



## Memorandum

<b>Date:</b>	May 30, 2014
<b>To:</b>	Nancy Sansonetti, San Bernardino County Flood Control District
<b>Cc:</b>	Bob Tincher, San Bernardino Valley Municipal Water District
<b>From:</b>	Scott Fleury, Mike Romich, Erika Eidson; ICF International
<b>Subject:</b>	<b>Upper SAR HCP Covered Activities Additional Data Request</b>

During Phase 2 of the HCP preparation, ICF staff are working with each water resource agency to finalize the covered activities. All water resource agencies have provided detailed information about their covered activities, but additional information is still needed. This memo will guide you and your agency to identify and provide additional information and data required for the HCP preparation.

The analysis of the potential impacts of covered activities on the covered species requires descriptive information and data for each covered activity at a level of detail that accomplishes the following:

- Describes in text the type of activity (project or action) so that a reader of the HCP can understand generally what will occur when the covered activity is implemented.
- GIS data showing the footprint of the area affected by the covered activity (project construction footprint or area where operations and maintenance (O&M) will occur). GIS data should be as accurate as possible given what is currently known about the future covered activity.
- What is the timing (season and duration) and frequency of the activity. For new project construction, when is the project construction expected to start, and what portion of the project footprint is a temporary construction impact. For O&M activity, how often does the activity occur, in what time(s) of year, and what is the duration of the activity.
- For covered activities that may affect hydrology, will need to describe how the covered activities will alter the magnitude, frequency, and duration of flow volume (cfs) throughout the year. All available hydrology data describing measured or modeled seasonal daily flows (and peak flows if available), and all information about the operation of the covered activities that can be used to assess how the activities would change daily flows would be

helpful. For example, for recharge and flood control basins, any analyses that have been performed to determine their capacity, infiltration losses, and other factors will assist in determining how much water can be diverted. If data are available about the baseline hydrology at the location of the covered activity, please provide that or the source as well.

- For proposed recycling of water at wastewater treatment plants that would alter effluent releases back to the system, would need a schedule of current daily flow releases and how proposed water recycling will change it.

The section below includes a data needs table indicating which types of data are still missing for each covered activity, a figure depicting the GIS data for the covered activity, and the current text description we have for each of your covered activities. Please review the information below. We will be contacting you soon to review this memo, answer any questions, and schedule a time to meet with you (conference call with online desktop sharing) to assist you in filling the missing data and information.

## Covered Activities for San Bernardino County Flood Control District

### Rialto Channel – Phase III (ID: 11.01)

Rialto Channel – Phase III (ID: 11.01)	
Information Required	Complete
Complete detailed project description	
Detailed GIS information	
Construction/O&M timing (frequency, duration, and seasonal timing)	
Hydrology changes (frequency, duration, and seasonal timing)	

[need GIS]

## **New Facilities**

The Rialto Channel – Phase III project would increase channel capacity and reduce impediments to flow between I-10 and Riverside Avenue on the Rialto Channel. The majority of the project would occur between the south side of the I-10 right-of-way and the downstream side (eastern edge) of Riverside Avenue, within the railroad parcel. This portion of the project site currently includes an existing earthen bottom channel with rock rip-rap sides and a single box culvert under Riverside Avenue. The proposed project would install concrete lining in the channel and add a second box culvert under Riverside Avenue to increase the channel capacity. In addition to expanding the channel capacity under Riverside Avenue, the project also calls for removal of an existing bulkhead at the upstream end of the project site, at the northern opening of the culvert under I-10.

Paved access roads are proposed adjacent to the channel to allow access by maintenance personnel. Channel wall and right-of-way fencing is proposed to be installed for this project.

## **Maintenance**

Maintenance actions include inspection, repairs, and cleaning, as well as sediment removal during low flows, concrete repairs, and trash removal. Maintenance activities are further described in *Routine Operations and Maintenance Activities, below*.

## **Operations**

[Does the removal of restrictor, elimination of a natural bottomed portion of the channel, and the widening of the culvert below Riverside Avenue result in any changes to hydrology or water quality, such as greater flow rates/depths in the downstream channel?]

## Routine Operations and Maintenance Activities

Maintenance activities are actions that occur repeatedly in one location and/or in many locations over a wide area (e.g., bank stabilization, storm-damage repair, maintenance of facilities). Maintenance activities are generally performed periodically and include actions such as minor construction, earth-moving, or vegetation clearing activities that can affect listed species. Below is a list of typical water agency maintenance activities.

### Pipelines and Associated Facilities

Areas that may be affected by pipeline maintenance activities include those around water conveyance systems such as pipelines, pump stations, blow-offs, turnouts, and vaults. The following activities may be conducted as part of routine pipeline maintenance.

Leak repair. May require blow-off—dewatering of pipes that typically includes a point source of high velocity flow—to local uplands or streams and/or excavation to access pipelines.

Internal inspection. May require blow-off to local uplands or streams.

Unscheduled releases of water due to a pressure surge in a pipeline that could damage the pipeline. Under such conditions, an automatic turnout valve will open and release the water to prevent the pipe from bursting. Flows from the pipeline may be reduced following such an event. This is a relatively self-contained process, with the valves opening for less than 1 minute and shutting as soon as system pressure drops.

Rehabilitation and/or replacement of pipeline components including, but not limited to, air release valves, piping sections or connections, joints, and appurtenances. Activities may include excavation to access pipelines.

Bank stabilization and erosion control within a creek related to pipeline maintenance. Discharges either come out of pipes within a stream bank and flow down the bank into the channel, or are pumped down or across a stream bank. Bank protection work would occur prior to a planned discharge in areas where banks within 50 feet of the discharge point show signs of erosion or instability. May require excavation.

Replacement/repair of buried service valves (including valves within creek embankments that may require excavation and minor bank stabilization activities).

Maintenance of pipeline turnouts, including access to pipelines.

Replacement/repair of appurtenances, fittings, manholes, and meters.

Vault maintenance. Vaults occur along segments of pipeline. Pipeline components are located within vaults. There are different types of vaults and all are considered confined spaces. Structures other than the pipeline contained within vaults include valves, electrical stations, turnout piping, etc. Telemetry pull boxes, corrosion monitoring stations, and some air release valves are not located within vaults. Vaults are typically made of concrete and may be located immediately below grade (below ground level) or partially or fully above grade.

Telemetry cable/system inspections and repairs. Telemetry systems allow communication of data from the pipeline to the pipeline operator so that the operator can track the operations of the pipeline. Telemetry cables are often sited in the center of roads. May require excavation to access system components.

Meter inspections and repairs. Flow meters measure the rate of flow through a pipeline. Some meters are located in vaults while others are not.

Maintenance of pump stations, operation yards, utility yards, and corporation yards.

## **Site Inspections and Repairs**

Most routine maintenance activities described in this section are initiated based on regular site inspections of facilities. Site inspections are made both by vehicular access and on foot. Access, particularly in areas that are frequently maintained, is provided by paved and dirt maintenance roads. Small-scale repairs (e.g., fences and gate repairs, graffiti removal, trash and small debris removal) may be made as part of regular site inspections, while other maintenance needs are documented and included in annual maintenance planning efforts (e.g., a site that is experiencing erosion may be noted for a future bank stabilization work).

## **Stockpiling**

Maintenance of stockpile locations includes placement of material (i.e., debris and sediment from HCP Team facilities) at specific locations for use in repairs and temporary storage. Stockpiles are often treated to avoid the spread of invasive plants.

## **Mechanized Land Clearing/Excavation**

Mechanized land clearing includes channel centerflow (the establishment and maintenance of a smaller center channel within a channel) to convey low volume flows within the center of an earthen channel to keep flows away from the slopes, and for guiding first-storm flows. A centerflow channel is established by clearing sediment and vegetation within the center of the channel. The centerflow channel generally represents a width of up to 20–50% of the channel, and a depth of approximately 2–3 feet.

Mechanized land clearing also includes grading the basin bottoms to properly convey flows downstream and debris removal for flood control, water quality control, and groundwater recharge. Debris removal includes removal of sediment, dead vegetation such as fallen boughs and leaves, and illegally dumped trash. Material is removed to maintain conveyance capacity of each facility as necessary. Sand and gravel operations may occur. Basin bottom silt and clays are removed and soil is typically broken up and kept free of vegetation to enhance groundwater recharge.

Mechanical vegetation clearing includes the removal of vegetation with equipment such as dozers and graders to allow conveyance of storm flows downstream, to remove large areas of growth from regulated facilities that are certified/inspected by the U.S. Federal Emergency Management Agency (FEMA), ACOE, and California Department of Water Resources Division of Safety of Dams (DSOD).

Mechanical vegetation clearing may also be required for fuel modification purposes per state and local fire codes.

Removed sediment, vegetation, and other debris is stockpiled on- or off site prior to final disposal. Clean sediment may be used in bank repairs or as daily cover at local landfills.

## **Access Roads**

Maintenance of access roads includes road grading, surface repair of potholes and wash-outs, and fencing and gate repairs. Activities may also include excavations of various sizes that may be needed to fill pot holes, conduct drainage and erosion control, conduct shoulder and slope repair, or re-gravel existing access roads. Access road excavations could be very small (e.g., to repair a pot hole or shoulder slump) or involve larger, linear excavations (e.g., to install or replace culverts or drainage ditches, repair slope failures for elevated access road fills).

## **Bank Repair**

Bank repairs include filling and compaction of slumped or eroded stream and levee banks. This may also include the removal of excess sediment that has slumped into the channel bed (invert) or basin. Sometimes, additional and incidental rip-rap rock or gabion placement may be required for banks that experience frequent erosion resulting in high frequency of maintenance. Rip-rap repair includes repositioning, replacement, or placement of incidental rip-rap to stabilize the slopes. It also includes the repair of grouted and ungrouted sections of rock. Bank repair can also include the repair or replacement of steel revetment with more revetment or rip-rap rock.

## **Basins**

Basin maintenance includes the clearing of encroaching vegetation and removal of sediment. Removed sediment is typically used for dike, canal, and access road maintenance or is exported off site.

## **Concrete Structure Repair**

Existing concrete structure repair or replacement includes, but is not limited to, maintenance and repair of concrete walls, and appurtenant structures such as inlets, outlets, spillways, down-drains and/or under-drains, bottom controls, and channel invert improvements.

## **Culverts, Canals, Diversion Structures**

This activity includes clearing encroaching vegetation and debris or sediment, filling ruts and potholes, grading, resurfacing (with gravel or compacted soil), and repairing washouts or erosion. Washout and erosion repair is typically accomplished by filling in the eroded area with native material and sometimes grouted rock. It also includes periodic vegetation control.

## Dikes

This activity entails occasional excavation and compaction of the dike material at the source of leaks, similar work to replace broken overflow culverts, and repair of washouts. Such repairs occur infrequently.

## Fuel Modification

Fuel modification can be in the form of manual, mechanical, or chemical vegetation control for the purposes of wildfire management.

## Herbicide and Rodenticide Use

Herbicide application, sometimes referred to as chemical vegetation clearing, is accomplished by trained applicators to manage vegetation. Herbicides are used for fuel modification purposes, to allow for proper conveyance of flows, and to prevent the spread of invasive species and aquatic weeds, such as algae and grasses considered detrimental to public recreational facilities. Aquatic herbicides applied include glyphosate, copper, triclopyr, and diquat. Equipment used includes sprayers pulled by a service truck, or backpack sprayers.

Rodenticide is applied by a licensed applicator to control burrowing rodents from destabilizing banks and levees. California ground squirrels (*Spermophilus beecheyi*) are generally the targeted species.

## Vegetation Removal

Mechanical and manual vegetation management activities—including mowing, disking, and manual pruning—remove vegetation within facilities that prevent the proper conveyance of storm flows downstream. Equipment used includes, but is not limited to, tractor mowers, tractor and disc trailer, and boom mowers. Manual removal includes using power trimmers, weed eaters, and tools such as pruning loppers, saws, and clippers to trim and thin vegetation so it does not clog downstream facilities or reduce water quality.

## Vector Control

Vector control primarily involves mosquito control to reduce the spread of disease, including West Nile Virus. Vector control is conducted by the County Environmental Health Department – Mosquito/Vector Control office and includes biopesticides and the introduction of mosquito-larvae eating fish.