VISTA GRANDE WATERSHED STUDY
SUMMARY OF PUBLIC COMMENTS AND GENERALIZED RESPONSES

Comments on the Public Draft Vista Grande Watershed Study were received from 17 organizations and individuals including public agencies, Daly City residents, local businesses, environmental organizations and homeowners associations. These comments can be summarized under the following categories:

A) Location of the Tunnel South of County Line
B) Level of Protection Provided by Preliminary Program Components
C) Financing of the Preliminary Program Components
D) Stormwater Should be Beneficially Reused within the Watershed
E) Specific Comments about the Conceptual Design of the Vista Grande Wetland
F) Specific Comments about the Conceptual Design of the Tunnel South of County Line
G) General Comments on the Vista Grande Watershed Study
H) Habitat Concerns related to the Vista Grande Wetland
I) Habitat Concerns related to the Tunnel South of County Line
J) Interim Solutions
K) Regulatory Concerns / Intent of Document
L) Schedule Concerns
M) Location of the Beach Outlet Structure and its Impacts on Coastal Erosion
N) Ongoing Erosion at Lake Merced

General responses to each of these comment categories are provided below.

A) Location of the Tunnel South of County Line

Concerns regarding the location of the proposed Tunnel South of County Line included:

- Daly City's drainage system should be located entirely within San Mateo County.
- The tunnel should be located entirely within San Francisco County since the preservation of Lake Merced water quality is primarily of interest to San Francisco residents.
- The New Parallel Tunnel option should be further investigated.
- Locate the tunnel from Doelger Community Center to Thornton Beach.

The overall goal of the Watershed Study is to define improvements to resolve flooding at the Vista Grande canal and the residential areas of the watershed. The Watershed Study was undertaken as a joint effort of Daly City and San Francisco because flooding at the Vista Grande canal has been an ongoing source of concern for both agencies. However, the stormwater causing overflows from the Vista Grande Canal originates from Daly City

portion of the Vista Grande Watershed. Only a small portion of stormwater which flows into the Vista Grande canal originates within San Francisco.

This study evaluated a number of preliminary options to conceptualize alternatives and established a general approach to flood protection within the watershed. The preliminary alternatives were evaluated for their ability to meet the primary flood protection objective, as well as other benefits and limitations to determine which alternatives were most feasible for further evaluation. The New Parallel Tunnel was not further evaluated as part of this study in favor of evaluating the Tunnel South of County Line which would provide a drainage system that is completely contained within the County of San Mateo and is compatible with the Vista Grande Wetland alternative for Lake Merced Lake Level enhancement.

The projects included in the preliminary program recommendations have not been selected for implementation. Any of the proposed projects identified in this study, including the Tunnel South of County Line, would require additional development and investigation if selected for implementation. The three alignments analyzed as part of the proposed the Tunnel South of County Line were included as examples to evaluate conceptual feasibility and general planning-level cost ranges. If the Tunnel South of County Line is pursued, a detailed alternatives analysis would need to be conducted in order to identify potential impacts, coordination conflicts, other implementation concerns, and to select the most cost effective, beneficial alignment. This alternatives analysis may consider additional alignments that were not developed as part of this Study. The Doelger to Thornton Beach alternative, has been added to Section 5.2.10 *Summary and Next Steps*, as a specific alignment that should be considered as part of that alternatives analysis.

B) Level of Protection Provided by Preliminary Program Components

Concerns regarding the level of protection provided by the preliminary project alternatives identified in the Vista Grande Watershed Study included:

- The program should be designed to anticipate the worst occurrence that could occur based on our current level of understanding.
- The Study should evaluate more intense storms as well as the 25-year, 4-hour storm since the additional cost in providing greater protection may be incremental.
- The program should be designed to confront more extreme weather patterns and conditions that may occur due to global warming and global dimming effects.
- To eliminate flooding, the peak rainfall amounts, rather than the 4-hour average, must be accounted for.
- The peak rainfall data for the last 100 years understates the longer term historic data.

- Rising sea level should be considered in the design of the outfall structure and pipeline for the Tunnel South of County Line.
- What size and frequency of storm was selected for routing (discharge) at the County line and the other proposed tunnel locations, e.g. 10 yr.? 25 yr.? other?
- What would be the fate and impact of less-frequent, but higher flow storms, expressed in terms of flow rate, time (duration), volume, and frequency?

The Vista Grande Watershed Study presents an initial conceptualization study regarding potential solutions to flooding in the Vista Grande Watershed. The study presents a number of potential solutions and does not establish a set program for implementation. The storm intensities evaluated in this Study (25-year storm for all tunnel alternatives and the 10-year storm for Storm Drain Improvements) were used for the initial evaluation of alternatives and were selected based on standard practice for other Bay Area entities and initial estimations. However, when alternatives are selected for implementation, a detailed alternatives analysis would be conducted for each selected alternative to determine the appropriate level of protection based on cost and feasibility constraints. For example, if the Tunnel South of County Line is selected for implementation, an alternatives analysis would be conducted to refine the concepts presented in the Watershed Study. Similarly, the design level for Storm Drain Improvements would be evaluated as part of the preparation of a Storm Drain Master Plan when specific improvements to reduce upstream flooding would be identified.

These alternative analyses would analyze rainfall patters and evaluate the cost and risks associated with several design sizes, including those for larger storm events. The appropriate design size would be determined from the results of this analyses. The risks and impacts of storms exceeding the design storm criteria, and the potential impact of sea level rise would also be evaluated during the alternatives analysis stage of project implementation.

The document has been revised to clarify that the 25-yr, 4-hr storm considered for the Tunnel South of County Line, and the 10-yr, 4-hr storm considered for Storm Drain Improvements, were for planning and alternative comparison purposes only and that the design storm for each alternative would be determined by future analyses associated with the development of these proposed projects. Changes to the document include:

- Page ES-6 – add a sentence under Recommended Program
- Page ES-8 – clarify paragraph
- Page ES-12 – clarify Upstream Storm Drain Improvements paragraph 2
- Page 5-4 – add sentence to 5.2.3 Design Assumptions
- Page5-27 – clarify last bullet of next steps
- Page 5-54 – add sentence to last paragraph
- Page 5-55 – add sentence to fourth paragraph
- Page 5-57 – add sentence to 5.4.5 Storm Drain Master Planning
- Page 6-21 – add sentence to next steps

C) Financing of the Preliminary Program Components

Concerns regarding how the preliminary program identified in the Vista Grande Watershed Study will be financed included:

- The Study doesn't discuss the likelihood of securing the $150-200 million necessary to implement the recommended improvements.
- It is likely that the landowners in the affected area will not approve any kind of assessment or bond measure since fewer than ten percent of these landowners are adversely impacted by drainage issues.
- Daly City tax money should not be used to pay for projects that benefit San Francisco.
- Lake Merced is in the City and County of San Francisco so it is inappropriate for Daly City to finance the construction or maintenance of the wetlands.
- Improvements to the Daly City drainage system should not be implemented in conjunction with other projects.
- Sewer fees over both the incorporated and unincorporated area of San Mateo County are set by the governing board of the district. It should also be noted that drainage fees that could be used to finance improvements would have to be approved by a vote of the property owners or registered voters in the area where fees are proposed to be levied.

The Vista Grande Watershed Study is a planning level document which identifies potential project alternatives and potential funding opportunities. This study continues past cooperative efforts between CCSF and Daly City for resolving integrated water resources issues involving recycled water, groundwater, stormwater, and Lake Merced. However, participation of CCSF and Daly City as joint sponsors of the Vista Grande Watershed Study should not be interpreted as a commitment by either agency to contribute funding for projects outside of their own jurisdiction. Ownership of individual projects presented in this Study has not been assigned and none of the proposed projects have been selected for implementation at this time. When projects are selected for implementation, Daly City and CCSF will establish how each agency will be involved in financing and implementing each project, and a specific financing plan will be developed. This will likely result in each agency taking responsibility for projects within its own jurisdiction. However, there are several reasons why pursuing these projects as part of a comprehensive watershed program may be beneficial. First, regulatory agencies give preference to coordinated efforts that provide multiple benefits, including ecological benefits, to the watershed. In addition, many State and Federal grants and loans are only available to comprehensive projects which address more than one issue. Thus, if the Tunnel South of County Line and the Vista Grande Wetland are pursued, it may be beneficial to both Daly City and CCSF to present them as a coordinated effort.

In addition to coordination between Daly City and CCSF, an agreement between San Mateo County and Daly City would need to be developed once a specific project or program is selected for implementation. If sewer fees are pursued as a financing option, the inherent cost sharing incorporated in these fees would need to be reflected in that

agreement. Further, it is noted that drainage fees would require a majority vote. For additional detail on the Funding Strategies and the process for approving drainage fees, please see Section 6.1 of the Watershed Study.

D) <u>Stormwater Should be Beneficially Reused within the Watershed</u>

Concerns that the preliminary program recommendations to not maximize stormwater reuse benefits included:

- Discharging stormwater into the ocean is a waste of a valuable resource that could be used for other beneficial uses such as aquifer recharge or stream restoration.
- Stormwater should be used to recharge the Westside Basin Aquifer.
- The methodology used in the Sun Valley Watershed in Los Angeles County was not incorporated into this study.

The Vista Grande Public Watershed Study presents an initial conceptualization study regarding potential solutions to flooding in the Vista Grande Watershed. We are aware of the work in the Sun Valley Watershed in Los Angeles County and considered this approach in the initial alternatives developed and as part of the proposed Storm Drain Improvements. A number of alternatives were considered to reduce the volume of stormwater flowing to the ocean and use stormwater for other beneficial uses such as aquifer recharge or lake level enhancement. Since the primary objective of this Study was to solve flooding throughout the watershed, investigating the benefits of installing injection wells specifically for the purpose of recharging the groundwater basin was out of the scope of this Study. However, regional stormwater detention and aquifer recharge were investigated as part of the preliminary alternatives analysis conducted for this study. This initial alternatives analysis found that large-scale detention of stormwater to solve flooding and enhance aquifer recharge would not be feasible due to limited land availability and prohibitively high costs. Daly City does not have the highly permeable soils found in Sun Valley, thereby decreasing the recharge potential and increasing the unit cost of water supply benefit. Preliminary estimates, shown on pages 4-5, 4-7, 4-8, and 4-10 placed the cost of aquifer storage between $22,000 per acre-foot and $42,000 per acre-foot.

Although this study found that large-scale alternatives were not feasible to solve flooding issues, smaller scale efforts to reduce the volume of stormwater flowing to the ocean could be implemented as part of the Storm Drain Improvements and Ongoing Implementation of Best Management Practices portions of the program proposed by this study. Such efforts may include local storage and runoff reduction practices. This would be evaluated as part of Storm Drain Master Planning, as discussed on page 5-57 of the Vista Grande Watershed Study.

E) Specific Comments about the Conceptual Design of the Vista Grande Wetland

Concerns regarding the conceptual design of the Vista Grande Wetland included:

- Whether the use of mushroom mycelium been considered as a component of the biofilter.
- Whether the wetland be designed to encourage aquifer recharge through leakage from the wetland.
- What the design life of the wetland is.
- Whether leakage from the wetland would be a source of groundwater pollution.
- The potential for ongoing erosion at Lake Merced. The erosion at the project site at Lake Merced cannot be eliminated without re-engineering the entire shoreline, bank and roadway structure surrounding the lake. In order to significantly reduce and control erosion, an erosion control plan for Lake Merced should be developed that prohibits the use of off-site sand and the dumping of rock on eroded sites, promotes the use of native vegetation to control erosion, incorporates bank restoration and uses engineered rip-rap with structural support beneath only as a last resort.
- How the wetlands will influence the risk of bird flu in the region.
- The conceptual design of the wetlands including how water would be introduced, the expected design capacity of the wetland, the expected water quality treatment performance of the wetland, and how water would be discharged to Lake Merced.
- The possibility of odor generation form the wetland.
- The potential for insect breeding in the wetland.

The conceptual design of the proposed Vista Grande Wetland was developed with consultation from Dr. Alex Horne, a Professor Emeritus of Environmental Engineering at the University of California, Berkeley, and a recognized expert on constructed treatment wetlands. The preliminary layout and conceptual design of the proposed Vista Grande Wetland is presented in Section 5.3 *Vista Grande Wetland*. Stormwater would be pumped from the proposed Tunnel South of County Line inlet structure into the wetland and then flow by gravity through the wetland and out into Lake Merced. Section 5.3.4 *Design Assumptions* includes additional information regarding how stormwater would flow into and out of the wetland. A number of different flow rates, volumes, durations and frequencies were analyzed as part of the preliminary assessment of the proposed wetland, as presented in Section 5.3.6 *Water Quality Considerations and Treatment Characteristics*. A number of different regulatory approvals would be needed to implement the Vista Grande Wetlands as presented in Table 5-15. The preliminary layout for the Vista Grande Wetland, including the area required and location, is discussed in Section 5.3.5 *Preliminary Layout* and shown in Figures 5-21, 5-22, 5-23, and 5-24.

The conceptual design of the Vista Grande Wetland was optimized to provide lake level enhancement to Lake Merced. The value used to calculate leakage (10% of inflow during dry-weather months, negligible during wet-weather months) was based on typical values for soil in the surrounding area. Opportunities to enhance groundwater recharge from the treatment wetland, while optimizing the lake level enhancement goal of the wetland,

could be analyzed during the design of the Vista Grande Wetland. The potential for groundwater pollution from recharge through the treatment wetland is expected to be minimal due since pollutants from stormwater will be removed by the treatment processes in the wetland and by the soils as water infiltrates into the groundwater. However, if alternatives to enhance groundwater recharge were added into the wetland design, the potential for groundwater contamination may need to be further investigated.

The preliminary design of the Vista Grande Wetland, as presented in Section 5.3, relies on cattails and bulrush to remove contaminants found in stormwater. These plants are found in natural wetlands and provide sufficient filtering and treatment for stormwater. Mushroom mycelium has not been considered as a component of the wetland. If appropriate, it could be considered during the design phase if the Vista Grande Wetland is pursued for implementation.

The wetland is not expected to generate foul odors. It will treat the same stormwater that currently flows through the canal and the treatment processes are similar to the natural wetlands which are located along the banks of Lake Merced.

Although wetlands can be a breeding ground for mosquitoes, scientific research have shown that mosquito problems associated with treatment wetlands are rare and effective mosquito abatement would be incorporated in the final wetland design, as discussed on page 5-44 in Section 5.3.7 *Wetland Construction, Operation and Maintenance*.

The wetland would be maintained on an ongoing basis by removing invasive plant species, managing water levels, managing vegetation, and monitoring sediments. With these ongoing maintenance activities and periodic removal of sediment and debris, the wetland is expected to become a sustainable feature of the environment.

While the treatment wetlands are expected to enhance and expand habitat for local and migratory birds, they are not expected to introduce bird flu to the area. According to the Centers for Disease Control and Prevention, “most cases of avian influenza infection in humans have resulted from direct or close contact with infected poultry (e.g., domesticated chicken, ducks, and turkeys) or surfaces contaminated with secretions and excretions from infected birds.” Contact with wild birds has not been identified as a primary source of human transmission by either the Centers for Disease Control and Prevention or the World Health Organization.

F) Specific Comments about the Conceptual Design of the Tunnel South of County Line

Concerns regarding the conceptual design of the Tunnel South of County Line included:

- The potential for future collapses of the Colma Formation along the proposed Tunnel South of County Line alignment.
- The plan for operation and maintenance on page 5-19 seems inadequate.

- Monitoring for system failure needs to be a significant part of this plan. The pipeline should be fitted with a monitoring system capable of pinpointing leaks that could lead to system collapse due to geologic failure or during an extreme weather event.
- How earthquakes could impact the Tunnel South of County Line and what design features have been incorporated to avoid catastrophic failure of the system.
- How stormwater would be routed into the Tunnel South of County Line and the Vista Grande Wetland.
- Alternatives 1 and 2 outlet within a large landslide complex that was most recently active in 1997-98, and resulted in the closure of the golf course west of Skyline Blvd. Previous movement of this landslide complex reportedly resulted in the southbound lanes of Skyline Blvd. being shifted east. Stabilization of this landslide complex would likely be cost prohibitive, and tunneling/long term performance would likely be problematic.
- Please correct the erroneous references to the "Westpark Community Center" and "Westpark neighborhood". These should be referred to by their true names: Westlake Community Center and Westlake Estates neighborhood."

The Vista Grande Watershed Study presents an initial conceptualization study regarding potential solutions to flooding in the Vista Grande Watershed. The preliminary alternatives recommended in this study, including the Tunnel South of County Line, have been developed at the planning-level only. If the Tunnel South of County Line is selected for implementation, an alternatives analysis will be conducted to refine the concepts presented in the Watershed Study. The potential for structural collapse of the Colma Formation, strategies for dealing with future collapse, and the large landslide complex identified in the region would be considered during this alternatives analysis and the results of this investigation would be considered during project selection. Specifics regarding earthquake impacts on the system are also a design-level concern and are not addressed in this planning-level document.

The operation and maintenance (O&M) considerations presented on page 5-19 were intended to provide an overview of the type of O&M that would be necessary for the tunnel to establish the feasibility and practicality of this proposed solution. It was not intended to be a comprehensive O&M plan. A detailed O&M plan would be developed during project design for the selected alternative. This plan would include procedures for monitoring the system. The need to monitor for system failure and be able to pinpoint leaks will be considered during the development of a comprehensive O&M plan.

A brief overview of how stormwater would be conveyed into each of the three conceptual tunnel alignments presented in this Study is included in Section 5.2.4 *Preliminary Layout and Facilities*. The specific structures that would be used to convey stormwater into the tunnel would be developed during project design after a specific alignment of the Tunnel South of County Line is selected for implementation. Similarly, the mechanism that would convey water from the proposed tunnel to the proposed Vista Grande Wetland would be designed if the Wetland is selected for implementation and after a specific tunnel alignment is selected. A conceptual overview of the inlet mechanism to the

wetland is presented in Section 5.3.4 *Design Assumptions*. This section also includes a brief overview of how water would flow through the wetland and into Lake Merced. As described in this section, no stormwater would reach the wetland, the former site of the canal, without being pumped into the wetland. The proposed wetland preliminary design does not include storing water on property owned by the Olympic Club since flow into the wetland will be controlled by a pump station. No other discharges, such as Daly City treated wastewater, would be routed through the proposed new tunnel.

If the proposed Tunnel South of County Line and the Vista Grande Wetland are implemented, the existing tunnel would be maintained as an overflow structure for Lake Merced. In addition, treated secondary wastewater effluent from the North San Mateo County Sanitation District would continue to be discharged to the upstream end of the tunnel and out through an ocean outfall structure, when the tunnel is not needed for Lake Merced overflow.

References to the Westpark Community Center were changed to Doelger Community Center.

G) General Comments on the Vista Grande Watershed Study

General comments for the Vista Grande Watershed Study included:

- The existing Vista Grande canal and tunnel should be maintained as a backup system for the proposed Tunnel South of County Line in case of catastrophic system failure.
- The Vista Grande Wetland should not be an optional element of the overall program and should be implemented and funded as part of the larger flood protection program.
- This plan should address alternative means of spoils disposal.
- The study should identify potential impacts to the subsurface environment.
- The existing system should continue to be studied and improved rather than developing new infrastructure.
- The study should give serious consideration to upstream measures that can contribute to the overall solutions being sought.
- Identification of the criteria that will be used for making decisions among the alternatives discussed in the Study.
- The specifics of the hydrology of the watershed i.e.: What stormwater runoff can be expected from the watershed, expressed in terms of flow rate, time (duration), and volume; and what frequency of such flows can be expected? What effects would various upstream stormwater management practices have on these flows and volumes? After implementation of selected management practices, what net stormwater runoff can be expected at the various proposed tunnel locations, again expressed in terms of flow rate, time (duration), volume, and frequency?
- What other options were considered/analyzed, particularly “downstream’ in the overall system?

- Move quickly of the planning and permitting of the tunnel.

The Vista Grande Watershed Study presents an initial conceptualization study regarding potential solutions to flooding in the Vista Grande Watershed. While a number of different options were considered as part of the Vista Grande Watershed Study constraints due to the highly urbanized nature of the Vista Grande Watershed limited the feasibility of a number of these alternatives. The alternatives considered are detailed in Chapter 4 *Alternatives Considered*.

The outcome of this effort was to obtain consensus on a conceptual approach to solving flooding in the watershed that uses holistic watershed management to maximize benefits and minimize costs. The conceptual approach recommended in the study includes both downstream components (the proposed Tunnel South of County Line and Vista Grande Wetland) and upstream components (Upstream Storm Drain Improvements and Ongoing Implementation of Best Management Practices). At this time, no projects have been selected for implementation; rather, the study presents a number of options and develops several proposed program components to planning-level detail. The factors that will be considered in selecting a project will include the study goal and objectives as well as additional factors that may be identified during the alternatives analysis process. Benefits and impacts to property owners and all residents in the watershed will be taken into account. In addition, an extensive environmental analysis would be conducted for any of the projects selected for implementation. This analysis would investigate the potential impacts to the subsurface, including soils and the groundwater aquifer.

If the Tunnel South of County Line and the Vista Grande Wetland are selected for implementation, the Vista Grande canal and tunnel would remain operational until the new Tunnel South of County Line is constructed and operational. After the Tunnel South of County Line is in place, the existing Vista Grande tunnel would no longer be necessary for stormwater conveyance but it could be maintained as an overflow structure for Lake Merced. Maintaining the existing canal after the Tunnel South of County Line is complete is not compatible with the Vista Grande Wetland since the canal would need to be abandoned in order to construct the wetland. However, in the unlikely event of system failure, the wetland could be flooded to contain a portion of flood waters during this state of emergency. See the discussion in Section 6.5 *Phasing and Schedule* for additional information regarding project implementation and timing.

Identifying alternate means of soil disposal is an important consideration which will be considered as the proposed program components are further developed. Since this study is a preliminary analysis intended to identify alternatives, it is out of the scope of this document to identify specific soils disposal alternatives. However, cost implications, potential beneficial uses and other considerations will be evaluated for different soil disposal options once projects are selected for implementation. For the planning-level cost estimates presented in this document, it was assumed that soils would be disposed of within ten miles of the project site.

The stormwater runoff that can be expected from the watershed is presented in Section 1.2 *Hydrology*. The effects of upstream stormwater management practices are discussed in detail in Sections 5.3 *Upstream Storm Drain Improvements* and 5.4 *Ongoing Implementation of Best Management Practices*. These flow rates would be further refined prior to selection and implementation of a proposed project alternative. "

Finally, the preliminary implementation schedules presented in the Vista Grande Watershed Study call for planning and permitting for the tunnel to begin as soon as possible.

H) Habitat Concerns related to the Vista Grande Wetland

Concerns regarding potential habitat loss due to the construction of the Vista Grande Wetland included:

- Upland habitat loss should be considered and mitigated.
- There is less than a 50% chance of moving heritage oaks successfully so moving them seems unrealistic and prohibitively expensive. An alternative mitigation could include collecting acorns from the heritage oaks and propagate them for planting in the vicinity.
- The pines and eucalyptus are not unique, are not native to San Francisco and it would probably not be cost effective to move them. Their loss could be mitigated by planting conifers on one of the nearby golf courses.
- A construction alternative that would spare the heritage oaks is preferred.
- The trees along the west edge of the Vista Grande Canal should not be removed since these trees screen the Olympic Club and provide habitat for migrating birds.
- Another component of upland habitat that will be lost to this project is the weedy area that is significant to sparrows and finches that use this area for feeding from late summer through mid spring.
- The cattail and bulrush used in the wetlands should be genetically consistent with those species in Lake Merced.
- On page 5-43 there is a proposal to pump water from Lake Merced to the wetlands to keep them viable. There are other water sources, such as treated water from Daly City that are much more appropriate. We oppose installing pumping infrastructure in the lake for this purpose and we oppose pumping water from Lake Merced.
- The recreational use of the wetlands project site should be maintained for bird watching and other recreational uses. The solution would be to incorporate a boardwalk along the edge of the Vista Grande Canal that allows walkers to view the trees much as they can now.

The proposed Vista Grande Wetland would be constructed in the area of the existing Vista Grande canal. In order to construct the wetland, the canal would be abandoned and the area surrounding the canal would be excavated to form the wetland. Concerns

regarding the removal of trees from the site and the potential impacts to the bird habitat in the surrounding area have been noted. Based on the preliminary layout of the wetland, it is unlikely that a final design would be able to avoid the removal of the trees on this site given the land constraints in this urbanized area. However, mitigation efforts would be incorporated where appropriate.

In addition, the construction of the wetland likely would result in some loss of upland habitat for sparrows and finches. Text has been added to Section 5.3.10 regarding the impacts of this loss. The need for further investigation of these impacts during the environmental review process and these potential mitigation measures was noted in the text.

Since bulrush and cattail species are common plants in California with seeds passing easily around the region it is unlikely that there is a specific species or strain that is unique to Lake Merced. However, an investigation of the potential diversity of cattail and/or bulrush species present at Lake Merced could be conducted in order to determine whether there is a native or predominant strain. There may be more than one species already present and these species may be available as species-specific starts from nurseries. If further investigation suggests that there is some unique feature to the Merced cattails and bulrush, the plants could be grown on-site from seeds or small starts in pots. This option would require setting up a small nursery at the site a year before. The option of obtaining bulrush and cattail stock from Lake Merced has been noted in the document. The feasibility of this alternative to vegetate the wetland would be further investigated during the environmental review process and the wetland design phase."

The alternative of pumping water from Lake Merced to sustain the proposed Vista Grande Wetland during dry months was presented as an option for consideration only if another dry weather supply can not be found. Further investigation is necessary to establish the feasibility of other dry-weather water supplies.

Finally, while the construction of the proposed Vista Grande Wetland may result in the loss of some of the recreational area that is currently located along the canal, it is expected to enhance the overall recreational opportunities in the area. The Vista Grande Watershed Study mentions the inclusion of a public trail to enhance recreational opportunities in the recreation section on page 5-48. Text has been added to this section to note the existing recreation in the area and expand on the opportunities to enhance recreation in this area.

I) Habitat Concerns related to the Tunnel South of County Line

Concerns regarding potential habitat loss due to the construction of the Tunnel South of County Line included:

- The draft plan refers to Plovers (page 5-21), which should be more specifically referred to “Western” Snowy Plover.

- Any survey for Western Snowy Plover should incorporate both a winter and a nesting season element.
- The Fort Funston Bank Swallow colony is one of only 2 or 3 remaining on the California coast. That colony is located in the bluffs at the north end of Fort Funston. Any construction south of the Hang Glider Observation Deck at Fort Funston is not likely to have an impact on the swallows.
- It would be necessary to survey the cliffs at the outfall site for evidence of Bank Swallow nesting during the EA preparation period. Since that period may not coincide with the swallows' nesting cycle it is necessary to plan to survey the site during May and June when the swallows would be present.
- Whether the beach outlet structure could impact ocean floor resources, thereby impacting the food resources used by wintering sea ducks.
- A survey of wintering ducks, grebes, cormorants and loons should be included in the environmental assessment for this plan. If impacts are expected to be significant, a mitigation plan should be developed.

An extensive environmental analysis will be conducted for any of the projects selected for implementation. The text in the Environmental Impacts portion Section 5.2.8 *Implementation Issues* has been revised to reflect the correct name of the Snowy Plover, indicate that a survey for the Snowy Plover should incorporate a winter and a nesting season element, and that a survey of the cliffs for Bank Swallow nesting should be conducted during May and June when the swallows would be present.
In addition, the potential impacts to sea ducks and the need to consider these impacts during the environmental review phase of project implementation have also been noted in this section.

J) Interim Solutions

Concerns regarding the need for interim solutions included:

- Any interim solution which involves the direct diversion of stormwater to Lake Merced should incorporate the potential for higher managed lake levels that could connect Lake Merced and Impound Lake in its design.
- Establish and set of protocols for the maintenance of the drainage area.
- Have a pre-storm season walk through of the canal and adjacent areas as necessary to identify debris. Remove debris in the canal to minimize the potential occurrence of overflows during less than peak flow event.
- Consider installing a mechanical bar screen debris remover or other mechanical device to catch and remove debris during storm events to maintain optimum flow through the canal and tunnel.
- Include Lake Merced Shoreline restoration as part of the wetland and tunnel projects. The shoreline has been significantly altered in several places and habitat restoration is a necessary element of any proposal being considered.
- The projected completion dates of the various new tunnel options are overly optimistic and the need for interim solutions is hastily dismissed. An interim

solution such as the use of Impound Lake for overflow storage must be incorporated into the final recommendations in the plan to serve as a readily available contingency.

The three interim solutions evaluated as part of this Study were not recommended for implementation due to the extensive regulatory requirements which could delay the implementation of any interim solution for several years. This could delay the implementation of any long-term solution. Therefore, it was recommended to concentrate efforts on implementing a long-term solution.

No long-term solution can incorporate the direct diversion of stormwater into Lake Merced due to water quality concerns and regulatory constraints. The only long-term solution presented in the Study which would involve the discharge of treated stormwater to Lake Merced is the proposed Vista Grande Wetland which would be designed specifically to enhance lake levels. The Vista Grande Wetland, if selected for implementation would be one of the SFPUC's projects implemented specifically to reach the higher managed lake-level. The specific incorporation of the Vista Grande Wetland into the Lake Level Management Plan has not been analyzed but would be considered if the project is selected for implementation. Additional information on the preliminary analysis of the interim solutions can be found in Section 4.4 *Interim Solutions* and Appendix D.

Ongoing maintenance of the Vista Grande drainage system is essential to minimize flooding damages that will continue until a long-term solution is in place. Maintenance at the Vista Grande canal and the Vista Grande tunnel are of particular importance to minimize overflows issues at the canal and into Lake Merced. A pre-storm season walk through has been added as part of the recommendations for short-term maintenance of the canal and tunnel areas. The option of installing a mechanical device to catch and remove debris during storm events has also been included in the discussion of ongoing maintenance added to Section 4.4.4 *Recommendations Related to Interim Solutions* and Section 6.6 *Next Steps*.

Restoring the banks of Lake Merced which have been repeatedly impacted by overflows from the Vista Grande canal is an appropriate addition to this Study. This restoration effort should not take place until after the new Tunnel South of County Line is constructed and operational since periodic flooding may occur along the canal until that time. The next steps in the Watershed Study have been revised to include a recommendation for a bank restoration effort after tunnel implementation.

K) Regulatory Concerns / Intent of Document

Concerns regarding regulatory requirements for the preliminary program recommendations and the Vista Grande Watershed Study included:

- From a review of the Draft Plan, one reasonable would conclude that the Agencies are moving toward the adoption of a final Watershed Plan without having first subjected the Watershed Plan itself to environmental review, which is required by with the California Environmental Quality Act (CEQA, Public Resources Code section 21000, et seq.) and the National Environmental Policy Act (NEPA, 42 U.S.C. section 4321 et seq.)
- Adoption of such a Watershed Plan without compliance with CEQA would seem to be in violation of the law because the Watershed Plan itself could well constitute a "project" pursuant to CEQA and would thus require environmental review before it becomes the Agencies' course of action.
- The Agencies may wish to prepare a program-level EIR for the Watershed Plan to inform decision-makers whether they should approve the Watershed Plan at all before the Agencies approve or begin to implement the Watershed Plan.
- The project should be designed to avoid, to the greatest extent feasible, impacts to NPS resources Under the laws that guide NPS land management, most specifically the Organic Act (1916), NPS cannot allow projects that harm the integrity of park resources or values.
- The GGNRA General Management Plan (GMP) states that the NPS will adhere to "Executive Order 11752 for the prevention, control, and abatement of environmental pollution for all facilities under its jurisdiction; including adequate sewage collection and disposal, solid waste collection and disposal, and protection of the quality of waters within, or flowing through, the area. To accomplish this goal, whenever possible sewage and water systems will be connected to public utilities."
- The GGNRA has consistently not authorized untreated stormwater effluent originating in areas outside the park to be discharged onto NPS land. The NPS is obligated and has a high interest in protecting the water quality within both GGNRA deeded land and State Lands Commission leased lands. Project planners need to consider alternatives to discharging untreated stormwater effluent along the shoreline, including increasing the capacity and operating procedures for accepting stormwater at the nearest local municipal water treatment plant.
- Selection and implementation of an alignment of the Tunnel South of County Line that terminates at Thornton State Beach would require obtaining an easement from CA State Parks.
- Generally speaking, the granting of easements and right of entry permits which affect or burden state park property, is strongly disfavored. In addition to first assessing and analyzing all other alignment alternatives and fully mitigating all projects impacts, the test for approving an easement is benefit to the state park system. Any easement proposal should incorporate measures to improve and enhance natural resource values and public access and recreational opportunity at this park unit.
- California State Parks would insist on detailed assessment of and mitigation for obvious site specific impacts and concerns including, but not limited to, adverse impacts to the public's use and enjoyment of this area, adverse visual

impacts of the outfall structure, short and long term impacts to the natural beach and near shore environment, coastal bluff impacts, and water quality issues associated with the discharge.

- California State Parks would also require that the project satisfy all requirements and concerns of the Golden Gate National Recreation Area (GGNRA) as Thornton State Beach may be subject of a future land transfer between our respective agencies.
- The State Lands Commission should be added to the regulatory section and tables.
- A public Works Plan with the California Coastal Commission should be considered to streamline the permitting process.

The City of Daly City and the City of San Francisco have every intention of conducting this process in full compliance with the applicable laws. The Vista Grande Watershed Study presents an initial conceptualization study regarding potential solutions to flooding in the Vista Grande Watershed. This study is a planning level document that does not present a final project for implementation. The concepts presented in this plan would need to undergo an alternatives analysis before a project can be selected. The required environmental review pursuant to CEQA and NEPA (if applicable) will be conducted as part of this process. In order to help clarify the intent of this study, the name of the document has been changed from the Vista Grande Watershed Plan to the Vista Grande Watershed Study. We believe this name more fully represents the spirit of this document and will help clarify its purpose.

Currently, all portions of the Vista Grande storm drain system, including the Vista Grande canal and tunnel, are undersized. As a result flooding is common throughout the watershed and is especially problematic at the Vista Grande canal. If the system remains in its current condition, the flooding is expected to continue. This would include upstream flooding throughout the watershed and downstream flooding at the Vista Grande canal, over John Muir Drive and into Lake Merced.

If no action is taken, periodic flooding throughout the watershed, and especially at the Vista Grande canal, will continue to cause ecological and public safety concerns. As a result it is essential that action be taken to solve these problems. This Study investigated a number of options, including options which would not include conveying stormwater to the ocean. However, preliminary investigation found that these options either were insufficient to solve the flooding or were infeasible due to land constraints of the urbanized watershed and prohibitively high costs. However, the Watershed Study recommends that, where feasible, upstream improvements include approaches that reduce peak downstream flows. Such improvements which may include local storage options, will be identified during the development of a Storm Drain Master Plan, as discussed in Section 5.4.

The Clean Water Act does not call for stormwater to be treated prior to discharge to the ocean. While Daly City strives to meet and, when economically feasible, exceed all water quality requirements, increasing the capacity and operating procedures at the municipal

wastewater treatment plan so that it could accept stormwater would to be prohibitively expensive.

The implementation of Best Management Practices (BMPs) is discussed in detail in Section 5.5 and is recommended for development as part of an overall watershed program to solve flooding issues. In addition, adherence to the San Mateo County NPDES Stormwater discharge permit is discussed in Section 5.5.2. Information regarding this permit is publicly available.

As presented in the Study, the feasible sites for the outlet structure for the Tunnel South of County Line may fall within the jurisdiction of NPS or California State Parks. The concerns of both of these agencies have been noted and their policies will be taken into consideration as the preliminary projects presented in this Study are further developed and evaluated. If the Tunnel South of County Line is selected for implementation, a detailed alternatives analysis will be conducted to refine the concepts presented in the Watershed Study. This alternatives analysis would consider a number of alignments to identify the preferred alternative. This analysis would consider aesthetic, ecological, recreational and other factors in order to minimize impacts at the selected site. In addition, the project would be further refined and mitigation measures may be identified as part of the CEQA/NEPA environmental review process.

A discussion of the permitting and coordination requirements with the California State Parks has been added to Section 6.6 *Regulatory Requirements*. In addition, applicable information regarding coordination with the California State Parks has been added to Table 6-3 *Summary of State and Federal Regulatory Requirements*, Figure 6-2 *Regulatory Agency Relationships*, and Table 6-4 *Summary of Recommended Institutional Arrangements*.

The option to prepare a Public Works Plan with the California Coastal commission is discussed on pages 6-11 and 6-12 of the Vista Grande Watershed Study. As discussed in this section, a Public Works Plan may make the permitting process more efficient. This option will be considered when the agencies select the project(s) for implementation."

Finally text regarding the State Lands Commission and their relationship to the potential projects identified in this Study was added to Section 6.6 *Regulatory Requirements*.

L) <u>Schedule Concerns</u>

Concerns regarding the proposed schedule for the preliminary program included:

- Involving a number of different organizations will delay implementation of the final program.
- In June 2012 the Olympic Club will host the United States Open Golf Tournament.

Coordination between Daly City and San Francisco is necessary due to the layout of the current drainage system. In addition, implementing multiple projects together as an overall watershed program with multiple benefits may facilitate the permitting process, allowing the projects to proceed more quickly. Further, the Vista Grande Wetland, the only portion of the recommended program located within San Francisco, is scheduled to be implemented after other program elements are completed or underway.

The Vista Grande Watershed Study recognizes the need for coordination of project implementation with the Olympic Club to avoid impacts to the U.S. Open that will be hosted by the Olympic Club in 2012 as part of the implementation concerns outlined on page 5-23. As shown in Figure 5-18, the preliminary implementation schedules for the proposed Tunnel South of County, and Figure 6-4, construction for the Tunnel would be completed by 2012. This schedule includes only permitting, design and construction phases and is contingent on securing funding. If project implementation is delayed, the updated project schedule would be carefully coordinated with the Olympic Club to insure that construction would not interfere with the U.S. Open.

M) Location of the Beach Outlet Structure and its Impacts on Coastal Erosion

Concerns regarding the location of the proposed Tunnel South of County Line beach outlet structure and its potential impacts on coastal erosion included:

- The a beach outfall should not be placed on any part of Thornton Beach within Daly City due to concerns that it damage the beach.
- Public access should be reopened at Thornton Beach.
- Erosive forces will make major impacts on the cliff face at the point of discharge.
- Outfall features on the beach are unnatural features that impact the visual quality of the area and pose safety concerns.
- Beach outlet structures are discouraged in areas under GGNRA's jurisdiction.
- Any beach outlet structure would need to be designed with the consideration of avoiding impacts to wildlife and visitors, and design and construct the structure to be more aesthetically compatible with the surrounding natural features.
- Outlet structures and supporting infrastructure proposed to be built on lands under the jurisdiction of the NPS, including leaseholdings through the State Lands Commission, would have to be appropriately permitted prior to construction, and National Environmental Policy Act (NEPA) appropriate compliance completed.
- The beach outlet structure would be located the Colma Formation and thus is placed in consolidated sand and not rock face as stated in the site description.

The study identifies two general sites as possible locations for the outlet structure for the proposed Tunnel South of County Line. If the Tunnel South of County Line is selected for implementation, a detailed alternatives analysis would be conducted to select a

preferred alignment and identify the specific site and design of the outlet structure. This analysis would consider aesthetic, ecological, recreational and other factors in order to minimize impacts at the selected site. This alternatives analysis would further investigate the potential for erosion at the outlet structure and would address structural concerns regarding the placement of the beach outlet structure in the Colma Formation. In addition, erosion and other impacts to the beach would be further investigated during the CEQA/NEPA environmental review process and mitigation alternatives may be identified. Finally, it is recognized that the proposed Tunnel South of County Line will require permits and approvals from a number of different regulatory agencies, potentially including NPS. We will work with the agencies to ensure all applicable permits and approvals are secured prior to construction.

Reopening public access at Thornton Beach is out of the scope of this document.

N) Ongoing Erosion at Lake Merced

Concerns regarding the potential for ongoing erosion at Lake Merced included:

- The erosion at the project site at Lake Merced cannot be eliminated without re-engineering the entire shoreline, bank and roadway structure surrounding the lake.
- In order to significantly reduce and control erosion, an erosion control plan for Lake Merced should be developed that prohibits the use of off-site sand and the dumping of rock on eroded sites, promotes the use of native vegetation to control erosion, incorporates bank restoration and uses engineered rip-rap with structural support beneath only as a last resort.

The Vista Grande Watershed Study evaluates preliminary solutions that will eliminate flooding in the watershed and from the Vista Grande canal, across John Muir Drive, and into Lake Merced. The preliminary solutions which were recommended for further evaluation would prevent flooding at the canal, thus eliminating this source of erosion on the shores of Lake Merced. While this would not eliminate all erosion at Lake Merced, it would eliminate a significant source of frequent large-scale erosion. Although bank stabilization was considered as a potential interim solution, the study does not advocate the use of riprap as a long-term solution and advises against the implementation of any interim solution. A recommendation to add bank restoration as part of the overall watershed program has been added to the study. If bank restoration is incorporated into the final program, concerns for properly designing the restoration efforts will be incorporated into the design.