



THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: April 11, 2016

TO: Helene Deisher, Development Project Manager II, Development Services Department

FROM: Stephanie Bracci, Senior Planner, Transportation & Storm Water Department

SUBJECT: Auburn Creek Map 70 Emergency Maintenance Substantial Conformance Review Submittal

REFERENCE: Emergency Permit PTS #464510 Permit # 1625569; Job Order # 21003732

This memorandum is being submitted as a supplement to the After-the-Fact Substantial Conformance Review (SCR) of the City of San Diego (City) Master Storm Water System Maintenance Program (MMP) Program Environmental Impact Report (PTS# 42891/SCH 2004101032) and the associated Amended Site Development Permit 1134892. The project involves emergency repair and protection activities at the Auburn Creek Channel MMP Map 70 segment within the City. This channel (MMP Map 70; Figure 3) was maintained under emergency permit authorization and is also an identified channel under the City MMP. Therefore, mitigation measures and other requirements of the MMP were followed however, certain requirements in the MMP could not be directly adhered to in order to conduct the work as quickly as possible and reduce the existing threat from flooding to adjacent properties.

This channel segment stretches from just behind 4425 Home Avenue approximately 280 feet southwest to a culvert inlet under Fairmount Avenue with an average bottom width of approximately 12-25 feet. This emergency channel section has concrete-lined banks and an earthen bottom. Two large diameter rounded culverts empty into the channel from the east and the channel conveys flows between several commercial properties up to a box culvert underneath Fairmount Avenue. Assessments by City staff conducted on November 11, 2015 determined that sediment, cobble, and vegetation had densely and unevenly accumulated upstream and was reducing channel capacity (MMP Map 70; Figure 3). Further, adjacent property owners indicated to City staff that the adjacent properties had flooded during recent rain events. The City determined the residential properties adjacent to the channel were under imminent threat of severe damage from storm flows, given the channel's condition. The channel conditions prior to emergency maintenance combined with the prediction of an ongoing El Nino weather pattern and heavy winter storms constituted an emergency

situation requiring immediate action to prevent further flood damage to surrounding areas. Due to the emergency nature of the project, individual technical studies could not be conducted for the project including an Individual Maintenance Plan (IMP), Individual Hydrologic and Hydraulic Assessment (IHHA), Individual Water Quality Assessment (IWQA), Individual Historic Assessment (IHA), or Individual Noise Assessment (INA); however, a site-specific analysis for each is given below.

Individual Maintenance Plan

In lieu of an IMP, please find the following description of the maintenance that was performed along with associated Best Management Practices (BMPs). The project was designed by City crews and the project biologist to conform to the MMP, while allowing the work to be conducted in an expeditious manner to address the immediate emergency. The project included maintenance activities and associated Best Management Practices (BMPs) to avoid and/or minimize biological, water quality and other resource impacts.

Emergency maintenance of the channel included the removal of accumulated sediment and native vegetation from within the channel. A section of exotic vegetation (i.e. Arundo) was also removed from the bank of the channel above the Ordinary High Water Mark (OHWM). Prior to maintenance, City engineers estimated the pre-maintenance capacity of the channel was at a 5-year storm capacity. As a result of moderate to heavy flows during this rainy season, the reduced channel capacity had caused flows to back up and reportedly flood the adjacent properties (including 4425 Home Avenue on 11/4/2015). During the City's assessment, the property owner at 2281 Fairmount Avenue indicated to City staff that flooding had occurred from the channel during recent rain events and that it was the most severe observed in 29 years. These conditions caused an imminent flooding threat to properties adjacent to the channel by causing a severe reduction in flow rates.

Land covers and vegetation impacted included 0.04 acre of natural flood channel (temporary), 0.01 acre of riparian scrub (disturbed mulefat scrub), and 0.05 acre of riparian scrub (southern willow scrub). Total impacts from the project to ACOE/CDFW/RWQCB jurisdictional areas were 0.10 acre (279 linear feet) of non-wetland and wetland waters of the U.S. (MMP Map 70; Figure 3). An additional 0.01 acre of disturbed wetland (Arundo dominated), located above the OHWM and under CDFW-jurisdiction only, was also removed. As a result of emergency maintenance activities, the channel was restored to its as-built capacity.

The Track Steer/Bobcat and Gradall/Excavator were the primary tools used to remove material from the channel during maintenance. The Track Steer/Bobcat was lowered into the channel and pushed material upstream to the Gradall/Excavator, which was staged outside the channel at 4425 Home Avenue. The Gradall/Excavator scooped material out of the channel and loaded it directly into dump trucks. Once the material was loaded into dump trucks, it was taken directly to Miramar Landfill for disposal. No sandbag berms or pumping

equipment were used during maintenance as the channel remained dry during all work. Following debris and vegetation removal, the cobble-bottomed (earthen) natural flood channel was restored to the pre-maintenance conditions, which resulted in impacts to this land cover being considered temporary. All work was monitored by a qualified biologist and equipment was removed from the site at the end of the project.

Adjacent access/staging areas were located in existing developed areas. Adequate BMPs were placed in those areas to prevent sedimentation and erosion from occurring (see pollution prevention measures listed below).

No sandbag berms or pumping equipment were used during maintenance as the channel remained dry during all work. All work was monitored by a qualified biologist and all equipment and materials were removed following completion of work.

Hydrologic and Hydraulic Assessment

No quantitative hydrologic or hydraulic studies (e.g., modeling) were completed for this channel. Instead, evidence of flooding as reported by adjacent private properties and observed by City crews was investigated and determined to be the result of unevenly accumulated sediment and vegetation in the channel. As a result of moderate to heavy flows during the current El Nino rainy season, the reduced channel capacity had caused flows to back up and flood the adjacent properties (including 4425 Home Avenue on November 4, 2015). During the City's assessment, the property owner at 2281 Fairmount Avenue indicated to City staff that flooding from the channel had occurred during recent rain events and that the recent flooding events had exceeded any event he had observed over the past 29 years. These conditions caused an imminent threat of severe flood damage to properties adjacent to the channel, due to the severe reduction in flow rates from unevenly accumulated vegetation and sediment. This information, in lieu of an IHHA, was presented to the U.S. Army Corps of Engineers (ACOE) and Regional Water Quality Control Board (RWQCB) in the application for use of Regional General Permit (RGP) 63 to conduct emergency channel maintenance. The ACOE, with RWQCB concurrence, granted authorization under RGP 63.

City engineers estimated that prior to maintenance, the channel capacity was approximately equivalent to the 5-year event. The as-built channel conveyance capacity is the 100-year storm event. Therefore, it was determined that removal of all existing vegetation and the unevenly accumulated sediment in the channel was required to restore the minimum channel capacity necessary to protect the adjacent properties from the threat of severe damage from flooding.

Water Quality Assessment

Due to the emergency nature of the maintenance activities, a comprehensive water quality assessment was not conducted prior to work. The MMP provides a quantitative framework for assessing maintenance-related water quality impacts by evaluating the potential

pollutant removal capacity of a channel (in the pre-maintenance condition) with the potential benefits or impacts resulting from channel maintenance (i.e., removal of sediment and vegetation). This quantitative framework however was subject to legal challenge, and while it provides information regarding water quality impacts/benefits of maintenance, it can no longer be utilized as the basis to evaluate maintenance impacts. Since a full pre-maintenance water quality assessment could not be performed, and since the prior quantitative MMP framework can no longer be relied upon, a qualitative assessment of potential water quality impacts resulting from emergency maintenance activities in the Auburn Channel is presented here based on an evaluation of pre- and post-maintenance vegetation surveys, and BMPs implemented during maintenance.

The Auburn Channel is tributary to Chollas Creek and is part of the Pueblo Watershed within the San Diego Bay Watershed Management Area. A lawsuit was filed regarding the MMP (San Diegans for Open Government et al v. City of San Diego, San Diego Superior Court Case No. 37-2011-00101571), and the City entered into a settlement agreement (Settlement Agreement), which requires the City to implement one of four water quality improvement options for each channel maintained. Water quality mitigation for emergency maintenance-related impacts may be achieved through a combination of mitigation for wetland impacts and implementation of watershed-based water quality improvement strategies identified in the Settlement Agreement.

Evaluation of the existing wetlands and water quality functions they provide (prior to maintenance) in the emergency maintenance area was made on November 11, 2015 by Dudek biologist Scott Gressard. There were 0.01 acre of riparian scrub (disturbed mulefat scrub), 0.05 acre of riparian scrub (southern willow scrub), 0.01 acre of disturbed wetland (*Arundo*-dominated), and 0.04 acre of natural flood channel (temporary) impacted as part of emergency maintenance activities.

The capacity of the Auburn Channel to uptake pollutants in the pre-maintenance condition is unknown. Generally, earthen-bottom and concrete-lined facilities may be expected to have some potential pollutant removal capability due to the presence of vegetation and some natural substrate. The potential of riparian scrub (disturbed mulefat and southern willow scrub) and disturbed wetland (*Arundo*-dominated) vegetation, which comprised the majority of vegetation found in the channel, to uptake pollutants is expected to be limited, as compared to that of freshwater marsh or other wetlands vegetation. The capacity of the plant and sediment community to adsorb and retain pollutants is also a function of retention time. Pollutant uptake occurs when flows and velocities are low enough to allow for sufficient retention time. As velocities increase during storm events, retention times decrease, and the capacity of the system to adsorb and retain pollutants may be significantly reduced. Auburn Channel is subject to ephemeral flows during storm events which generally have relatively low retention times. Vegetation can also act as a pollutant source when plants die off or are dislodged during high flow conditions and transported downstream along with the retained pollutants.

The MMP's Programmatic Environmental Impact Report (PEIR) identifies wetland mitigation implementation that is designed to offset not only biological impacts but also potential water quality and other impacts associated with wetland habitat values, functions and services. Mitigation for wetland impacts will be implemented in the form of wetland creation/establishment and wetland enhancement within the same watershed as the impacts but, in some cases, offsite. The mitigation ratios applied to the MMP include accounting for habitat, water quality, and other impacts. In general, these processes work to improve water quality by cycling of nutrients; removal of elements or compounds; retention of particulates; export of organic carbon; and/or maintenance of plant and animal communities (USACOE South Pacific Division, Standard Operations Procedure for Determination of Mitigation Ratios, 2012).

The City regulates wetland impacts and requires compensatory mitigation pursuant to the mitigation ratios specified in Site Development Permit (SDP) 1134892 for the MMP. The SDP incorporates mitigation language from the Coastal Development Permit (CDP) 714392. For the Auburn Channel, mitigation is required at a ratio of 1:1 for temporary impacts, 2:1 for natural flood channel, 3:1 for impacts to riparian habitat, and 4:1 for impacts to freshwater marsh and disturbed wetland (removal of *Arundo* and other exotic, invasive and nonnative vegetation is not considered an impact to wetlands requiring mitigation). Therefore, the City will mitigate for the permanent loss of riparian scrub (southern willow scrub and disturbed mulefat scrub) at a 3:1 ratio (i.e., a mitigation requirement of 0.18 ac). The impacts to natural flood channel were temporary, since the cobble-bottom channel was restored to pre-maintenance conditions at the end of maintenance. This onsite restoration of natural flood channel resulted in no-net-loss of functions and values and is considered adequate 1:1 mitigation, in accordance with SDP requirements.

In addition to the construction-related BMPs mentioned in the maintenance description section above, the following BMPs were implemented during and following work in order to minimize impacts to water quality to the maximum extent practicable; there were no discharges or releases of sediment in the channel due to emergency maintenance activities.

1. Appropriate materials were kept on site to contain potential spills. No spills occurred.
2. Fueling, vehicle maintenance, storage, etc. were located outside of waters of the state and did not result in any discharges.
3. No spills occurred and therefore no notification to the RWQCB was required.
4. All construction materials and debris were removed or stockpiled outside of the waters of the state following completion of the emergency action. The City performed street sweeping in the area after emergency maintenance work was complete.
5. All necessary BMPs to control erosion and runoff from staging and access areas (e.g., fiber rolls) were employed.

6. No revegetation was required as the slope of the channel is stable and the access ramp is adequately secured with jute netting.

Additional water quality mitigation for MMP channels is achieved through implementation of one of the four options under the Settlement Agreement in the Watershed Management Area, for each channel maintained. The options include: 1) landscape retrofits to reduce runoff in residential areas, 2) additional/modified street sweeping, 3) implementation of LID features and 4) increased frequency of catch basin inspection and cleaning. The first three options are based on the linear feet of vegetation removed as part of the project (not including areas of invasive species, such as *Arundo*-dominated areas); the project removed approximately 142 linear feet of vegetation (not including invasive species areas).

For each 100 linear feet of vegetation removed, the City may implement landscape retrofits at one residential property within the WMA, such as rainwater harvesting, replacement of grass turf, and irrigation equipment upgrades.

For every 400 linear feet of vegetation removed, the modified street sweeping option targets additional pollutant load removal through vacuum-assisted sweeping of medians and increased sweeping frequency. Under this option, sweeping within the drainage area where maintenance was performed would be increased to quarterly on commercial routes and median sweeping would target areas not regularly swept for one calendar year after maintenance.

For every 200 linear feet of vegetation removed, 100 square feet of LID features such as vegetated swales, biofiltration systems, permeable pavement, or restored wetlands may be constructed and maintained.

Under the fourth option, the City would increase the frequency of catch basin inspection and cleaning, if necessary, of every catch basin within 100 feet of the maintained segment every 3 months for a year after maintenance is performed.

Implementation of the specific water quality improvement strategy selected from the Settlement Agreement options will be finalized to satisfy the terms of the legal agreement and potentially improve water quality conditions entering the maintained channel area.

Historical Assessment

A records search was conducted at the South Coastal Information Center for Auburn Creek Channel (Map 70) and a 1/2-mile radius around the channel. The records search identified 34 studies which have been performed within 1/2 mile of the channel, 2 of which addressed the channel directly, including one which was a study of the creek itself. Eleven (11) cultural resources have been identified within 1/2 mile of the channel, although none have been recorded in the project area. Records search results are included separately as Attachment F. (Note: The records searches for Auburn Creek Channels 67 & 68 were performed as a group

with Auburn Creek 70 due to proximity of the channels. Although the records search cover page states the Project Identification is "Auburn Creek 67 & 68 #9357," the data from 70 are included in the search).

Auburn Creek Channel Map 70 is a concrete-lined channel with an earthen bottom. All sediment within the channel that required removal were deposited in the channel as a result of erosion, and therefore have no potential contain intact cultural resources. In 2008 Affinis identified this channel segment as having a low potential to contain cultural resources, due to the limited number of resources in the area and the concrete lining. Low potential channels do not require an Individual Historic Assessment. Due to the emergency nature of the work performed, the low potential for cultural resources, and the results of the updated records search, no monitoring was performed for work which occurred in this channel.

Noise Assessment

Consistent with the requirements of the MMP PEIR, because work was conducted after January 15th, raptor nesting surveys were conducted prior to each day of emergency work on January 28, 2016 and February 12, 2016. No nests were found within 500 feet of the maintenance area nor were any encountered during the maintenance period. The PEIR identifies sensitive avian species as the only sensitive noise receptors for channel maintenance activities. Since the survey for nesting raptors was negative and work was conducted outside of the breeding season of all other sensitive avian species, a technical study for noise impacts from maintenance was not conducted for the Auburn Creek Channel (Map 70).

Conclusion

Please find the attached documents submitted for the SCR of the Auburn Creek Channel (MMP Map 70) emergency channel maintenance project. If you have any questions or concerns regarding the emergency maintenance activities or associated documentation, please call me at (619) 527-3445.

Sincerely,



Stephanie Bracci
Senior Planner

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Attachments: 1-A – General Application Form (Form DS-3032)
2-B – Public Notice Figure & Parcel List Supplemental Discretionary Project
Application (Form DS-3035)
3-C – Storm Water Applicability Checklist (Form DS-560)
4-D – Substantial Conformance Review Checklist
5-E – Individual Biological Assessment (Dudek, February 26, 2016)
6-F – Records Search Summary
7-G – Regulatory Permits

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