacelli Event Center. Noise effects from construction equipment may disrupt activities in these facilities. In addition, traffic flow and parking would be disrupted or limited during construction.

Regulatory Considerations

The following requirements for the permits and easements should be considered in the evaluation process:

- California Coastal Commission regulations must be met.
 - > The California Coastal Commission regulates construction that occurs within the coastal zone, which begins at the shoreline and extends from 500 yards to 5 miles inland. Lake Merced and the tunnel outlet structure are within the coastal zone and therefore fall within the jurisdiction of the Coastal Commission.
 - A Coastal Development Permit must be issued by the California Coastal Commission and/or the City of Daly City.
 - Construction must adhere to the Daly City Local Coastal Program.
 - Construction must adhere to the San Mateo County Local Coastal Plan.

8.4.7 Alternative 10 – Stormwater Re-Use Opportunities

Groundwater replenishment could occur either through infiltration facilities or injection wells. Infiltration opportunities are limited but could include the area under the proposed storage facility at Westlake Park. Based on an initial review of the geotechnical report for the adjacent wastewater facilities underlying the ball fields, the likely infiltration capacity would be about 15,000 to 150,000 gallons per day. Injection wells would have a higher capacity, probably on the order of 350,000 to 500,000 gpd, about half the production rate of newly constructed wells within the basin. Groundwater replenishment can be implemented to complement existing or planned stormwater facilities and could be paired with any of the previous alternatives, which include a retention storage facility.

The San Francisco Bay Regional Water Quality Control Board would establish water quality standards for the injected stormwater. The State has not yet established requirements for injected stormwater but requirements similar to the draft regulations proposed for groundwater recharge with recycled wastewater provide some guidance (CDHS, 2007). Constituents of concern would include pathogenic organisms, nitrogen compounds, and trace compounds – metals and synthetic organic chemicals. Limited data for stormwater in the Vista Grande Canal showed relatively low levels for these constituents (RMC, 2006).

Regulatory Considerations

Additional characterization of the local stormwater and discussion with regulators would be needed to better define opportunities and requirements.