

# INDIVIDUAL NOISE ASSESSMENT REPORT

**Site Name/Facility:** Sorrento Creek-Flintkote-Soledad-Los Penasquitos Channel

**Master Program Map No.:** Maps 7 & 8 (Los Penasquitos Creek Channel), Map 9 (11000 Roselle St / 11100 Flintkote Ave), Map 10 (Dunhill St. & Roselle St.), Maps 11 & 12 (Soledad Creek Channel)

**Date:** June 10, 2013

**Acoustician Name:** Mark Storm, INCE Bd. Cert.

**Instructions:** This form must be completed in its entirety for each target facility identified in the Annual Maintenance Needs Assessment report when the potential exists for sensitive wildlife to occur within 750 feet of a proposed maintenance activity. If no sensitive species are expected within 750 feet of maintenance, only the first two rows under the Existing Conditions section must be completed. Attach additional sheets as needed.

## EXISTING CONDITIONS

The City of San Diego (City) has developed the Master Storm Water System Maintenance Program (MMP; Master Maintenance Program) to optimize its business processes and environmental protection practices related to channel operation and maintenance activities. The Master Maintenance Program is intended to integrate operation and maintenance planning, implementation and assessment activities with its water quality protection programs. This document provides a summary of the Individual Noise Assessment (INA) activities conducted within the Soledad Canyon/Sorrento Creek Channel (Reach 3) and the 11000 Roselle Street/11100 Flintkote Avenue Channel (Reach 7) in order to comply with the MMP's Programmatic Environmental Impact Report (PEIR).

To better describe and assess the channels in the Sorrento area, the channel segments were assigned reach numbers (see Figure 1) pertinent to the hydrology and hydraulic analysis conducted for the Individual Hydrology & Hydraulic Assessment (IHHA). While maintenance for the entire channel network will be assessed and impacts determined, this IMP focuses on the maintenance of the concrete channels (Reaches 3 and 7).

## PROJECT LOCATION AND DESCRIPTION

The channels associated with this assessment report are located in the Sorrento Valley area, within the jurisdiction of the City of San Diego (City). See Figure 1, Vicinity Map, for the project location and general overview. The major drainage facilities that serve the region consist of the Soledad Canyon Channel (commonly known as the Sorrento Creek Channel), the Los Peñasquitos Creek, the 11000 Roselle Street/11100 Flintkote Avenue Channel (commonly known as the Flintkote Channel), and the Dunhill Street @ Roselle Street Channel (commonly known as the Dunhill Street Channel). The Sorrento Creek Channel is included in Maps 7, 11, and 12 of the MMP, the Los Peñasquitos Creek is included in MMP map 7 and 8, the Flintkote Channel is included in MMP map 9, and the Dunhill Street Channel is included in MMP map 10.

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## EXISTING CONDITIONS

The project is generally located in Sorrento Valley at the Interstate 5/Interstate 805 interchange within the City's Coastal Overlay Zone and Torrey Pines Community Plan and Local Coastal Program (LCP). The project area is zoned IL-3-1 (Industrial-Light) and designated for Industrial and Open Space land uses in the Torrey Pines Community Plan LCP. Reaches 3 and 7 are adjacent to the City's Multiple Species Conservation Program's Multi-Habitat Planning Area. The project area is also located within the Federal Emergency Management Agency's (FEMA) Special Flood Hazard Areas subject to inundation by the 1-percent Annual Chance Flood and 100-year floodway.

For purposes of this assessment, every drainage facility has been assigned a Reach number pertinent to the hydrology and hydraulic analysis conducted for the IHHA. The general location of every drainage facility and their assigned reach numbers are included in Figure 2, Channel Reach Number Key Map. Although brief descriptions for Reaches 1 through 8 have been included below, it is important to note that **Reach 3** and **Reach 7** are the focal drainage facilities of this assessment. The rest of the reaches are associated with the overall hydraulic analysis included herein are only incidental to the analyses and recommendations per this assessment.

### **REACHES:**

#### **Sorrento Creek – Reach 1:**

##### **Reach 1**

Sorrento Creek (MMP Map 7-Los Peñasquitos Creek): Reach 1 is an earthen-bottom channel that extends from the southerly boundary of the Torrey Pines Preserve, which is located opposite to Estuary Way, to a point approximately 738 feet to the southeast where the Los Peñasquitos Creek's Reach 4, confluences with Sorrento Creek's Reach 2. The Reach 1 main channel top width is approximately 100 feet, and the channel bottom width varies from approximately 60 to 90 feet. The original channel configuration identified in the 1997 Sorrento Creek Emergency Project and the redesigned 2006 Sorrento Creek Maintenance Project included an additional 980 linear feet north into the Torrey Pines State Reserve. There will be no channel maintenance within this reach.

#### **Soledad Creek – Reaches 2 through 3:**

Soledad Creek (MMP Maps 11 & 12 – Soledad Creek): The proposed maintenance in the Soledad Creek can be segmented into two distinct channel types: a) Earthen, Reach 2, and b) Concrete-lined, Reach 3.

##### **Reach 2**

Earthen-portion of Soledad Creek (MMP Map 11): Reach 2 is also an earthen-bottom channel that extends to the southeast for approximately 1,590 feet from the upstream end of Reach 1 to the downstream end of Sorrento Creek's Reach 3. The Reach 2 main channel top width varies in width from approximately 10 to 20 for most of its length, while it transitions to approximately 45 feet at its upstream end. The channel bottom width varies from approximately 8 to 15 feet. There will be no channel maintenance within this reach.

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#### **Reach 3**

Concrete-lined portion of Soledad Creek (MMP Maps 11 & 12-Soledad Creek): Reach 3 is a trapezoidal concrete-lined channel that extends from the southerly end of Reach 2 to the southeast for approximately 2,280 feet to a point located approximately 1,550 feet to the southeast of Sorrento Valley Boulevard, where the trapezoidal concrete-lined channel ends and transitions to an earthen-bottom channel. The trapezoidal channel geometry consists of a 5-foot deep, 63-foot wide bottom, and 1.5-to-1 side slope section. Maintenance in Reach 3 will occur using a skid steer or similar type equipment to remove accumulated sediment, vegetation and other debris from the concrete channel bottom to the excavator located at the access points designated on the maintenance plans. The excavator, or similar equipment, will scoop the accumulated material from the channel into waiting dump trucks. The dump trucks will then dispose of the accumulated materials at an appropriate disposal facility. Access, loading, and staging areas for this channel maintenance include Access and Loading Areas 3A and 3B, Fueling Area 3A and 3B, and Staging Area 3A and 3B. Maintenance will occur within this reach.

#### **Los Peñasquitos Creek – Reaches 4 through 6:**

Los Peñasquitos Creek (MMP Map 8-Los Peñasquitos Creek): Similar to the Sorrento Creek Channel, the Los Peñasquitos Creek was also divided into three reaches, Reach 4, 5, and 6. Reach 4 is bound by commercial complexes to the north, and by Sorrento Valley Boulevard to the south. Reach 5 is within Caltrans right-of-way, and it is completely below the Interstate 5/Interstate 805 merge bridges. Reach 6 is bound by undeveloped open space to the north, and by commercial/light industrial complexes to the south. Reaches 4, 5, and 6 flow roughly in an east to west direction and confluence with Reach 2. Reach 4 extends approximately 1,350 feet from the confluence with Reach 2, to the west side of the Interstate 5 southbound bridge. Reach 5 extends approximately 635 feet from Reach 4 to the east side of Caltrans northbound on-ramp bridge. Reach 6 extends to the east approximately 1,170 feet from the east end of Reach 5. Reaches 4 and 6 consist of an earthen-bottom channel, while Reach 5 is a concrete-lined channel. Reach 4 through 6 vary in bottom width from 75 to 100 feet, with 1.5-to-1 side slopes that are protected with riprap. There will be no channel maintenance within Reach 4, Reach 5, or Reach 6.

#### **Flintkote Channel – Reach 7:**

#### **Reach 7**

Flintkote Channel (MMP Map 9-11000 Roselle St/11100 Flintkote Ave): Reach 7 is a trapezoidal concrete-lined channel that extends for approximately 1,000 feet, from the easterly side of Flintkote Avenue, to the Sorrento Creek Reach 2 near the stream confluence. Reach 7 flows roughly in a southwest to northeast direction, bisecting a light industrial park along its entire length, and crossing Roselle Street. A 2-foot high, 12-foot wide culvert conveys the storm flows under Roselle Street and a dual 36-inch Reinforced Concrete Pipe (RCP) culvert discharges the storm flows into Sorrento Creek's Reach 2. The trapezoidal geometry is described as a 4-foot deep, 8-foot wide bottom, and 1-to-1 side slopes. Access, loading, and staging areas for this channel maintenance include Access and Loading Areas 7A, 7B, and 7C, and Staging Area 7A. Maintenance in Reach 7 will occur using a skid steer or similar type equipment to remove accumulated sediment, vegetation and other debris from the concrete channel bottom to the excavator located at the access points designated on the maintenance

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plans. The excavator, or similar equipment, will scoop the accumulated material into waiting dump trucks. The dump trucks will then dispose of the accumulated materials at an appropriate disposal facility subsurface disturbance associated with this activity or these areas.

Maintenance will occur within this reach. However there will be no subsurface disturbance associated with this activity as all work areas are 100% concrete-lined or asphalt paved.

#### *Survey Methods and Date:*

Existing typical daytime outdoor ambient sound pressure levels (SPL) were measured at various locations that (to the extent practical) are near or coincident with a periphery approximately 750 feet from the above-referenced maintenance facility alignments. The measurements were limited to daytime periods due to the understanding that proposed facility maintenance activities would not occur during the evening (7 p.m. to 10 p.m.) or nighttime (10 p.m. to 7 a.m.) periods. The 750-foot periphery was selected due to the above-stated instructions for this INA and because a similar distance (at which 60 dBA from maintenance activity in the channel was anticipated) value was presented in the Final Recirculated Master Storm Water System Maintenance Program PEIR (PEIR). This periphery, and the bounded area within, overlaps land owned by the City of San Diego, the State of California, and private owners. The project site also overlaps with the City's Multiple Species Conservation Program's (MSCP) Multi-Habitat Planning Area (MHPA). According to a City of San Diego Development Services Department official zoning map (City of San Diego, 2007), lands within this bounded area and those adjacent to it are zoned as mostly industrial. Observed land uses included mostly industrial uses consistent with the zoning map. There also appear to be no residential land use within the bounded area. The 60 dBA sound level is consistent with part 5 from the City of San Diego California Environmental Quality Act (CEQA) Significance Determination Thresholds (City of San Diego, 2011).

Attended SPL measurements were performed and collected with a Larson Davis Model 820 ANSI Type 1 sound level meter (SLM) (Serial Number 1324) on March 26, 2013. SLM calibration was field-checked with a Larson Davis Model CAL150 (SN 4234) acoustic calibrator. Measurements were conducted by a member of the URS San Diego acoustics and noise control practice team, as directed by the author of this INA (Mark Storm, an Institute of Noise Control Engineering [INCE] Board Certified Member having 20 years of noise control engineering experience) and in a manner compatible with appropriate ISO 1996 guidelines, including wind-screened microphone height at approximately 5-feet above grade.

The dominant noise source in the project area was highway traffic noise. Other observed or audible sound sources include intermittent military fighter jet / helicopter flyovers, nearby rail traffic with horn soundings, and local roadway traffic.

Meteorological conditions during the measurement period were seasonally typical and appropriate for conducting ambient outdoor SPL measurements. Air temperatures at the measurement locations varied from 63°F to 80°F, with 40 percent to 63 percent relative humidity (RH). Winds ranged from zero miles-per-hour to five miles-per-hour from the west. Table 1 below presents a summary of measured data collected at the six short-term survey locations. A-weighted equivalent sound levels ( $L_{eq}$ , dBA) represent the energy-average SPL over a period of thirty (30) consecutive minutes; and the  $L_{90}$  values statistically represent the

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SPL exceeded ninety percent of the time over these same measurement periods, thus characterizing what might be considered the “background” (e.g., distant highway traffic, other fairly continuous sources of noise, and the amalgam of distant but indiscernible noise) sound exclusive of intermittent and temporarily dominant sound sources such as the military fighter jets and helicopters.

**Table 1 Summary of Existing Outdoor Ambient Sound Levels in Project Vicinity**

Survey Location ID	Measured Existing Ambient Outdoor Sound Pressure Level (SPL)	
	L <sub>eq</sub> (dBA)	L <sub>90</sub> (dBA)
ST1	58	54
ST2	73	47
ST3	75	72
ST4	69	62
ST5	60	55
ST6	64	60

The large differential (i.e., greater than 10 dBA) between the L<sub>eq</sub> and L<sub>90</sub> levels at ST2 is not unexpected due to the observed fighter jet / helicopter flyover activities. For instance, Figures 2-2 and 2-3 from the 2005 AICUZ Study Update for MCAS Miramar indicate that anticipated flight paths for both fixed-wing aircraft and helicopter are located over the project area.

### Are there sensitive wildlife species within 750 feet of proposed maintenance?

YES  NO

#### **Sensitive Wildlife Observed/Detected:**

Describe sensitive wildlife anticipated to occur within 750 feet of maintenance that were observed and the closest distance to proposed maintenance.

Consistent with what appears in the IBA, sensitive species records and observations are discussed as follows:

**White-tailed Kite(s)** were observed flying over Reach 3 during the site visit. This is a CDFW fully-protected species and potential nesting habitat could occur in adjacent large trees such as pines, eucalyptus, and willows.

One **Cooper’s Hawk** was observed perched in a tree along the bank of Reach 3. No raptor nests or signs of raptor nesting were found. Potential nesting habitat could occur in adjacent large trees such as pines, eucalyptus, and willows.

No special status animals were observed in Reach 7.

The following sensitive wildlife species have a potential to occur in the area based on the presence of suitable habitat:

**Least Bell’s Vireos (*Vireo bellii pusillus*)** CNDDDB occurrences are located just outside the 750 foot noise analysis buffer at Reach 3, but does not occur within existing habitat at Reaches 3 or 7 due to lack of suitable habitat.

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**Coastal California Gnatcatchers (*Poliophtila californica*)** are unlikely to breed adjacent to the maintenance areas. Potential gnatcatcher habitat is present within the 750 foot noise analysis buffer for Reach 7; however, the habitat and maintenance areas are separated by other noise sources such as roadways and developed areas.

Several **raptor** species were observed during the site visit that could nest in the vicinity of the maintenance areas including the State Fully Protected White-tailed Kite (*Elanus leucurus*), Northern Harrier (*Circus cyaneus*), Red-shouldered Hawk (*Buteo lineatus*), and Red-tailed Hawk (*Buteo jamaicensis*).

FWM areas provide small patches of habitat for waterfowl and shorebirds. Reach 3 may serve as wildlife a corridor by connecting larger patches of habitat that would otherwise be isolated by development. Wildlife species observed during the site assessment are listed below by Reach.

#### **Reach 3**

Wildlife observed in, along, and over Reach 3 include:

- American Crow (*Corvus brachyrhynchos*)
- Cassin's Kingbird (*Tyrannus vociferans*)
- Common Yellowthroat (*Geothlypis trichas*)
- Cooper's Hawk (*Accipiter cooperii*) \*
- Greater Yellowlegs (*Tringa melanoleuca*)
- Killdeer (*Charadrius vociferous*)
- Mallard (*Anas platyrhynchos*)
- Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
- Northern Harrier (foraging on hillside to the west) \*
- Red-shouldered Hawk
- Red-tailed Hawk
- Solitary Sandpiper (*Tringa solitaria*) (vagrant)
- Song Sparrow (*Melospiza melodia*)
- White-tailed Kite
- White-throated Swift (*Aeronautes saxatalis*)
- Wilson's Snipe (*Gallinago delicata*)
- Raccoon (*Procyon lotor*) (tracks)
- Baja California tree frog (*Pseudacris hypochondriaca*)
- Funereal duskywing (*Erynnis funeralis*)

\* San Diego MSCP covered species

#### **Reach 7**

Habitat value to wildlife along this reach is minimal. The reach only provides a small, narrow strip of FWM Habitat. Wildlife observed in, along, and over Reach 3 include:

- American Crow (*Corvus brachyrhynchos*)
- Anna's Hummingbird (*Calypte anna*)
- Cassin's Kingbird
- House Finch (*Haemorhous mexicanus*)
- Lesser Goldfinch (*Spinus psaltria*)
- Song Sparrow

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- Raccoon (tracks)
- Mosquito fish (*Gambusia affinis*)

### MAINTENANCE IMPACTS

List the equipment to be used during maintenance and anticipated noise levels associated with each.

#### *Channel Maintenance Activity*

The construction equipment rosters for Sorrento Channel Maintenance Reach 3 and Reach 7 appear below. The following lists of anticipated construction equipment with corresponding estimates of individual equipment reference sound level (dBA,  $L_{max}$  at 50 feet) and acoustical usage factor (% of an hour) are based on Federal Highway Administration (FHWA) Road Construction Noise Model (RCNM) User's Guide Table 1 (FHWA, 2006).

#### **Reach 3**

- "Cat 320 Excavator" (Excavator, 81 dBA, 40%)
- "Cat 966 Loader" (Front End Loader, 79 dBA, 40%)
- "Dump Truck" (Dump Truck, 76 dBA, 40%)
- "Skid Steer (John Deere 333E)" (All Other Equipment > 5 HP, 68 dBA, 50%)
- "Skid Steer (Bobcat S650)" (All Other Equipment > 5 HP, 68 dBA, 50%)
- "6-inch Trash Pump (Wacker)" (All Other Equipment > 5 HP, 85 dBA, 50%)

#### **Reach 7**

- "John Deere 50D" (Excavator, 81 dBA, 40%)
- "Gradall" (Gradall, 83 dBA, 40%)
- "Dump Truck" (Dump Truck, 76 dBA, 40%)
- "Skid Steer (Bobcat S650)" (All Other Equipment > 5 HP, 68 dBA, 50%)
- "Vactor (2100 Plus PD)" (Vacuum Excavator, 85 dBA, 20%)

#### *Staging/Access/Loading Area Activity*

The following mechanized equipment is conservatively expected for staging, access and loading areas. The list of equipment and its usage factors resemble those from the INA report for Tijuana River Pilot Channel & Smugglers Gulch Channel Maintenance, but reflect the substitution of a water truck with a vacuum street sweeper, which appears in the IMP attachment 1d (Maintenance Methodology). Corresponding estimates of individual equipment reference sound level (dBA,  $L_{max}$  at 50 feet) and acoustical usage factors are based on FHWA RCNM User's Guide Table 1 (FHWA, 2006).

- "Back-hoe" (backhoe, 78 dBA, 40%)
- "Front-end Loader" (Front End Loader, 79 dBA, 40%)
- "Sweeper (Tymco 500X)" (Vacuum Street Sweeper, 82 dBA, 10%)
- "(1) Rock Truck disposing channel material" (Dump Truck, 76 dBA, 20%)
- "(1) Rock Truck taking material away from staging area" (Dump Truck, 76 dBA, 10%)

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### MAINTENANCE IMPACTS

#### *Potential Additional Equipment*

If additional equipment or processes were added to these above anticipated rosters, such as de-watering operations involving pumps and other components that may have the potential for operating over portions of the Project duration, the aggregate noise level from maintenance activity would be expected to rise. The magnitude of this rise or additive effect would depend on a number of factors, including as follows:

- Quantity of operating process and activities, and their individual equipment or components;
- Location of the noise emitters, and their distance to noise-sensitive receivers;
- Sound power levels of the noise emitters, which are typically related to consumed power levels and/or fluid or mechanical capacities; and,
- Duration of the operating processes and their duty cycles (or, frequency of noise emission: continuous, intermittent, or impulsive?).

Definition of these factors would depend on Project needs or conditions as they are encountered, such as what may become the need for de-watering pumps.

**Calculate the combined maximum hourly noise level associated with simultaneous operation of equipment during maintenance. Estimate the distance to the 60 dBA  $L_{eq}$  including existing ambient noise sources affecting the maintenance area.**

#### *Channel Maintenance Activity*

This analysis assumes that during a typical hour when maintenance activity occurs, all six identified equipment for Reach 3 or all five for Reach 7 may be operating simultaneously from a single point within the channel at the indicated usage factors, either of which results in an aggregate reference sound level (i.e., the logarithmic sum of the seven, with each adjusted by its usage factor) of 84 dBA  $L_{eq}$  at 50 feet. Using this aggregate reference sound level, and accounting for geometric divergence (6 dBA per doubling of distance), atmospheric acoustical absorption (-1 dBA per 1000 feet), ground acoustical absorption (maximum of -4.8 dBA, per ISO 9613-2, eq. 10), and ignoring any potentially beneficial topographical occlusion between source and receiver, a project sound level of 60 dBA hourly  $L_{eq}$  may be expected at a distance of approximately 460 feet from a position along the 2013 H&H Work Area.

The distances at which project noise levels are expected, at 5 dBA decrements and in terms of hourly  $L_{eq}$ , are also presented in Table 2 below.

#### *Staging/Access/Loading Area Activity*

Based on the expected equipment and their usage levels from the preceding paragraphs, this analysis anticipates a reference sound level as high as 79 dBA  $L_{eq}$  at 50 feet for Staging, Access or Loading Areas. After accounting for naturally-occurring sound attenuation in the same fashion as for aggregate noise emission from maintenance activity in the channel, this analysis predicts a project sound level of 60 dBA hourly  $L_{eq}$  might also be expected at a distance of approximately 265 feet from each Staging, Access or Loading Area.



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### MAINTENANCE IMPACTS

#### *Channel + Staging/Access/Loading Area Activity*

Where Staging, Access or Loading Areas and Channel alignment are immediately adjacent, it is possible that concurrent activity would take place at both locations and therefore create a condition where noise from the two activities would be greater than either of them separately. The corresponding distances for expected project noise levels from a combination of Channel and Staging Area activities appear in Table 2.

#### *Access Ramps*

Along an access ramp or an existing street that serves as a route for regular truck movements, if one were to assume five truckloads or pass-bys per hour (as does the analysis in the aforementioned PEIR) and a pass-by duration of about one minute, the resulting estimate for acoustical usage factor would be about 8%, and the expected reference noise level would be 73 dBA. After accounting for naturally-occurring attenuation, a sound level of 60 dBA hourly  $L_{eq}$  may be expected at a distance of approximately 155 feet from a position along the access road centerline.

The occurrence of this anticipated 60 dBA hourly  $L_{eq}$  project noise level is presented as a single isopleth or contour on Figure 1. Note that this contour represents a boundary showing the aggregate extent, over the one-month duration of the project, where this project noise level may attain 60 dBA hourly  $L_{eq}$  at a perpendicular distance in feet according to Table 2.

Because the ambient noise levels already exceed 60 dBA hourly  $L_{eq}$  as shown in Table 1, the impact threshold would become the same as the ambient noise level instead of 60 dBA hourly  $L_{eq}$ . So that a reader might compare these measured existing ambient  $L_{eq}$  with predicted project noise, Figure 1 also depicts 65, 70, and 75 dBA hourly  $L_{eq}$  predicted project noise contours.

**Table 2 Approximated Distances for Predicted Project Noise Levels**

Project Activity	Approximate distance (feet) at which predicted project activity noise level (hourly $L_{eq}$ ) is expected to occur					
	75 dBA	70 dBA	65 dBA	60 dBA	55 dBA	50 dBA
Channel	110	170	275	460	770	1280
Staging Area	70	105	165	265	445	750
Channel + Staging Area	120	190	310	515	865	1430
Access Ramp	45	70	100	155	250	420

#### **Would sensitive wildlife receptors be affected by maintenance noise in excess of 60 dBA $L_{eq}$ ?**

YES	X	NO		
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Observed sensitive wildlife receptors within a 60 dBA contour would be under consideration in this study; thus, *when present during their breeding seasons*, they would be exposed to maintenance noise in excess of 60 dBA hourly  $L_{eq}$ . If project noise is not expected to occur during these breeding seasons or if project noise does occur during this time but is expected to

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be less than or equal to the nearest representative location of measured current pre-project ambient sound level that is already higher than 60 dBA hourly  $L_{eq}$  (See Table 1), no affects are anticipated. Project noise would be expected to be less than 60 dBA hourly  $L_{eq}$  beyond this buffer distance, and diminish in magnitude with increasing distance.

### MITIGATION

#### **What mitigation measures would be required to avoid adverse impacts to sensitive wildlife (e.g. barriers or limitations on hours of operation)?**

Temporary construction noise from the use of heavy equipment would generate noise in excess of 60 dBA  $L_{eq}$  during the maintenance period. Maintenance conducted outside the breeding/nesting season for protected avian species would not result in a significant direct or indirect noise impact and no noise attenuation mitigation is required.

If work is proposed between January 15 (start of the raptor nesting season) and August 15, a pre-maintenance survey for active raptor nests shall be conducted by a qualified biologist in areas supporting suitable habitat. If active raptor nests are found, maintenance shall not occur within 300 feet of a Cooper's Hawk (*Accipiter cooperii*) nest, 900 feet of a Northern Harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.

In compliance with the USFWS Section 7 BO and Master Program PEIR Mitigation Measures 4.1.2 and 4.1.8, protocol surveys are required if maintenance exceeds noise level of 60 dBA or is proposed during the breeding seasons for the following species:

- Coastal California Gnatcatcher – between March 1 and August 15 inside the MHPA only; no restrictions outside MHPA;
- Least Bell's vireo – between March 15 and September 15;
- Southwestern willow flycatcher – between May 1 and September 1; and
- Light-footed clapper rail – between March 15 and September 15.

There is one potential area sited for Coastal California Gnatcatcher. This vegetated area (Coastal Sage Scrub habitat) is within the City's MHPA and west of Flintkote Avenue and would be associated with the proposed maintenance activities in Reach 7 (see Figure 1). This area would be within a 60 dBA hourly  $L_{eq}$  project noise contour. Because this particular area is approximately 80 feet to 100 feet higher in elevation than that of Reach 7, it is not practical to attempt blocking line-of-sight with the temporary barrier nearby the staging area. It is also not practical to build a temporary noise barrier nearby the potential habitat area because the area is a steep hill. For this reason, URS strongly recommends that maintenance activity be avoided during this species' breeding season.

Least Bell's Vireo along Reaches 1, 2, and 4 and Light-Footed Clapper Rail along Reach 4 (see Figure 1) are considered to be potentially present in or adjacent to the project area. These identified areas would be within Reach 7 60 dBA hourly  $L_{eq}$  project noise contour. However, the ambient noise level in these areas would be approximately 70 dBA based on the ambient noise levels at ST2 (73 dBA) and ST3 (75 dBA). Therefore, the potential Least Bell's Vireo

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### MITIGATION

habitat area within 70 dBA hourly  $L_{eq}$  project noise contour of Reach 7 would require mitigation.

During the Least Bell's Vireo breeding season between March 15 and September 15, were maintenance activities to occur in the northwestern end of Reach 7, our predictive noise analysis herein anticipates that noise mitigation measures would be needed due to the proximity of habitat as shown in Figure 1. One option for mitigation would be the installation of temporary noise-reducing barriers, such as an arrangement of two rows of stacked hay bales that sandwich and support a vertical plywood board (e.g., minimum ½" thick), having a height sufficient to provide visual occlusion between source and receiver (typically 10 to 12 feet high) at the following location:

- Aligned roughly east-to-west, along the edge of the parking lot, extending from the 70 dBA noise contour to the northwest to the 70 dBA noise contour to the southeast (See Figure 1).

Installation of such temporary barriers would be expected to reduce predicted maintenance noise levels in the potentially affected Least Bell's Vireo habitat areas adjacent to the Project and thus decrease the distance at which 70 dBA  $L_{eq}$  is anticipated. At receiver distances close to the barrier, barrier noise attenuation is greater; and at distances far from the barrier, barrier noise attenuation is less and may be adversely affected by meteorological conditions. For this reason, and due to the proximity of known habitat and considerable extent of this noise mitigation, URS strongly recommends that maintenance activity be avoided during this species' breeding season.

Least Bell's Vireo along Reach 2 and the northwestern edge of Reach 3 (see Figure 1) are considered be potentially present in or adjacent to the project area. If such presence is confirmed in the channel area, noise mitigation measures would not be considered practical if the maintenance occurs during their breeding season. Therefore, URS strongly recommends that maintenance activity be avoided during this species' breeding season.

For reader convenience, applicable noise-related PEIR Mitigation Measures have been included in their entirety as Attachment 1.

### ADDITIONAL COMMENTS OR RECOMMENDATIONS

For residential receivers, the San Diego Municipal Code states the 75 dBA  $L_{eq}$  as a limit for daytime-allowed (7 a.m. to 7 p.m.) construction noise per 59.5.0404 (c) (if the project maintenance activity were to be classified as construction noise). As presented in Figure 1, there is no residential land use within 75 dBA  $L_{eq}$  contour line. Thus, no noise impact is expected.

Nonetheless, Attachment 1d of the IMP indicates that expected hours of maintenance activity are from 6 a.m. through 6 p.m.—seven days a week for Reach 3, and weekends for Reach 7—for the duration of the project. Since work in both Reach 3 and Reach 7 includes Sundays and may include holidays, during which time 59.5.0404 (a) of the San Diego Municipal Code would

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consider noise from such maintenance activity unlawful without a permit, URS recommends that a permit be applied for and granted before commencement of maintenance activity by the City's Noise Abatement and Control Administrator.

Attachment 1: Applicable noise-related PEIR Mitigation Measures

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## Attachment 1

### Applicable Noise-Related PEIR Mitigation Measures

#### **BIOLOGICAL RESOURCES**

**Mitigation Measure 4.3.13:** Prior to commencing any maintenance activity which may impact sensitive biological resources, the monitoring biologist shall verify that the following actions have been taken, as appropriate:

- Fencing, flagging, signage, or other means to protect sensitive resources to remain after maintenance have been implemented;
- Noise attenuation measures needed to protect sensitive wildlife are in place and effective; and/or
- Nesting raptors have been identified and necessary maintenance setbacks have been established if maintenance is to occur between January 15 and August 31.

The designated biological monitor shall be present throughout the first full day of maintenance, whenever mandated by the associated IBA. Thereafter, through the duration of the maintenance activity, the monitoring biologist shall visit the site weekly to confirm that measures required to protect sensitive receivers (e.g., flagging, fencing, noise barriers) continue to be effective. The monitoring biologist shall document monitoring events via a Consultant Site Visit Record. This record shall be sent to the Maintenance Manager (MM) each month. The MM will forward copies to the Mitigation Monitoring Coordinator (MMC).

**Mitigation Measure 4.3.20:** If no surveys are completed and no sound attenuation devices are installed, it will be assumed that the habitat in question is occupied by the appropriate species and that maintenance activities would generate more than 60 dBA  $L_{eq}$  within the habitat requiring protection. All such activities adjacent to the protected habitat shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work.

#### **LAND USE**

**Mitigation Measure 4.1.3:** If a listed species is located within 500 feet of a proposed maintenance activity and maintenance would occur during the associated breeding season, an analysis of the noise generated by maintenance activities shall be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ADD Environmental Designee. The analysis shall identify the location of the 60 dBA  $L_{eq}$  noise contour on the maintenance plan. The report shall also identify measures to be undertaken during maintenance to reduce noise levels.

**Mitigation Measure 4.1.4:** Based on the location of the 60 dBA  $L_{eq}$  noise contour and the results of the protocol surveys, the Project Biologist shall determine if maintenance has the potential to impact breeding activities of listed species. If one or more of the following species are determined to be

## INDIVIDUAL NOISE ASSESSMENT REPORT

significantly impacted by maintenance, then maintenance (inside and outside the MHPA) shall avoid the following breeding seasons unless it is determined that maintenance is needed to protect life or property.

- Coastal California gnatcatcher (between March 1 and August 15 inside the MHPA only; no restrictions outside MHPA);
- Least Bell's vireo (between March 15 and September 15); and
- Southwestern willow flycatcher (between May 1 and September 1).

***Mitigation Measure 4.1.5:*** If maintenance is required during the breeding season for a listed bird to protect life or property, then the following conditions must be met:

- At least two weeks prior to the commencement of maintenance activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from maintenance activities shall not exceed 60 dBA hourly average at the edge of occupied habitat. Concurrent with the commencement of maintenance activities and the maintenance of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dBA hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated maintenance activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season of the subject species, as noted above.
- Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dBA hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD, as necessary, to reduce noise levels to below 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.
- Prior to the commencement of maintenance activities that would disturb sensitive resources during the breeding season, the biologist shall ensure that all fencing, staking and flagging identified as necessary on the ground have been installed properly in the areas restricted from such activities.
- If noise attenuation walls or other devices are required to assure protection to identified wildlife, then the biologist shall make sure such devices have been properly constructed, located and installed.

***Mitigation Measure 4.1.8:*** Prior to commencing any maintenance in, or within 500 feet of any area determined to support coastal California gnatcatchers, the ADD Environmental Designee shall verify that the MHPA boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the maintenance plans:

## INDIVIDUAL NOISE ASSESSMENT REPORT

NO MAINTENANCE ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE ADD ENVIRONMENTAL DESIGNEE:

- a. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO MAINTENANCE NOISE LEVELS EXCEEDING 60 DECIBELS (dBA) HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY MAINTENANCE. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:
  1. BETWEEN MARCH 1 AND AUGUST 15, MAINTENANCE OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND
  2. BETWEEN MARCH 1 AND AUGUST 15, NO MAINTENANCE ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE MAINTENANCE ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY MAINTENANCE ACTIVITIES WOULD NOT EXCEED 60 dBA HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES. PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR
  3. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM MAINTENANCE ACTIVITIES WILL NOT EXCEED 60 dBA HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER.

## **INDIVIDUAL NOISE ASSESSMENT REPORT**

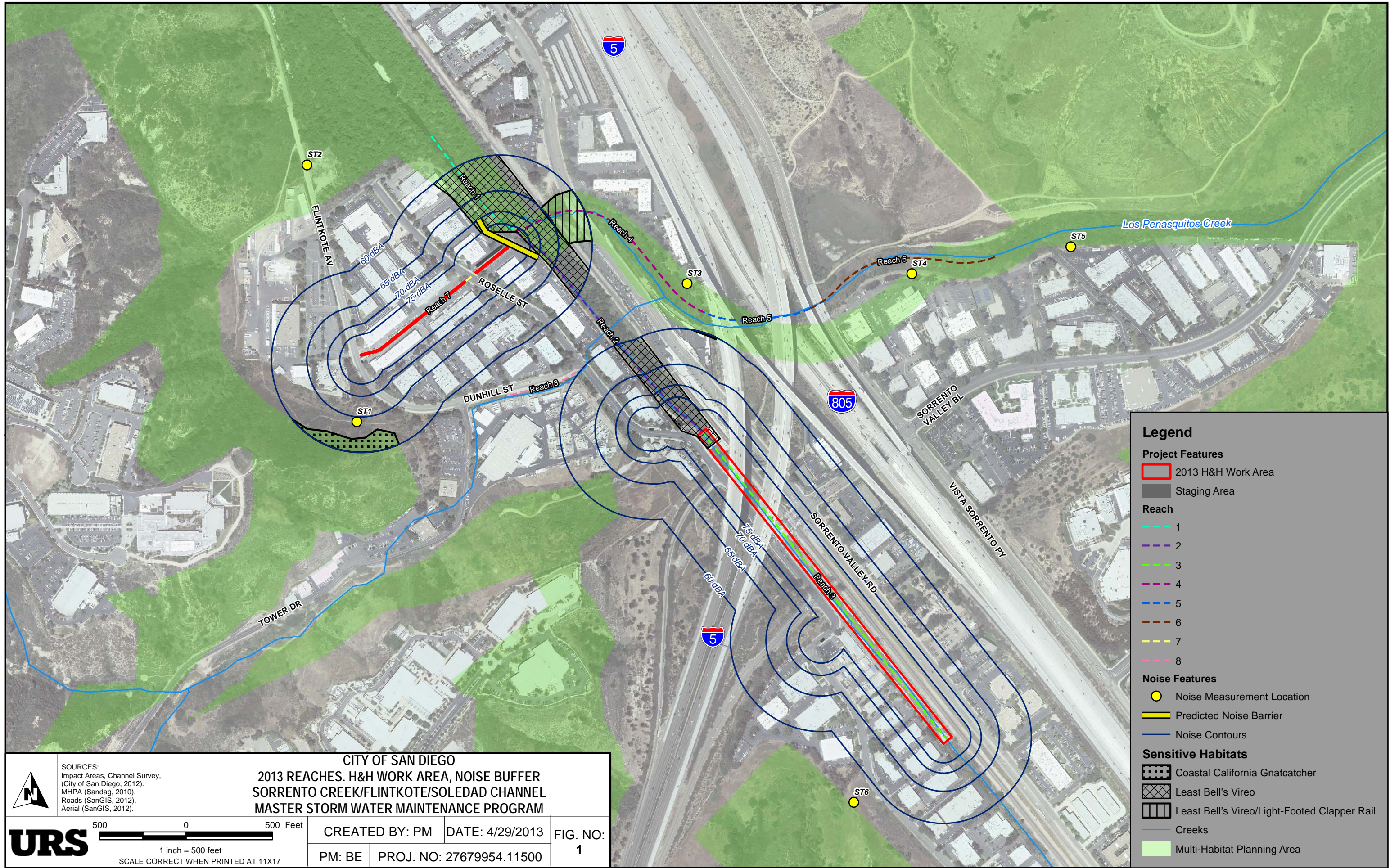
CONCURRENT WITH THE COMMENCEMENT OF MAINTENANCE ACTIVITIES AND THE MAINTENANCE OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING\* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dBA HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED MAINTENANCE ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

\* Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD environmental designee, as necessary, to reduce noise levels to below 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.

- b. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:
1. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.
  2. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.



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**Legend**

**Project Features**

- 2013 H&H Work Area
- Staging Area

**Reach**

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

**Noise Features**

- Noise Measurement Location
- Predicted Noise Barrier
- Noise Contours

**Sensitive Habitats**

- Coastal California Gnatcatcher
- Least Bell's Vireo
- Least Bell's Vireo/Light-Footed Clapper Rail
- Creeks
- Multi-Habitat Planning Area

**CITY OF SAN DIEGO**

**2013 REACHES. H&H WORK AREA, NOISE BUFFER**  
**SORRENTO CREEK/FLINTKOTE/SOLEDAD CHANNEL**  
**MASTER STORM WATER MAINTENANCE PROGRAM**

**SOURCES:**  
 Impact Areas, Channel Survey,  
 (City of San Diego, 2012).  
 MHPA (Sandag, 2010).  
 Roads (SanGIS, 2012).  
 Aerial (SanGIS, 2012).

**CREATED BY:** PM    **DATE:** 4/29/2013    **FIG. NO.:** 1

**PM:** BE    **PROJ. NO.:** 27679954.11500

**URS**    500    0    500 Feet  
 1 inch = 500 feet  
 SCALE CORRECT WHEN PRINTED AT 11X17