4.28 WATER SUPPLY AND UTILITIES (UT)

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UT-1. ***Water Supply and Demand***

The CCSF notes that the EIS did not identify either average daily or peak daily domestic and irrigation water demand. Several commentors question the amount of water that is purchased from the City, why such purchases are needed, whether they should continue, and how these purchases are consistent with the notion of sustainability. Others inquire about future water supplies and alternative sources, including use of groundwater and how water supplies would be met if groundwater resources are reduced or lost. The SFPUC states that the Presidio, as a "retail" customer, would be subject to water shortage and mandatory rationing. The NRDC questions how or why the Trust had determined that water recycling is the solution to meeting water demand before conducting NEPA review for that project.

Response UT-1 – Sections 3.6.1 and 4.6.1 of the Final EIS were expanded to more clearly address current and future water demand and supplies. In response to comments, Section 4.6.1 was revised to include peak and average daily irrigation demand. The Draft EIS presented only a peak irrigation demand factor of 1.0 million gallons per day for all alternatives. This factor was a carryover from the 1994 GMPA, and was originally used by the Army. In order to assess peak and average demands, the Trust used the Presidio Water Balance (PWB), a predictive computer model that was updated after the Draft EIS was prepared. The PWB model incorporates a variety of data, including consideration of evapotranspiration rates, that help to more accurately predict peak and average irrigation demands. The projected demand for domestic water was also revised based on the updated PWB model. Information on peak domestic water demand was not incorporated into the Final EIS, however, because this type of water use remains relatively constant throughout the year; in other words, it does not experience the same type of seasonal fluctuation as irrigation demand.

With regard to water supply at the park, the following overview is provided and an expanded discussion of this subject was incorporated into Section 3.6.1 of the Final EIS. Most of the Presidio's water needs are met with on-site resources (i.e., Lobos Creek). Water is diverted from the creek, treated at an on-site treatment facility, and conveyed through the local water distribution system. Lobos Creek flows vary from year to year, based on annual precipitation and other climatic conditions. For many decades, Lobos Creek supplies have been supplemented by water purchases from the SFPUC. The Army, the NPS, and now the Presidio Trust purchase water from the SFPUC on an as-needed basis – primarily during the warmer months when water demand is higher and on-site supplies are lower. Most of the SFPUC water comes from Yosemite National Park (Hetch Hetchy Reservoir), with supplemental supplies from the local San Francisco watershed. Similar to Presidio supplies, the availability of local SFPUC water resources varies significantly based on the type of water year and have historically provided from six to 18 percent of the total water. Last year the Trust purchased approximately 15 percent of the total water consumed at the park, and the remaining 85 percent was provided by Lobos Creek.

The SFPUC estimates that current demands from its system are approximately 90 million gallons per day (mgd), and has identified the Presidio as a "retail customer" in the *San Francisco 2000 Final Urban Water Management Plan* (SFPUC, February 2001). The SFPUC's plan shows an estimated daily demand for the Presidio of 1mgd through the year 2020. None of the PTIP alternatives evaluated in the EIS would require this level of constant supply.

The Trust is committed to reducing the demand for off-site water resources as discussed further below. As a retail customer, the purchase and use of water from the SFPUC is subject to its water shortage regulations, including mandatory water rationing programs and rate structures adopted during drought conditions. The Final EIS (Mitigation Measure UT-2: Water Shortage Emergency Response) was modified to specifically acknowledge these requirements.

Historically, the Army operated groundwater wells to supplement supplies from Lobos Creek and those purchased from the City. Several wells near the existing water treatment plant, Mountain Lake, and Presidio Golf Course were used. These wells were taken out of service before the Trust assumed jurisdiction over Area B, and the Trust is not proposing to use groundwater as part of its water supply system in the future. For more information on groundwater, refer to Response WR-2. Under any alternative, the Trust's approach to water supply management is a combination of aggressive conservation (domestic and irrigation) and water recycling.

The Trust has made substantial progress with domestic water conservation through installation of efficient fixtures (faucets, toilets, etc.) as a standard part of building rehabilitation, through education, and through other best management practices. Several notable irrigation conservation projects have also been implemented, including the installation of a computerized, satellite-based irrigation system at the Presidio Golf Course that has substantially reduced water consumption at the course. Water savings are demonstrated by the fact that while reuse of buildings at the park has increased over the past three years, water demand has remained relatively constant. The Final EIS articulates additional measures that will be implemented by the Trust to further these efforts.

In addition, the Trust has taken a proactive approach to providing an alternative source of water at the park – recycled water. Use of recycled water at the Presidio was not determined to be the solution to water supply management through the PTMP planning process. Use of recycled water has been a long-time vision for the park and was originally identified by the NPS in the GMPA. The GMPA Final EIS determined that up to 1.0 mgd of recycled water would be used at the park. At the time the GMPA EIS was prepared, it was assumed that this water would be provided by the City. In 1996, the City prepared a Recycled Water Master Plan and, although a Final Environmental Impact Report was certified for the project, the plan was never adopted. The City is currently revising the plan to provide a smaller, less costly project. In 1999, during the review of the Letterman Complex Draft EIS, the City specifically asked the Trust to consider developing an on-site water recycling project, and the Trust is presently completing the necessary NEPA review for this project. Implementation of the proposed water recycling project would not only help meet water needs, but would also substantially reduce the amount of wastewater flows sent to the City's combined sewer system.

UT-2. ***Fire/Emergency Water Supply***

Two individuals comment on the existing fire/emergency water supplies within the Presidio and in adjacent San Francisco. Specific recommendations include providing an on-site standby emergency water supply for fire fighting, use of Mountain Lake and surrounding groundwater wells, and tying the Presidio and CCSF systems for mutual protection.

Response UT-2 – Consistent with the Uniform Fire Code, the Presidio Trust at all times maintains a minimum three-million-gallon water storage reserve for emergency fire flows at the park. This amount was established by the NPS Fire Department, and is maintained in the park's primary reservoir (i.e., the six-million-gallon storage reservoir located near the Presidio Golf Course). To provide enhanced protection, the Trust routinely maintains an additional two million-gallons of storage in the same reservoir – reserve of five-million gallons.

The Presidio's fire flows are distributed through the potable water system and thus only potable water may be used. The majority of the CCSF system similarly relies on its potable water infrastructure for fire fighting. Mountain Lake does not meet potable water standards and therefore could not be connected directly to either the Presidio or CCSF potable water supply systems. In order to provide this connection, a water treatment plant would have to be constructed to treat Mountain Lake water to meet California Department of Health Service standards. In the event of a major disaster,

however, Mountain Lake water could be used by tanker trucks to haul water to a fire.

The three wells surrounding Mountain Lake were constructed by the Army and were historically used for irrigation. The wells have been out of service for many years and there is no storage or distribution pipeline associated with these wells. Pursuant to the Trust's permit to operate the Lobos Creek Water Treatment Plant, the wells will be permanently closed in the coming year.

The Presidio is currently connected to the CCSF potable water system at six locations. These connection points, however, provide only unidirectional flow (from the CCSF to the Presidio), and convey water that is purchased from the CCSF on an as-needed basis. Back flow preventers have been installed at each of these connections, and the CCSF system operates under a higher pressure level than the Presidio system. The Presidio Trust and CCSF (SFPUC) have met to discuss opportunities to increase the connectivity and expand on-site water storage to improve mutual protection in the event of an emergency. The Trust hopes to continue these discussions with the SFPUC to identify the associated physical/system modifications, regulatory requirements, and other actions that would be needed to achieve this goal.

UT-3. ***Water Conservation***

Several commentors encourage the Trust to make a commitment to a program of water conservation and best management practices, including specific recommendations that are listed and individually addressed below.

Response UT-3 – The Trust is committed to both water conservation and a water recycling program. The mitigation measures presented in Sections 4.6.1 and 4.6.2 of the Draft EIS provide a range of conservation measures that would be implemented by the Trust. The mitigation measures in these sections have been updated in the Final EIS in response to public comments. The Trust continues to pursue opportunities to make recycled water available for use at the Presidio. In March 2002, the Presidio Water Recycling Project EA was released for public review and comment. The EA evaluates alternatives for providing up to 500,000 gallons per day of recycled water for non-potable uses at the park.

Several commentors make specific recommendations for water conservation actions or other related best management practices, many of which have already been implemented or are identified in the EIS as mitigation. A discussion and response to each recommendation is provided below.

- *Separate storm and sewer systems, wherever possible:* The Presidio has two separate sewer systems – one for storm water and the other for sanitary sewage (i.e., wastewater). Refer to Sections 3.6.2 and 3.6.3 of the Final EIS for more information on the Presidio's two sewer systems.

- *Maximize on-site treatment of Presidio's sewage and storm water:* Through the proposed Presidio Water Recycling Project described above, the Trust would maximize on-site treatment of sewage. With regard to stormwater treatment, there are a variety of physical structures (i.e., oil water separators) and operational activities (i.e., street cleaning) that are currently implemented to improve the quality of stormwater. For additional discussion of current and future stormwater and wastewater management actions, including Mitigation Measures UT-4, UT-6, and UT-7, which address this subject, refer to Sections 4.6.2 and 4.6.3 of the Final EIS and Response WR-4.

- *Minimize or eliminate the Presidio's contribution to the City's combined sewer system:* Implementation of the proposed Presidio Water Recycling Project would substantially reduce wastewater flows to the City's combined sewer system. Water conservation and on going repair and maintenance of the park's infrastructure would further minimize these flows. Refer to Mitigation Measure UT-4 in the Final EIS (Section 4.6.2) and Response UT-8 for more information on this subject.

- *Maximize treatment and use of on-site recycled water/minimize or eliminate use of potable water for landscaping, toilet flushing, fire fighting, and other non-potable uses:* This objective would be realized through implementation of Mitigation Measure and the proposed Presidio Water Recycling Project. The latter would maximize the on-site capture and reuse of wastewater flows. While there are many uses for recycled water, the primary focus of the proposed Presidio Water Recycling Project would be landscape irrigation, which comprises approximately half of the Presidio's water budget and thus provides the greatest

opportunity for water savings. Although toilet flushing is a possible application for recycled water, many of the structures at the Presidio are historic and implementation of dual plumbing systems would require major renovation that could disturb historic fabric and/or substantially increase costs. As an alternative, the Trust has identified aggressive water conservation practices, including the requirement that all buildings are rehabilitated using high-efficiency fixtures (toilets, faucets, etc.) to maximize the reduction in potable water consumed for toilet flushing. The Presidio's fire fighting infrastructure is connected to the potable water system and use of recycled water for this purpose would not be feasible. Also see Response UT-2. Because the proposed Presidio Water Recycling Project maximizes current and future available supplies and fully uses this water on-site, the need to seek out additional uses for recycled water is not great. If circumstances change in the future to warrant expanded use of recycled water, the Trust would consider such applications. Refer to Mitigation Measures UT-1 and UT-3 in Section 4.6.1 of the Final EIS for more information on this subject.

- *Commit to BMPs for water conservation:* Mitigation Measure UT-1 (see Section 4.6.1 of the Final EIS) demonstrates the Trust's commitment to implementing BMPs for water conservation. The BMPs were updated based on public review and input, and address both domestic and irrigation efficiency.

- *Reduce the need for water distribution infrastructure by limiting landscape watering needs and shift land uses and replace built areas with native vegetation:* Under most of the alternatives evaluated in the EIS, including the Final Plan, there would be an overall reduction and conversion of built space to natural areas. This shift would include the conversion of built or landscaped areas to native plant communities consistent with the adopted Vegetation Management Plan (VMP), thus reducing the need for water distribution infrastructure. Some new landscaped areas may be created, but these would generally be affiliated with cultural landscape restoration or recreation goals. Mitigation Measure UT-1 identifies requirements for any new or expanded landscaped areas that would ensure that water-efficient systems and drought-tolerant plant materials are used, consistent with the adopted VMP.

- *Minimize use of lawns except as needed for playing fields:* The adopted VMP establishes specific guidelines for the three vegetation zones at the Presidio: historic forest, native plant communities, and landscape vegetation. The VMP was developed with extensive public input and provides a comprehensive and coordinated management framework for the Trust and NPS to use in managing vegetation at the Presidio. The overarching goal of the VMP is to protect the natural, cultural, recreational, and scenic resources of the park. Removal of all lawn areas, except for playing fields, at the Presidio would not be feasible as many turf areas are considered part of the cultural landscape. However, the VMP does call for the expansion of native plant communities, and use of drought-tolerant and non-invasive plants within the approved landscape vegetation zone.

- *Minimize overhead irrigation and limit irrigation to non-daylight hours:* The discussion of irrigation guidelines, as presented under Mitigation Measure UT-1, has been expanded in the Final EIS in response to this comment. It now includes specific reference to requirements for efficient irrigation systems. Limiting irrigation to non-daylight hours would be required for the use of recycled water. In response to this comment, Mitigation Measure UT-1 was also revised to include evaluation of non-daylight irrigation for expanded application throughout the Presidio.

- *Require the installation of purple piping in new construction and major renovations:* Mitigation Measure UT-1 identifies this as a best management practice. Refer to recommendation above regarding use of recycled water for toilet flushing.

- *Make installation of separate water meters for residential and commercial tenants should be made a high priority:* Installation of meters is identified in Mitigation Measure UT-1 in the Final EIS. (The Trust has already initiated meter installation, which should be completed for all occupied buildings in the near future. All vacant buildings will be metered as part of any rehabilitation effort.)

UT-4. ***Support for Recycled Water***

Several commentors, including the CCSF, Sierra Club, Alliance for a Clean Waterfront, and California Native Plant Society indicate their support for creating recycled water supply at the Presidio and reducing the amount of potable water consumed for non-potable uses.

Response UT-4 – The Trust appreciates the support and considers the use of recycled water, in combination with aggressive water conservation, a critical element in the practice of sustainable management of the Presidio resources. The Trust has initiated planning and environmental review for a proposed on-site water recycling project that would help substantially reduce the amount of potable water consumed for non-potable uses (i.e., landscape irrigation), while minimizing wastewater flows to the City's combined sewer system.

UT-5. ***Effects of Recycled Water Project***

The NRDC and CCSF raise questions related to the possible impacts of an on-site water recycling project, and how and when these impacts will be addressed. The California Native Plant Society expresses concern related to the possible discharge of recycled water directly into natural sources of surface water.

Response UT-5 – The project-specific impacts of the proposed Presidio Water Recycling Project, including effects on groundwater resources and adjacent natural areas and land uses, are evaluated in a separate NEPA document that was released for public review and comment in March 2002. A copy of the Presidio Water Recycling Project EA is available on the Trust's website (www.presidiotrust.gov) or will be provided upon request. As described in the EA, the application of recycled water would be governed by stringent permit restrictions that include requirements to avoid over-watering, adherence to strict quality criteria, and other actions that would minimize potential effects to adjacent natural areas.

The Trust is not proposing to discharge recycled water directly into any natural source of surface water. The concept of using recycled water at Crissy Field or Tennessee Hollow was initially considered as a way to increase water available for restoration projects as well as to reduce the amount of wet weather flows entering in the City's combined sewer system during peak wet weather events (when the City's Southeast Water Pollution Control Plant (SEWPCP) can experience combined sewer overflows, or CSOs). It was determined that the effectiveness of this option in minimizing CSOs would be very small because the Presidio's contribution (both current and projected) represents less than one half of one percent of the capacity of the SEWPCP. With the availability of other measures to effectively achieve the same end (i.e., reduce wet weather flows to the CCSF system), and the opposition expressed by the NPS during scoping for the recycled water project, this concept was removed.

UT-6. ***Capacity of Proposed Recycled Water Plant***

The CCSF and NRDC ask why the proposed water recycling project described in the Draft EIS provides for only 200,000 gpd when demand is higher, and also raise questions related to amount of irrigation and landscape vegetation at the park.

Response UT-6 – Information related to the total landscaped areas under each of the alternatives, as well as the peak and average daily irrigation demands are provided in Table 1 and Section 4.6.1, respectively, of the Final EIS.

The first phase of the proposed Presidio Water Recycling Project would have a daily treatment capacity of 200,000 gallons per day (gpd), with a buildout capacity of approximately 500,000 gpd. The capacity of the proposed Presidio Water Recycling Project was based on two primary factors: 1) the location and quantity of available raw wastewater, and 2) limitations on the use of recycled water at various locations within the park. A summary of these factors is provided below, and additional information is provided in the Presidio Water Recycling Project EA (March 2002).

There are five locations along the Presidio's boundary where wastewater is discharged to the CCSF's combined sewer system. Of these, one conveys about 85 percent of all flows. The Presidio Water Recycling Project proposes to tap into this discharge location to ensure maximal capture and reuse of the flows.

Early in the planning process, potential recycled water use areas/demands were evaluated. Initially it appeared that there was excess demand for recycled water (i.e., wastewater flows generated at the park could not fully meet the demand for recycled water), and a larger project potentially treating wastewater from both the CCSF and Presidio sources was considered. Since that time, however, various constraints on the use of recycled water in certain areas of the park were identified. The affected areas include the Presidio Golf Course, various residential areas, and several ballfields. The constraints vary by site, but can generally be categorized by either their location within the Lobos Creek watershed and/or their location in an area designated for natural habitat restoration.

Lobos Creek is the primary potable drinking water source for the Presidio, and the Trust's Domestic Water Supply Permit specifically prohibits the use of recycled water within the Lobos Creek watershed. The Presidio Golf Course is located within the Lobos Creek watershed and therefore use of recycled water is not being proposed in this area. Several residential areas and ballfields in the East Housing planning district are located within the Tennessee Hollow restoration study area. It is anticipated that the need for irrigation water and associated infrastructure in this area could be substantially reduced or possibly eliminated depending upon the outcome of the restoration planning that was initiated late last year. Because future demand for irrigation in this area is unknown, and current demand is relatively small, this area was removed from consideration as a potential recycled water use area. Following removal of the Presidio Golf Course and Tennessee Hollow restoration area uses, the park-wide projected demand for recycled water was reduced so that the proposed 500,000 gpd project would successfully meet the bulk of on-site demand.

UT-7. ***EIS Analysis of Wastewater Treatment and Disposal***

Three commentors, including the NRDC, request that Section 4.6.2 of the EIS be expanded to include more analysis, and/or have specific recommendations for additional information that should be included in the Final EIS. The CCSF identifies an error in the description of the CCSF's combined sewer overflows in Section 3.6.2 of the Draft EIS. The CCSF also indicates that it has not agreed to rerouting wastewater from the Presidio to the CCSF's Westside system and that the EIS should describe how this would occur.

Response UT-7 – As requested, Section 4.6.2 was revised to incorporate additional information and analysis of wastewater impacts. At the recommendation of the CCSF, the wastewater generation factor in the Final EIS was also modified; it was increased from 80 percent to 90 percent. The incorrect statement regarding the capacity of the CCSF's sewers leading to its Southeast plant as the primary cause for CSOs was removed from Section 3.6.2 of the Final EIS.

Mitigation Measure UT-6 in the Draft EIS stated that the Trust would "…consider re-routing wastewater from the eastern side of the Presidio to the western side…" during peak storm events. This concept was included in the Draft EIS in response to a request made by the CCSF in 1999. During the public review and comment period for the Letterman Complex Draft EIS, the CCSF specifically requested that the Trust consider three options for reducing the cumulative effects of increased wastewater and water demand at the park (CCSF letter dated August 2, 1999). The options identified by the CCSF were: a) consider development of an on-site water recycling plant, b) consider on-site storage of wastewater/recycled water during wet weather flows, and c) consider opportunities to re-route wastewater flows from the CCSF's Southeast Water Pollution Control Plant (SEWPCP) to the Oceanside Plant. In response to these requests, the Trust acknowledged these issues in the Draft EIS and has further evaluated these concepts as part of the Presidio Water Recycling Project EA (March 2002).

The Trust apologizes for any confusion, and in response to the CCSF's most recent comments, and the mitigation measure has been revised in the Final EIS to acknowledge that any future consideration of re-routing wastewater flows to the westside of the park would require further consultation and approval by the CCSF.

UT-8. ***SEWPCP and Environmental Justice***

The Alliance for a Clean Waterfront expresses concerns related to the operation of the CCSF's Southeast Water Pollution Control Plant (SEWPCP) and corresponding issues of environmental justice for the nearby Bayview and

Hunters Point neighborhoods. The Alliance states that the Presidio should not be increasing the burden on the community and should eliminate wastewater discharges to the CCSF's system.

Response UT-8 – The Presidio Trust concurs with the Alliance, and is committed to minimizing wastewater flows to the CCSF's system, and in particular flows to the SEWPCP. A summary of the actions taken to date, and planned future actions, to achieve this goal are provided below.

Before leaving the Presidio, the Army implemented a large-scale infrastructure repair program. Based on these repairs, as well as later repairs made by the Trust (i.e., slip-lining existing pipelines to minimize stormwater infiltration), there has been a substantial reduction in the amount of Presidio wastewater entering the CCSF's combined sewer system. Although it is difficult to make a direct comparison between the annual flow data from before and after these various improvements were made (as occupancy rates have also varied), there is clearly a noticeable reduction. For example, metering data indicates that total 1990 Presidio wastewater flows entering the City's system were about 475 million gallons. In 2000, total annual flows were reduced to approximately 120 million gallons or roughly one-quarter of the 1990 flows.

The Trust is currently proposing an on-site water recycling project that would capture and reuse the majority of the Presidio's wastewater flows that are treated at the SEWPCP. In March 2002, the Trust released for public review and comment the Presidio Water Recycling Project EA evaluating this proposal. Following completion of the NEPA review process, the Trust's goal is to implement the first phase of the proposed water recycling project and have the plant operating by the end of 2003. Once operational, the plant would divert the bulk of the flows away from the SEWPCP and provide for on-site treatment and reuse. In addition, the implementation of stringent water conservation practices, including requirements for water efficient fixtures (toilets, faucets, etc) in all building rehabilitation projects, will also minimize wastewater generation at the park.

In total, the above actions will substantially reduce the Presidio's contribution of wastewater flows to the CCSF's system. Current and projected future (2020) flows would represent less than one half of one percent of the dry and wet weather capacities of both the SEWPCP and Oceanside Plant. Although this contribution is very small, the Trust is committed to implementing the above actions to further reduce these flows to the greatest extent practicable and assist in alleviating any burden placed on the Bayview and Hunters Point neighborhoods.

UT-9. ***Miscellaneous Wastewater Questions***

The CCSF asks several detailed questions related to the Presidio's sewer system, as set forth below.

Response UT-9 – A discussion and response to each question is provided below.

- *Have toxic contaminants been found in the Presidio's sewer system? If yes, are there plans to remove these sediments?* The Presidio Trust operates and maintains two separate sewer systems, one system for storm water and the other for sanitary sewage. As part of regular maintenance activities, sewer lines (both storm and sanitary), manholes, inlets, and other structures are regularly cleaned. Liquids and sediments removed from the sewers are separated in accordance with standard practice, and are disposed in accordance with applicable regulations. Solid wastes are analyzed to determine proper disposal. To date, sediments recovered from Presidio storm sewers have qualified for disposal as non-hazardous, regulated waste at a Class II landfill.

- *Is there evidence of system-wide infiltration of stormwater into the sanitary sewer system and if yes, has it been quantified? Is there a comprehensive plan to rehabilitate the sanitary collection system, and what is the budget for this work?* In response to the CCSF's questions, additional discussion of infiltration was incorporated into Section 3.6.3 of the Final EIS. Responses to the CCSF's specific questions are provided below. Before leaving the Presidio, the Army implemented a major infrastructure repair program that included slip-lining of main and lateral sanitary sewer lines with high density polyethylene (HDPE) pipe, which reduces the potential for infiltration of stormwater into the sanitary system. These activities helped to substantially reduce infiltration as well as separate the storm and sanitary sewers. During 2000 and 2001, the

Presidio Trust conducted surveys of the Presidio sanitary sewer system. Several remaining areas requiring immediate repair were identified during the surveys, and these repairs have already been implemented. The Trust also installed a flow gauge on the sanitary sewer discharge line in order to monitor the flows discharged to the CCSF sewer system. Based on the sewer outflow reports, it appears that there may still be some minor points of infiltration within the system. The Trust plans to address these minor areas as part of comprehensive sewer upgrade plan. The Trust will initially conduct a modeling effort of the current system. The results of this modeling will then be used to inform the development of the sewer upgrade plan, which would be prepared sometime after the NEPA review process is completed and a Final Plan is approved. A budget for these capital improvements is not available, because the plan has not yet been prepared.

- *Is there a maximum wastewater flow limit in the agreement between the CCSF and the Trust?* There is no flow limitation stated in the CCSF/Trust agreement for wastewater services.

UT-10. ***Stormwater Runoff***

The CCSF and the NRDC have several comments related to the Draft EIS analysis of stormwater. In particular, the CCSF questions the use of the .85-inch-per-hour rainfall intensity factor in runoff calculations and indicates that the runoff calculation in Table 53 appears to be underestimated. The CCSF states that it believes runoff from the Presidio would reach the CCSF sewer system in about 15 minutes. The NRDC criticizes nature of the discussion of water quality in the Draft EIS, indicating that it is "superficial."

Response UT-10 – The primary source of available information related to Presidio storm hydrology and system capacity is the 1994 Presidio Storm Water Management Plan (Storm Water Plan) and corresponding model. The Stormwater Plan was used in the preparation of stormwater analysis provided in the Draft EIS. In the Storm Water Plan, the 30-minute and 60-minute storm events were evaluated because they "…correspond to the time of concentration of the individual subbasins as well as the cumulative time of concentration for the watershed basin" (Section 5.1, Storm Water Plan).

The suggested rationale for the 15-minute intensity rate used by the CCSF in the EIS is that this would be the "expected timeline for stormwater to reach the City's system." The Presidio has a separate storm and sanitary sewer system and stormwater runoff from the park is conveyed to San Francisco Bay, the Pacific Ocean, or Crissy Marsh. There are small areas along the southwestern boundary of the park where stormwater is conveyed to the CCSF's system. No increases in the runoff from these areas are anticipated under any of the EIS alternatives, and in fact there would be a reduction in stormwater flows conveyed to the CCSF's system as the Trust proposes to remove Wherry Housing. In addition, while the 1.96-inch per-hour 15-minute intensity rate may be appropriate for use in the design of CCSF infrastructure, the Presidio has notably different physical condition. The intent of the EIS analysis is not to inform design, but rather to provide the reader with a comparison of the relative changes in runoff that may occur under the various alternatives. Therefore the average rainfall intensity of 0.85 inches per hour (representing mean flow as generated from a 60 minute – ten year event) was used to estimate runoff from each alternative, along with the gross runoff coefficient for each planning district. It should be noted that the runoff coefficients from the Storm Water Plan represent 1994 conditions, and as such do not account for various beneficial changes (i.e., removal of impermeable surfaces) that would occur over time, for example with the proposed removal of Wherry Housing and conversion of the Main Post parking lot into a landscaped area.

The hydraulic model prepared as part of the Storm Water Plan incorporates detailed information on topography, soil type, coverage of permeable surfaces, and other site-specific information on a subbasin level for the entire park. The Trust believes that this tool is the appropriate source to use for future system designs. The Presidio Trust will be updating the storm system hydraulic model to reflect as-built conditions stemming from the Crissy Field project and various other storm water improvements. This model will be used in conjunction with the selected PTMP alternative to guide required storm sewer improvements, and implementation of BMPs to allow for greater infiltration and less runoff (detention basins, unlined channels, etc.).

As requested, an expanded discussion of stormwater quality has been incorporated into Sections 3.6.3 and 4.6.3 (Storm Drainage) of the Final EIS.

This discussion addresses the Trust's current efforts to finalize an interim Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is being prepared in coordination with the NPS and will include the sampling design and protocol, threshold requirements for constituents monitored, and a reporting mechanism for program. The SWPPP will also include park-wide BMPs, consistent with the California Stormwater Best Management Practices Handbook, including physical structures such as oil-water separators and infiltration basins, as well as operational practices such as street sweeping that will be implemented to minimize runoff and improve water quality. There are four oil-water separators located on stormwater lines that drain to Crissy Marsh. The Trust also conducts year-round street sweeping and regular maintenance and cleaning of stormwater inlets. The Presidio Golf Course has implemented as site-specific SWPPP which includes a variety of BMPs such as practices to minimize irrigation and runoff, regular cleaning of inlets, cleaning of golf carts, and other practices. The interim Presidio-wide SWPPP is being developed specifically to adhere to the general guidelines for storm water management as established under the National Pollutant Discharge Elimination System (NPDES), and will remain in effect until the Trust obtains an NPDES Phase II permit.