Appendix G

Section 404(b)(1) Guidelines Compliance Evaluation

Evaluation of the Effects of the Discharge of Dredged or Fill Materials into Waters of the United States: Santa Paula Creek Project

I. Introduction

The following evaluation is provided in accordance with Section 404(b)(1) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) as amended by the Clean Water Act of 1977 (Public Law 95-217). The intent of this document is to state and evaluate information regarding the effects of discharge of dredged or fill material into waters of the United States. As a result, this evaluation is not meant to stand alone and relies heavily upon information provided in the Supplemental Environmental Assessment (SEA) for the Santa Paula Creek Project.

Location

The Santa Paula Creek Flood Control Project (Project) is located along the main stem of the Santa Paula Creek in unincorporated Ventura County and the City of Santa Paula, California (Figure 1). The Project area consists of the fish ladder; the reach of creek extending approximately 1.65 miles (2.7 kilometers) from the fish ladder downstream to the confluence of Santa Paula Creek and Santa Clara River; and an approximately 500-foot (152-meter) reach of creek extending upstream from the fish ladder (Figure 2). The channel invert width ranges from approximately 50 to 210 feet (15.2 to 64 meters). The construction staging area is located along the western bank of the creek, north of the confluence (see Figure 2) within the City of Santa Paula. Other staging areas may include existing turnout areas along the access roads.

Project Purpose

The overall project purpose is to provide and maintain flood risk management capabilities and fish passage for federally endangered southern steelhead (*Oncorhynchus mykiss*) within the Santa Paula Creek flood risk management channel (FRMC). Maintaining flood risk management capabilities and fish passage are both considered water dependent activities. Specifically, the project purpose is to (1) ensure the provision of flood protection risk management up to 28,000 cubic feet per second (cfs) to the City of Santa Paula; (2) reinforce the fish ladder weirs to ensure the facility can continue to facilitate migration of steelhead through the Project area and to reduce the frequency of maintenance to the fish ladder weirs; and (3) refine the required operation and maintenance measures.

The proposed project includes: repair of the existing fish ladder weirs; and operation and maintenance (O&M) activities for the overall Santa Paula Creek Flood Control Project (the Project), including finalization of an O&M manual that includes a refinement of the allowable sediment profile and design invert for the existing FRMC.

O&M responsibilities will be transferred to the Local Sponsor, the Ventura County Watershed Protection District (VCWPD), upon Notice of Completion.

Project Alternatives

Three alternatives have been developed to implement the proposed project, including the No Action Alternative.

Alternative A – No Action Alternative

Under the No Action alternative, the fish ladder weirs would not be repaired and the design invert and allowable sediment profile would not be altered there would be no change in the allowable sediment profile and design invert for the FRMC and no repairs to the fish ladder weirs. Maintenance, such as sediment removal and emergency repairs, would continue to occur as needed, and as funding allows. Under this alternative, the Corps would continue to implement the 5-Year Monitoring Plan initiated in 2010. The O&M would be guided by the existing draft O&M Manual. O&M would follow all environmental conditions identified in environmental documents and all applicable current and future permits, including but not limited to the Biological Opinions (BOs) issued by the National Marine Fisheries Service (NMFS), the Streambed Alteration Agreement (SAA) issued by the California Department of Fish and Game (CDFG), and Water Quality Certification (WQC) issued by the Los Angeles Regional Water Quality Control Board (RWQCB).

Alternative B – Finalization and Implementation of the O&M Manual

Alternative B consists of finalization and implementation of the Operation, Maintenance, Repair, Replacement and Rehabilitation Manual (O&M Manual). The O&M Manual would establish a new sediment profile and design invert as a non-structural means to address scour occurring within the FRMC. The O&M Manual and new sediment profile and design invert are discussed in greater detail under Alternative C below.

Alternative C: Implementation of the Finalized O&M Manual and Fish Ladder Repair (Preferred Alternative)

The Preferred Alternative includes finalization and implementation of the O&M Manual, which identifies a new allowable sediment profile for the FRMC and new design invert in the upstream reach between station 20+38 near the railroad bridge and the downstream end of the fish ladder. The allowable sediment profile represents the maximum volume (and height) of sediment that can accumulate above the design invert to meet the flood risk management parameters for the FRMC. The design invert profile defines the elevation of the channel invert throughout the Project after sediment removal is complete.

The revised allowable sediment accumulation profile was established above the new design invert in the upstream reach and above the as-built channel bottom in the downstream reach. When sediment deposition reaches the allowable sediment

accumulation point anywhere in the channel, cleanout of the entire channel to the new design invert would be required.

The new upstream design invert raises the bottom elevation higher than the as-built channel bottom to increase protection against scour at the toe of the grouted stone channel side slopes. Except for isolated locations, the scour depth is typically at the toe of grouted stone, or 5 feet (1.5 meters) below the constructed channel invert. The new design invert is set at a critical threshold so that the elevation is high enough to protect the toe of revetment from long-term scour but at a level that would not reduce channel capacity. The new design invert allows for better sediment transport and provides additional scour protection. Sediment removal would continue to be required to maintain the design channel capacity consistent with the new sediment profile and design invert. The frequency needed for channel maintenance and sediment removal is not expected to increase from current conditions. Sediment removal from the FRMC is still expected to be necessary on the order of three years, on average.

HEC-6T software was used to model sediment transport of Santa Paula Creek to produce the new design invert and the proposed allowable sediment profile. Table 1 presents the proposed allowable depth of sediment above the constructed channel invert and above the new design invert throughout the Project reach. These depths represent the proposed amount of sediment allowed to accumulate on top of either the as-built invert or the new design invert.

Table 1
Allowable Sediment Accumulation Profile

Station (meters [m])	Allowable Sediment Depth above Constructed Channel Invert (m)	Allowable Sediment Depth above New Design Channel Invert (m)	Station (m)	Allowable Sediment Depth above Constructed Channel Invert (feet [ft])	Allowable Sediment Depth above New Design Channel Invert (ft)
10+00	2.3	2.3	10+00	7.5	7.5
11+37	1.8	1.8	11+37	6	6
12+25	1.8	1.8	12+25	5.9	5.9
13+25	1.6	1.6	13+25	5.2	5.2
14+25	1.5	1.5	14+25	4.9	4.9
15+25	1.5	1.5	15+25	4.9	4.9
16+25	1.4	1.4	16+25	4.6	4.6
17+25	1.3	1.3	17+25	4.4	4.4
18+25	1.3	1.3	18+25	4.2	4.2
18+53	1.2	1.2	18+53	4.1	4.1
18+82	1.3	1.3	18+82	4.2	4.2
20+38	1.2	1.2	20+38	4	4.0
21+89	1.7	1.2	21+89	5.7	4.0
23+75	2.0	1.2	23+75	6.6	4.0
24+51	2.3	1.2	24+51	7.4	4.0
25+85	2.9	1.2	25+85	9.4	4.0
27+45	3.5	1.2	27+45	11.4	4.0
27+68	3.6	1.2	27+68	11.7	4.0
30+39	4.4	1.2	30+39	14.5	4.0
31+92	4.2	1.2	31+92	13.9	4.0
33+96	3.7	1.2	33+96	12.1	4.0
34+38	3.2	1.2	34+38	10.5	4.0
35+15	2.1	1.6	35+15	6.8	5.4
35+92	0	0	35+92	0	0
Note: Variations in conversions from meters to feet can be attributed to rounding.					

The Preferred Alternative also addresses minor repairs to the weirs of the fish ladder that sustained some damage in the storms during the winter of 2004 – 2005. The proposed repairs to the fish ladder consist of saw-cutting portions of the weirs, creating a rounded edge on the weir tops, and encapsulating the weir tops with steel plating to improve durability against debris and bedload impact. The weir crest caps will consist of fabricated steel and would be composed of an adjoining front plate and a more rounded,

continuous crest plate leaving no concrete exposed along the crest. The steel plate and capping would be fabricated off-site before being transported to the site and affixed to the reshaped weir crests with embedded dowels and epoxy.

The more rounded crest and the thicker continuous plate of steel over the weir crests are anticipated to increase fish ladder durability. The continuous crest is designed to provide added protection to the weir tops and minimize the potential for separation between the concrete and steel where water and sediment particles can erode away pockets of concrete or where debris and rocks can catch on exposed steel edges. Thicker, continuous cladding and rounding the top edges of the weir crests is also anticipated to minimize the forces of impact from large bedload and may better allow the bedload material to roll over the crests during extreme flow and sediment transport events and eliminate the possibility of the cap protection being ripped off of the weir top and ending up as a hazard to fish navigating the fish ladder. Annual cleanout of the fish ladder, as required by the O&M Manual, is necessary to optimize its capacity to provide fish ladder throughout each migratory season.

II. Project Description

General Description of the Project Area

Santa Paula Creek forms one of the major tributaries to the Santa Clara River and drains a watershed of approximately 65 square miles, originating in the Topa Topa Mountains in Ventura County. Stream flow along Santa Paula Creek is generally perennial, especially in the upper reaches of the basin. High-intensity rainfall, in combination with the effects of impervious soil types, sparse vegetation, cyclical wildfire events, and steep channel gradients, results in rapidly increasing stream flow and intense, debris-laden floods.

Riparian and aquatic vegetation within the Project area is regularly cleared out from high flows, becoming re-established during low flows. Emergent wetland vegetation is limited to few clumps of cattail found intermittently throughout the Project area, with immature riparian vegetation dominated by willows and mulefat along the channel banks. Aquatic habitat within the Project area is generally composed of bed substrate characterized by cobble and thick, soft mud; periods of high turbidity; high water temperatures and little vegetation. The two main aquatic habitat types within the channel are riffles and runs, with pools being much scarcer.

Recreational Opportunity

The FRMC is not open to the public and no recreational facilities exist in the Project area.

Construction

Construction activities associated with the Preferred Alternative are limited to the repair of the fish ladder. This would entail off-site fabrication of the steel plate and weir capping, diversion of flow away from the work area, saw-cutting and preparation of the existing weirs, drilling and anchoring new steel dowels with epoxy to reinforce new concrete and grout, affixing the steel plate and weir capping to the reshaped weir crests

with embedded dowels and epoxy, and injecting high strength concrete or grout to fill the space under each weir crest cap. Clearing of sediment and vegetation from the fish ladder would be done in advance of the weir work.

It is estimated that the number of workers on-site would not exceed eight. Construction equipment would include pipes, pumps and sandbags for flow diversion, one front end loader, one hydraulic excavator, off-road haul trucks and pickup trucks, saws, rotary hammer drill, generator, and an air compressor.

In order to accomplish the fish ladder repair, removal of sediment and temporary diversion of water from the fish ladder will likely be required. A temporary water diversion plan will be developed and followed throughout the construction period. VCWPD has an existing Water Diversion Guide from their December 2007 Maintenance Program Environmental Impact Report (EIR) that gives details on water diversion operation methods and this proposed action will follow those specific requirements. In essence, water would be temporarily blocked from entering the fish ladder and directed onto the adjacent grouted stone invert and/or through pipes. Remaining pools of water in the fish ladder will be pumped to a suitable discharge location. Upon construction completion flow will be redirected back into the fish ladder per the terms and conditions of the latest permits associated with the Project (i.e., BO, SAA, and WQC). Plans for water diversion would be reviewed by the Corps' environmental staff to ensure that it has been developed per specification identified and all activities related to water diversion would be monitored by a qualified biologist.

Construction Schedule

In-channel work to repair of the fish ladder weirs would occur over a period from two months to three and a half months. In-channel construction work can only take place during the in-channel work window from June 30 to November 1. It is assumed that water diversion would be required throughout the entire construction period. Construction is planned to commence in the summer of 2012 and be completed by November 1, 2012. Off-site fabrication of the weir caps could occur in advance of, or during, the two month to three and a half month period of on-site construction work.

Should the anticipated construction be delayed due to funding, weather, mechanical, and/or other constraints, it would occur during the in-channel work window of 2013, unless otherwise coordinated with the necessary resource agencies.

Staging Area

A staging area for construction is located along on the top of bank near the access ramp to the fish ladder. An additional staging area is located at the downstream end of the FRMC adjacent to the Santa Clara River/Santa Paula Creek confluence (see Figure 2). The approximately four-acre site is located in the City of Santa Paula, within the VCWPD right-of-way on the west bank. The staging area would be used to stage construction equipment, materials, and stockpile excavated material during construction.

Haul Roads & Disposal Sites

The access to the fish ladder is provided by the access road located along the right bank (looking downstream) of Santa Paula Creek. The access road extends north from East Telegraph Road at the west side of the Santa Paula Creek Bridge.

To access the staging area located south of Highway 126 from the Telegraph Road, the construction crew would travel west on Telegraph Road, turn south on 12th Street, pass under Highway 126 and turn east on Santa Clara Street until the road ends.

Waste material would be hauled off-site for re-use or disposal at the Toland Landfill. The Toland Landfill is approximately 5 miles (8 kilometers) east of Santa Paula Creek at the north end of Toland Road. This landfill would require an approximately 10-mile (16-kilometer) round trip (depending if the construction crew is loading from the staging area or from the creek), heading east on Telegraph Road, east on Highway 126 to Toland Road, then north to the landfill.

Operation and Maintenance

O&M is required to maintain the Project's flood risk management capabilities and to maintain the design channel capacity. O&M activities include, but are not limited to, routine monitoring and inspections, routine repair and maintenance of all Project components, emergency repairs and maintenance resulting from storm damage, and routine sediment removal and regrading to maintain flood risk management capabilities and fish passage. After the Project is turned over to the VCWPD, the O&M activities would be accomplished by the VCWPD for the life of the Project, as guided by the O&M Manual.

The O&M Manual is designed to guide the O&M of the Project to keep the flood risk management system and its components, including fish passage capabilities, operable. It identifies specific inspection and monitoring criteria, maintenance needs and requirements, and emergency flood operations required before, during, and after heavy storms. The O&M Manual also presents permit requirements, reporting procedures, and environmental commitments to which maintenance and repairs must adhere.

Prior to turning the Project over to the VCWPD, the O&M Manual would be finalized by the Corps to incorporate the new sediment profile and design invert. The Corps would deliver the final O&M Manual to VCWPD. The Corps retains the right to enforce the terms of the Local Cooperation Agreement of 1973, as amended, to which VCWPD is a party. The Agreement states that VCWPD shall "operate, maintain, repair, replace, and rehabilitate the entire Project or the functional portion of the Project." The VCWPD would be required to follow all environmental commitments identified in all applicable current and future permits, including BO(s), SAA(s), and WQC(s).

Inspections and Maintenance

Under the O&M Manual, the Corps or VCWPD, as applicable, would be required to inspect each component of the Project to determine if any deviations have occurred from the design criteria and whether the deviations are substantial enough to require maintenance. Specific inspection criteria are identified for the following Project components to ensure proper functioning: earth channel invert, grouted stone invert, fish ladder and approach channel, low flow channel, grouted stone invert stabilizers, grouted stone channel side slopes, pilot channel, levees, concrete channel walls, abutments, and piers, side drains, fencing, service roads, and landscaping.

Inspections would occur immediately prior to the beginning of the flood season, immediately following each major high water period, and otherwise at intervals not exceeding 90 days. Features associated with fish passage (i.e., fish ladder, low flow channel, and approach channel) would be inspected periodically, to ensure that fish passage is available, including inspections following storms producing flows of 500 cfs or more, and low flow inspections (mid-April to mid-July). Inspections would be documented per reporting protocols identified in the O&M Manual.

If deviations from the "as-built" condition are noted during inspections, the O&M Manual specifies that the Corps or VCWPD superintendent, as applicable, shall determine whether the deviations are substantial enough to require maintenance, and should maintenance be required, the timing of when this would take place (i.e., serious deviations may required maintenance as soon as practicable while less serious deviations may not need to be addressed immediately.) Maintenance activities would occur outside of the steelhead migratory season, or in coordination with the necessary resource agencies, including NMFS and CDFG. Monitoring and relevant conditions determined during consultation between NMFS and the Corps would determine when and where maintenance would be necessary during the steelhead migratory season.

In-channel maintenance activities such as sediment removal and re-grading may require diversion and control of water to protect construction from flood flows and to protect water quality from construction activities during the low flow period. A temporary water diversion plan would be developed and followed throughout the construction period. Plans for water diversion would be reviewed by the Corps' environmental staff or the VCWPD as applicable to ensure that it has been developed per specifications identified. Conditions identified in permits for the Project, including BO(s), SAA(s), and WQC(s), would be followed, and all activities related to water diversion would be monitored by a qualified biologist to minimize or avoid impacts to steelhead and to minimize impacts to water quality.

Emergency Operations

Emergency flood operations consist of (1) monitoring the Project conditions during heavy storms; (2) mobilization actions required to prevent damage or failure of Project features; and (3) alerting the public of possible flooding. The emergency operation program identified in the O&M Manual presents actions for four phases (pre-stormflow,

initial stormflow, final stormflow, and post-stormflow) when the flow in Santa Paula Creek is expected to equal or exceed 5,000 cfs. The actions include mobilizing appropriate Corps or VCWPD staff, as applicable, to patrol the Project, conducting continuous patrols to monitor and document potential problems, and establishing communications capabilities between the patrol and the superintendent that are routinely checked for proper working order. As part of post-stormflow actions, the Project would be rapidly and completely inspected and any appropriate temporary or permanent repairs initiated.

The timing of emergency maintenance/repair activities would be guided by post-storm monitoring results and would not start until flows had receded to a rate where it is safe for equipment and crews to conduct their necessary tasks (typically less than 500 cfs). VCWPD and/or the Corps would coordinate with resource agencies, including NMFS and CDFG, prior to conducting any such activities, and measures would be implemented to minimize impacts to any steelhead present. Qualified biologists would be required to oversee and monitor emergency maintenance activities to ensure potential effects to steelhead and critical habitat are avoided or minimized to the maximum extent practicable. Flows and environmental conditions permitting, qualified biologists would likely install block netting upstream and downstream of the work area to prevent potential interactions between construction equipment and steelhead or any other fish or aquatic organism that may be present. Should water diversion be required, procedures identified in VCWPD's existing Water Diversion Guide would be followed.

O&M Timing

As discussed previously, regular O&M activities, such as routine maintenance and Project-wide sediment removal, would occur outside of the steelhead migratory season (June 30 to November 1) or in coordination with the necessary resource agencies, including NMFS and CDFG. Emergency maintenance activities would occur as deemed safe and necessary based on stream flows and environmental conditions. Work performed outside of the in-stream work window would be coordinated with resource agencies to minimize potential impacts to steelhead that may be present in the channel.

The length of time required for O&M activities would vary depending on the extent of actions being performed (i.e., routine monitoring and repairs, including annual removal of sediment from fish ladder pools may occur over the course of one week, while major repair or sediment removal activities could occur over multiple months.) Sediment removal throughout the entire FRMC is the reasonably foreseeable most intensive O&M activity that is likely to occur. Project-wide sediment removal would occur every three years on average over a period of approximately four to six months. The sediment removal could involve removal of up to 335,000 cubic yards following a design storm event; however typically this amount would be less depending on the amount of sediment deposition that has occurred between sediment removal actions.

O&M Equipment and Workers

As with duration of O&M activities, the type and amount of construction equipment and workers required would vary depending on the work being performed. For example, monitoring activities may entail one or two workers and on-road vehicle(s), while construction/repairs may require multiple construction vehicle/equipment such as hydraulic excavators, bulldozers, loaders, and haul trucks, and construction workers such as equipment operators, foremen, truck drivers, laborers, grademen, and flagmen.

Environmental Protection Requirements

The O&M Manual requires that O&M activities comply with conditions/measures identified in all Federal, state or local resource agencies permits and agreements (i.e., BOs, SAA, and WQC), and Federal, state, and local regulations pertaining to the environment. Any new terms or conditions deemed necessary by NMFS would also be incorporated into the O&M Manual and followed by VCWPD upon Project turnover.

III. Factual Determinations

Anticipated Physical and Chemical Changes

Soils

Preferred Alternative

Under the Preferred Alternative, construction of the fish ladder weir repairs is estimated to require excavation of approximately 300 cubic yards of material. In addition, maintenance under the Preferred Alternative would include sediment removal activities to maintain the refined sediment accumulation profile, as described above. A conservative estimate of the reasonably foreseeable most intensive sediment removal activity would involve removal of up to 335,000 cubic yards of sediment from the Project when associated with a design storm event. This would take place over a period of four to six months. Sediment removal is estimated to occur once every three years on average and would typically involve removal of less than 335,000 cubic yards. Other maintenance activities could include annual removal of sediment from the fish ladder, as well as regular maintenance and emergency repairs of all FRMC components. All material excavated for the weir repair and sediment removal activities would be re-used or hauled offsite to a landfill approximately 5 miles away, unless otherwise coordinated with pertinent resource agencies.

As these activities would occur during the dry season, from June 30 to November 30 unless otherwise coordinated with concerned resource agencies, it is highly unlikely that a significant storm event would occur during the duration of construction or maintenance and lead to substantial erosion and loss of topsoil in these disturbed areas of exposed soil. Further, construction activities would be required to comply with applicable construction requirements pertaining to stormwater and urban runoff, including implementation of

best management practices (BMPs) to reduce erosion and prevent inadvertent release of contaminants (oil, hydraulic fluid). For sediment removal actions that disturb one or more acres of soil, the construction contractor is required to prepare a Stormwater Pollution Prevention Plan (SWPPP) subject to review by the Corps' Environmental Staff or VCWPD as applicable. The SWPPP will include BMPs and an Erosion Control Plan to control soil erosion and minimize the potential for sediments to enter Santa Paula Creek. Disturbance from excavation activities may result in finer soil particles being mobilized by surface flows more readily; however, these effects would be short-term and largely confined to the project area.

No Action Alternative

Under the No Action Alternative, there would be no construction, but existing maintenance efforts would continue as needed, and as funding allows. Thus, soils would be temporarily disturbed during maintenance activities. As with the Preferred Alternative, these activities would occur during the dry season, from June 30 to November 30, and be required to comply with applicable construction requirements pertaining to stormwater and urban runoff to control soil erosion and minimize the potential for contaminants and sediments to enter Santa Paula Creek. There would be short-term, localized effects from the mobilization of fine soil particles in the stream channel.

Alternative B – Finalization and Implementation of the O&M Manual Alternative

Under the Finalization and Implementation of the O&M Manual Alternative, effects related to disturbance of soil during O&M activities would be the same as those described above for the Preferred Alternative. Although there would be no construction of the fish ladder weir repairs under this alternative, there would be sediment removal activities to maintain the refined sediment accumulation profile occurring every three years on average and annual sediment removal activities at fish ladder. These activities would be conducted in the same manner as those under the Preferred Alternative and the same environmental commitments would be followed. As with the Preferred Alternative, disturbance from excavation activities may result in finer soil particles being mobilized by surface flows more readily; however, these effects would be short-term and largely confined to the project area.

Surface Waters

Preferred Alternative

Surface water quality within Santa Paula Creek is generally good; however, input from adjacent developed lands does contribute nutrients and other pollutants. In addition, Mud Creek, a tributary to Santa Paula Creek, contributes a significant amount of suspended clay and other material.

During implementation of the Preferred Alternative, a temporary water diversion plan would be developed and followed throughout the construction period. Flow diversion would be kept to the minimum necessary and implemented in accordance with the

environment commitments set forth in the latest permits for the Project (i.e. BO[s], SAA[s], and WQC[s]). Additionally, applicable BMPs and other SWPPP erosion control measures would be followed and monitored during construction and O&M activities to control construction related erosion and turbidity. For example, water diversion would be constructed, operated, maintained and removed so as to minimize impacts according to the environmental commitments identified in all applicable current and future permits listed above.

Soil disturbance during flow diversion would likely result in mobilization of fine particulate matter, resulting elevated turbidity within the active channel. These effects would be short term and localized. With the implementation of BMPs and a SWPPP (as applicable), erosion control measures will be followed and monitored during construction to control construction related erosion. Therefore, the potential for sediments to enter the Santa Paula Creek low flow channel through runoff and polluted surface waters would be minimal.

Construction and O&M activities would occur within the Project and would not alter the course of Santa Paula Creek. There would be no change to flow rates, site drainage, or other aspects of the hydrology of the watershed. Conversely, the periodic removal of accumulated sediments is expected to maintain the Project's flood risk management function.

No Action Alternative

Under the No Action Alternative, there would be no construction; however, existing maintenance efforts would continue as needed, and as funding allows. Thus, surface waters may be diverted during maintenance. However, similar to above, this would occur in compliance with the applicable permits. Further, maintenance activities could potentially elevate turbidity within the active channel, however, it would be short term and localized. Thus, through compliance with relevant permit requirements, the potential for sediments to enter the Santa Paula Creek low flow channel through runoff and polluted surface waters would be minimal.

Alternative B – Finalization and Implementation of the O&M Manual Alternative

Under the Finalization and Implementation of the O&M Manual Alternative, effects to surface waters would be the same as under the Preferred Alternative, except there would be no construction to repair the fish ladder weirs. O&M activities would be conducted in the same manner as those under the Preferred Alternative and the same environmental commitments would be followed. As with the Preferred Alternative, disturbance from excavation activities may result in turbidity; however, these effects would be short-term and largely confined to the project area. With the implementation of erosion control measures, the potential for sediments to enter the channel through runoff and polluted surface waters would be minimal.

Anticipated Biological and Cultural Changes

Biological Resources

Preferred Alternative

Under the Preferred Alternative, construction of the fish ladder weir repairs would occur on the fish ladder and the adjacent concrete apron. There would not be any impacts to adjacent habitat.

During O&M activities including sediment removal from areas outside the fish ladder, there would be temporary impacts to areas within the channel where excavation and grading would occur. Areas that have been cleared and graded and/or backfilled are expected to restore themselves as the seed bank replenishes during subsequent storm events. Consequently, the Preferred Alternative would not result in permanent loss of vegetation.

In order to avoid and minimize adverse impacts to aquatic resources, including steelhead, the terms and conditions of the current and future Project permits, including BOs issued by NMFS and SAAs issued by the CDFG, would be implemented during construction and O&M activities. This includes limiting in-channel construction work to be conducted between June 30 and November 1, outside of the steelhead migration period, or as otherwise coordinated with NMFS and CDFG.

Complying with timeframes detailed in the latest Project permits (i.e., BO[s], SAA[s], and WQC[s]) would avoid potential interactions between steelhead and construction equipment during the time when they are known to migrate and are expected to occur within the construction area. To further ensure the stranding and desiccation of steelhead does not occur, a qualified biologist will monitor all construction related activities taking place in the channel.

The biologist will also visually survey the work area for steelhead presence prior to the start of construction or maintenance. As required by the Project permits, the pre-construction survey would include the entire area that may be disturbed by construction or maintenance and would be completed within one week of the start of in-channel work (NMFS 2000). Based on above avoidance measures, the timing of construction and maintenance is not expected to have any significant impact on steelhead.

No Action Alternative

Under the No Action Alternative, there would be no construction at the fish ladder, and no change to existing operation and maintenance activities. Maintenance activities would continue (as funding allows), with periodic sediment removal from the fish ladder, and these activities would comply with existing requirements of the Project permits to minimize impacts to biological resources.

Alternative B – Finalization and Implementation of the O&M Manual Alternative

Under the Finalization and Implementation of the O&M Manual Alternative, effects to biological resources would be the same as under the Preferred Alternative. During O&M activities including sediment removal, there would be temporary impacts to areas within the channel where excavation and grading would occur. As with the Preferred Alternative, there would be no permanent loss of vegetation as vegetation would quickly become re-established through natural processes. O&M activities would be implemented in accordance with environmental commitments set forth in current and future Project permits, including BOs issued by NMFS and SAAs issued by the CDFG, to minimize impacts to biological resources.

Historic Properties

Preferred Alternative

No cultural resources listed on or eligible for the National Register of Historic Places are present within the channel invert of Santa Paula Creek and adjacent staging areas. The Project area has been previously disturbed by prior construction activities, sediment transport, and flooding events to such a degree that any cultural resources would not likely remain intact. Therefore, in accordance with 36 CFR 800.3(a)(1), the Preferred Action does not have the potential to cause effects. A qualified archeologist would periodically monitor construction/grading activities to avoid or minimize impacts to cultural resources.

In the unlikely event that cultural resources are uncovered during construction or maintenance activities, work in that immediate area would be required to stop until the procedures outlined in 36 CFR 800.13 are fully implemented. In the case of cultural resources being found during construction, coordination with the California State Historic Preservation Officer would be undertaken.

No Action Alternative

As with the Preferred Action, there would be no effects to historic properties under the No Action Alternative maintenance activities. In the unlikely event that cultural resources are encountered, work would stop until the procedures outlined in 36 CFR 800.13 are fully implemented.

Alternative B – Finalization and Implementation of the O&M Manual Alternative

Under the Finalization and Implementation of the O&M Manual Alternative, there would be no effects to historic properties during O&M activities. As with the Preferred Alternative, in the unlikely event that cultural resources are encountered, work would stop until the procedures outlined in 36 CFR 800.13 are fully implemented.

IV. Finding of Compliance

No significant adaptations of the 404(b)(1) guidelines were made relative to this evaluation.

A review of the proposed project indicates that:

1. As evaluated in the SEA, the discharge represents the least environmentally damaging practicable alternative, and if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem.

   ___X___ Yes _____ No

   Discussion: The Preferred Alternative is the least environmentally damaging practicable alternative to achieve the overall project purpose. Due to the site-specific nature of the action, there are no alternative locations or methods to avoid impacts to waters of the U.S. The No Action Alternative would not meet achieve the project purpose of ensuring flood risk management, improving durability of fish ladder weirs, and providing for ongoing and future operation and maintenance activities.

2. The activity does not appear to 1) violate applicable state water quality standards or effluent standards prohibited under the Clean Water Act (CWA), or 2) jeopardize the existence of federally listed endangered or threatened species or designated marine sanctuary.

   ___X___ Yes _____ No

   Discussion: The project would not introduce any contaminants, and standard BMPs would be employed to avoid adverse impact to water quality from the inadvertent release of contaminants (oil, hydraulic fluid) or by creating excess turbidity. The Corps will coordinate with the RWQCB on obtaining 401 Certification. No construction affecting waters of the U.S. will commence until the 401 Certification has been issued. Coordination with NMFS is currently ongoing relative to the Proposed Action. Measures determined by coordination between the Corps and NMFS through this coordination, would be followed during implementation of construction and O&M activities within the channel. No other federally listed threatened or endangered species are known to be present.

3. The activity will not cause or contribute to significant degradation of waters of the U.S., including adverse effects on human health; life stages of organisms dependent on the aquatic ecosystem; ecosystem diversity; productivity and stability; and recreational, aesthetic, and economic values.

   ___X___ Yes _____ No

   Discussion: The project would only result in temporary impacts to waters of the U.S. No permanent adverse impacts or loss of aquatic functions are anticipated.

Localized, short-term adverse effects to the aquatic ecosystem would result; however, areas that have been cleared and graded and/or backfilled are expected to restore themselves as the seed bank replenishes during subsequent storm events. Thus, the Preferred Action would not contribute to significant degradation of the aquatic ecosystem.

4. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

   __X__ Yes _____ No

   Discussion: Construction and maintenance activities associated with the Preferred Alternative would fully conform to the terms and conditions of applicable agency approvals including the BOs issued by NMFS, SAAs issued by CDFG and 401 Water Quality Certification issued by the Los Angeles RWQCB.

Note: A negative response indicates that the proposed project does not comply with the guidelines.

V. References

National Marine Fisheries Service (NMFS). 2000. Final Biological Opinion for the U.S. Army Corps of Engineers' Santa Paula Creek Flood Control Project. September 27, 2010.

NMFS. 2009. Final Amended Biological Opinion for the U.S. Army Corps of Engineers' Santa Paula Creek Flood Control Project. September 1, 2009.

United States Army Corps of Engineers (Corps). 1995. Santa Paula Creek Flood Control Project, Ventura County, California, General Reevaluation Report. Final Main Report and Environmental Impact Statement/ Environmental Impact Report. US Army Corps of Engineers, Los Angeles District. June.