APPENDIX B

BIOLOGICAL TECHNICAL REPORT

R E P O R T

BIOLOGICAL TECHNICAL REPORT FOR GREGORY CANYON LANDFILL CEQA UPDATE

Prepared for

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SECTION 1 INTRODUCTION

This biological resources technical report provides an update of information regarding biological resources associated with the Gregory Canyon Landfill Project and provides information required for Gregory Canyon Ltd. to respond to the court order issued by the Honorable Michael Anello. Section 2.0 of this report deals with vegetation impacts and related mitigation. Section 3.0 deals with impacts on arroyo toad (*Bufo californicus*) and related mitigation. Section 4.0 deals with the effects of noise on listed biological resources along State Route 76 Section 5.0 provides a supplement and update to the Wetland Mitigation and Habitat Enhancement Plan contained in Appendix L of the 2003 Draft EIR and technical report. Section 6.0 provides a supplemental discussion of cumulative and secondary impacts on biological resources. References are provided in Section 7.0.

SECTION 2 VEGETATION

2.1 METHODS

The vegetation communities delineated on the Gregory Canyon landfill site that were depicted in the 2003 Draft EIR and the Final Biological Technical Report (Appendix L) were reviewed by URS. The vegetation community delineation provided in the 2003 Draft EIR and Final Biological Technical Report was transposed on to a recent aerial photograph (2002) using GIS. A 1:3600 (1”=300 ft) scale version of this GIS map was then used by URS biologists to ground-truth or verify the vegetation community delineation in the field. Minor modifications to the vegetation community delineation that more accurately depict existing conditions were noted on the map and subsequently modified in GIS. A map was produced and vegetation community acreage calculations were updated based on this GIS-based vegetation map (Figure 2-1).

2.2 RESULTS AND DISCUSSION OF IMPACTS AND MITIGATION

The 2003 Draft EIR identified approximately 308.2 acres of impact on various vegetation communities. The results of the recent evaluation of current conditions onsite resulted in 308.6 acres of impact with impacts by vegetation community described in Table 2-1. Note that the final EIR will be updated to reflect impacts on 0.4 acres of southern willow scrub, 0.4 acres of disturbed southern willow scrub, and 0.2 acres of open channel, which is not jurisdictional waters of the U.S. The areas of impact shown in Table 2-1 are similar to those presented in the 2003 Draft EIR and Final Biological Technical Report contained in Appendix L, but reflect the minor modification that resulted from the current mapping effort and GIS-based analysis.

Table 2-1 also shows mitigation ratios and total mitigation required for the current impact areas, and are based on the multiplier ratios identified in the 2003 Draft EIR. Impacts on Englemann Oak and the proposed mitigation set forth in the 2003 Draft EIR are not changed.

A total of approximately 543.2 acres of mitigation is required, and could be achieved through creation, enhancement, and/or offsite acquisition based on the ratios in the 2003 Draft EIR. The largest areas requiring mitigation are within coastal sage scrub, disturbed coastal sage scrub, and coastal sage scrub/chaparral vegetation communities, which results in the need for approximately 448 acres of these vegetation communities. Impacts on coast live oak woodland will result in the need for approximately 67.8 acres of mitigation of this vegetation community type. Impacts on native perennial grassland will require approximately 1.8 acres of mitigation. Impacts on chaparral will require 13.7 acres of mitigation. Impacts on non-native grassland will require 7.9 acres of mitigation. Impacts on riparian forest and scrub vegetation communities will require approximately 4.0 acres of mitigation.

Riparian forest and scrub habitat will be created during the bridge construction and will include 2.3 acres of new habitat that will be created in an existing developed yard from the former dairy operation where natural vegetation communities do not currently exist (Figure 2-2).

Additional riparian and transitional riparian/floodway areas were identified in the 2003 Draft EIR and Final Biological Technical Report for potential creation of new habitat and enhancement of existing

habitat. Based upon an inspection of these areas, including soils and topography, these are very likely areas where there were historic vegetation communities prior to farming. They are located along the north side of the San Luis Rey River in areas that are currently developed and highly disturbed lands that were part of the old dairy operations onsite, and lands on the south side of the river that were part of cattle grazing lands. The combination of soil type, topography, and availability of sunlight and water are such that they could successfully sustain these vegetation communities, once reestablished. These areas are shown on Figure 2-2 as habitat creation areas for riparian habitat, southern willow scrub, mulefat scrub, or cottonwood willow riparian forest, coast live oak woodland and coastal sage scrub, and/or riparian transitional habitat (the type of vegetation community that may be established on these areas could take several forms). These areas comprise a total of 159.1 acres for creation of vegetation communities and 7.1 acres for enhancement within the existing mixed southern willow scrub/mulefat scrub communities. Approximately 50 acres within the San Luis Rey River floodway riparian zone are also available for enhancement, primarily through removal of exotic species.

Therefore, the total area available onsite for creation of vegetation communities is 159.1 acres. Southern willow scrub, mulefat scrub, or cottonwood willow riparian forest could be created on 24.6 acres. 134.5 acres could be available for creation of mixed coast live oak woodland and coastal sage scrub, other types of transitional communities characteristic of 10- to 100-year floodplains, or a combination thereof. Vegetation communities common within 10- to 100-year floodplains in this region include coastal sage scrub, coast live oak woodland, riparian forest with cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*), and more xeric willow (Salix spp.) trees, riparian scrub communities, and native perennial grasslands.

Approximately 0.5 acres of the 24.6 acres of area where southern willow scrub, mulefoot scrub, or cottonwood willow riparian forest could be created is within the easement for the existing aqueduct pipelines plus potential future Pipeline No. 6. Approximately 131.4 acres of the 134.5 acres available for creation of mixed coast live oak woodland, coastal sage scrub, or riparian transitional habitat are outside of the easement for the existing aqueduct Pipelines Nos. 1 and 2 plus the potential future Pipeline No. 6. The methodology for calculating the extent of the easements is discussed in Chapter 5.

Site preparation and grading would make establishment of mixed coast live oak woodland and coastal sage scrub, southern willow scrub and mulefat scrub, and/or other types of transitional communities characteristic of 10- to 100-year floodplains, or a combination of these vegetation communities highly feasible in these areas. The lands north of the river within the 159.1 acres were developed by the prior dairy operations. Removal of structures, pads, and/or other facilities, and preparation of soils and/or grades would render these areas suitable for creation of habitats listed above. The areas south of the river were previously established with dense non-native grasses that supported historic grazing. Site preparation that would support establishment of scrub, woodland, and/or native perennial grasslands in these areas is expected to be highly feasible.

The 159.1 acres of vegetation communities that could be created onsite, the 7.1 acres of enhancement within existing mixed southern willow and mulefat scrub communities, and the approximately 50 acres of additional riparian enhancement results in 216.2 acres of habitat onsite that could apply against the required mitigation of 543.2 acres. The specific amounts available onsite for mitigation through creation

or enhancement for each vegetation community, after deducting the acreage within the pipeline easements (3.6 acres), is as follows:

- Southern willow scrub, mulefat scrub, or cottonwood riparian forest – 57.1 acres
- Cottonwood riparian forest – 24.1 acres
- Coast live oak woodland – 67.8 acres
- Coastal sage scrub –63.6 acres

There is also ample vegetation habitat available for the required vegetation communities within the local region, as well as San Diego County, to provide for preservation of the entire 543.2 acres of mitigation offsite through existing mitigation banks or newly purchased lands. Therefore, mitigation for this project could be accomplished through acquisition of 543.2 acres offsite, or a combination of onsite habitat creation and enhancement or offsite acquisition.

SECTION 3 ARROYO TOAD

3.1 METHODS

Information about arroyo toad (*Bufo californicus*) in the Gregory Canyon Landfill 2003 Draft EIR and Final Biological Technical Report was reviewed. Information reviewed included arroyo toad location data, as well as potential impacts on the species. In addition, impacts described in the 2003 Draft EIR were re-evaluated using the same assumptions that were originally used in the 2003 Draft EIR and Final Biological Technical Report to quantify the impacts on the species to arrive at updated arroyo toad impact acreages. The assumptions used in the 2003 Draft EIR and Final Biological Technical Report, and in this review, to quantify impacts on arroyo toad follow guidance from the U.S. Fish and Wildlife Service (USFWS) recovery plan for the arroyo toad (1999).

According to the 2003 Draft EIR and Final Biological Technical Report, the quantified direct impacts on arroyo toad resulting from the construction of the landfill are as follows:

> *"…Direct* [significant] *impacts resulting in the loss of approximately 3.1 acres of toad riparian breeding habitat would occur from construction of the bridge. Only 0.005 acre of this would be permanent impact due to bridge pilings…"*
>
> *"…Direct significant impacts resulting in the loss of approximately 306 acres of potential toad upland habitat would occur from construction of the landfill and related facilities…These upland habitat impacts were calculated assuming that any upland habitat disturbance within 2.0 kilometers of the river channel on site would be significant…"*
>
> *"…These upland habitat impacts were calculated assuming that any upland habitat disturbance within 2.0 kilometers of the river channel on site would be significant. However, it should be noted that toads commonly travel up to 0.5 kilometer from the stream and that the distance toads travel from breeding sites depends on topography and the extent of suitable habitat (USFWS 1999). Suitable upland habitats must contain substantial areas of fine sand for burrowing (USFWS 1999c). If only impacts to upland areas within 2.0 kilometers of the river channel that contain fine sand (consisting of Tujunga sand [TuB], Visalia sand loams [VaA and VaB] and Fallbrook sandy loam [FaD2] as depicted in Figure 4.2-4) are considered, the potential loss of toad upland habitat used for burrowing would be reduced to approximately 32 acres. The majority of this acreage would occur primarily in grassland, agricultural, and oak woodland habitats where the access road, facilities area, desilting basins, and parts of Borrow/Stockpile Area A are located…"*

Other potential impacts mentioned in the 2003 Draft EIR and Final Biological Technical Report include roadkill because of increased traffic, loss of individuals from implementation of arroyo toad habitat creation/enhancement areas, attraction of arroyo toad predators to the project area, water quality-related impacts, and night lighting-related impacts. Of these, increased traffic and attraction of arroyo toad predators are labeled as potentially significant impacts.

It is important to note that the 2003 Draft EIR and Final Biological Technical Report differentiate between potential arroyo toad upland habitat and suitable arroyo toad upland habitat. According to the 2003 Draft EIR and Final Biological Technical Report, potential arroyo toad upland habitat occurs within 2 kilometers of the river channel. Suitable arroyo toad upland habitat is defined as areas within 2 kilometers of the stream supporting fine sand. The 2003 Draft EIR and Final Biological Technical Report designate the areas that contain fine sand as being the following soil types: Tujunga sand [TuB], Visalia sand loams [VaA and VaB] and Fallbrook sandy loam [FaD2]. Both potential and suitable arroyo toad upland habitat are addressed in this evaluation.

3.2 RESULTS AND DISCUSSION OF IMPACTS AND MITIGATION

URS re-evaluated impacts on arroyo toad using the assumptions from the 2003 Draft EIR and Final Biological Technical Report. The USFWS (1999) states that arroyo toad upland habitat generally refers to non-riparian habitat up to two kilometers away from breeding habitat. According to Table 2-1, the total acreage impacted by the landfill is 308.6 acres. If the riparian-associated vegetation communities that were identified in the 2003 Draft EIR are subtracted from this total, 0.2 acres of mule fat scrub, 2.4 acres of southern willow scrub, and 0.2 acres of open channel, the assumed total arroyo toad upland habitat impacts are 305.8 acres, which if rounded up, appears to correspond to 306 acres of potential arroyo toad habitat referred to in the 2003 Draft EIR and Final Biological Technical Report.

The approximately 306 acres of potential toad upland habitat indicated in the 2003 Draft EIR and Final Biological Technical Report that would be affected by construction of the landfill and related facilities is unlikely to actually represent actively, or even casually used arroyo toad upland habitat. The 2003 Draft EIR and Final Biological Technical Report, which combine data gathered since 1989, do not report arroyo toads as occurring farther than approximately 0.5 miles from the San Luis Rey River. Furthermore, the data from these studies show that the arroyo toad point locations are strongly associated with the soil types mentioned in the 2003 Draft EIR text presented above, in specific locations onsite where the preferred soil conditions are actually present. In addition, surveys conducted by URS in 2005 did not detect arroyo toads in the uplands beyond the San Luis Rey River floodplain (Table 3-1). Therefore, arroyo toads are most likely distributed within 0.5 miles of the San Luis Rey River where appropriate soils are present as shown in 2003 Draft EIR Exhibit 4.9-2, and Figure 3-1.

The soils present in the uplands beyond the greater San Luis River floodplain are not suitable for arroyo toad burrowing. Arroyo toads burrow into fine sands to avoid desiccation and predation. According to the NRCS soils map, the soil types present in the majority of these uplands include Acid igneous rock (AcG), Las Posas stony fine sandy loam, 30 to 65 percent slopes (LrG), Cieneba-Fallbrook rocky sandy loams (CnG2), Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded (ClG2), and Cieneba very rock coarse sandy loam, 30 to 75 percent slopes (CmrG). The soil type descriptions indicate these are generally shallow soils in steep areas with a hard texture and numerous rock outcrops (NRCS 1973), which is representative of conditions onsite. URS surveys in the southern portion of the project area generally confirm the NRCS soil descriptions, and observed that dense chaparral and coastal sage scrub vegetation dominates the project area. Mammal burrows were observed in these areas, and "although California toads [*Bufo boreas halophilus*] will use small mammal burrows in areas where soils are compacted, arroyo toads apparently will not." (W.E. Haas *et al. in litt.* 1998, as referenced in USFWS 1999). Therefore, the soil types present in the uplands beyond the greater San Luis Rey River floodplain

should not be considered potential arroyo toad upland habitat because these areas are not suitable for burrowing.

URS conducted a GIS analysis to confirm, if possible, the 32 acres of impacts on suitable arroyo toad upland habitat stated in the 2003 Draft EIR and Final Biological Technical Report using the assumptions from the 2003 Draft EIR and Final Biological Technical Report. The entire project impact footprint exists within two kilometers from the San Luis Rey River. The riparian habitat boundary (i.e., arroyo toad non-upland habitat) associated with the San Luis Rey River was mapped within the property using a 2002 aerial photo. This riparian habitat boundary was excluded from the URS suitable arroyo toad upland habitat acreage total. In addition to the aerial photo, property boundary, and riparian habitat boundary, the NRCS soils map for the project area, and the current project impact footprint were overlaid within the GIS layout. Areas of suitable arroyo toad upland habitat impacts were measured where the project footprint intersects with the suitable arroyo toad soil types as mentioned in the 2003 Draft EIR and Final Biological Technical Report (i.e., Tujunga sand [TuB], Visalia sand loams [VaA and VaB] and Fallbrook sandy loam [FaD2]) outside of the riparian habitat boundary. The sum of these areas is 17.5 acres of suitable arroyo toad upland habitat impacts (Table 3-2). Figure 3-1 shows the location of these areas.

We are unable to verify or reproduce the 32 acres stated in the 2003 Draft EIR and Final Biological Technical Report. As shown in Figure 3-1, the mapped riparian habitat boundary contains little project impact acreage. Therefore, the impact area does not approach the 32 acres even if the riverine and riparian habitat boundary were included in the calculations (riverine impacts will result in 0.0368 acres of floodway where bridge pilings will be placed). The impact on potentially suitable arroyo toad upland habitat based on NRCS soil data is 17.5 acres.

Many portions of the suitable arroyo toad upland habitat impact area actually are unsuitable for arroyo toad burrowing because of local soil conditions, and the 17.5 acres is an overestimate of actual suitable arroyo toad upland habitat impacts. Unsuitable areas included in the analysis are existing paved and dirt roads and other developed areas that will be affected by the project. Specifically, a portion of State Route 76 will be realigned, and an access road through the Lucio Dairy and associated buildings will be constructed. These are developed areas that exist within the soil types shown in Table 3-2, and they are not suitable for arroyo toad burrowing.

Another area included in this analysis that is likely unsuitable arroyo toad upland habitat is found in Borrow Area A in the western portion of the project site (Figure 3-1). According to the NRCS soils map, a portion of Borrow Area A supports Visalia sandy loam, 0 to 2 percent slopes (VaA), among other non-suitable arroyo toad soil types. Based on field observations in December 2005, Borrow Area A is highly disturbed from prior agricultural use. Topographically, the VaA area exists in a shallow swale that slopes west-northwest towards the San Luis Rey River floodplain. Adjacent to the swale are steeper hills supporting coastal sage scrub to the north, east, and southeast, with agriculture to the west within the San Luis Rey River floodplain. As of the December 2005 visit, the area supported dense ruderal vegetation and the ground showed evidence of historic mechanical plowing or disking. The 2002 aerial used in the GIS analysis shows the area as plowed and devoid of vegetation. The soils were hard and high in fine silt in this area, and generally did not reflect the soil type description for Visalia sandy loam. Therefore, the

majority of this area is not suitable as arroyo toad upland habitat based on the degree of disturbance and the fact that the native soils mapped here have been substantially modified by historic uses.

Much of the suitable arroyo toad upland habitat as indicated by the soils in Table 3-2 is dominated by non-native grassland and ruderal vegetation communities. These vegetation communities are generally considered unsuitable for arroyo toads because the dense grasses and ruderal species may provide a barrier to arroyo toad movement and their roots may make burrowing difficult. Furthermore, according to the data compiled in the 2003 Draft EIR, it appears that the majority of the arroyo toads detected in the uplands (i.e. outside the riparian habitat) were observed on roads. In our experience, arroyo toads will preferentially move along roads and paths devoid of vegetation during their nocturnal activity period, but cannot burrow into the roads or paths unless the soils are substantially loose and soft with appropriate grain size. The existing roads onsite are generally hard-packed soil that is not suitable for burrowing by arroyo toads. Therefore, it is likely that the 17.5 acres of suitable arroyo toad upland habitat determined based on the NRCS soils maps is an overestimate of actual impacts on arroyo toads. In addition, major portions of these areas supporting dense non-native grassland and ruderal vegetation communities is proposed to be enhanced and preserved onsite to provide more suitable arroyo toad upland habitat. If the suitable arroyo toad upland habitat impacts within developed areas and a portion of Borrow Area A are not included because they are not actually suitable, we estimate the project will more accurately result in impacts on approximately 10.5 acres of suitable arroyo toad upland habitat. This acreage number was attained based on the assumptions provided in 2003 Draft EIR and Final Biological Technical Report, which in turn are based on guidance published in the USFWS recovery plan for the arroyo toad (1999).

In light of the preceding, the acreage of suitable arroyo toad upland habitat impacts is 10.5 acres. These impacts of 10.5 acres (or even 17.5 acres or 32 acres as described in the 2003 Draft EIR) will be mitigated to a level below significance by habitat enhancement and/or creation planned for 88 acres of upland habitat onsite as described in EIR MM 4.9-4 and Exhibit 4.9-6 of the 2006 RPDEIR. This mitigation of 88 acres would occur in addition to riparian habitat mitigation at the bridge and proposed open space dedication. This mitigation could occur within the 134.5 acres of upland habitat identified as available for creation of vegetation communities onsite and outside of the right of way of the pipelines as part of the current analysis (see Section 2.0). This 88 acres of mitigation is consistent with the level of mitigation provided in the 2003 Draft EIR. In addition, it is our opinion that this level of mitigation fully compensates for impacts on arroyo toad from the project.

Finally, the acreage of riparian toad impacts has been reduced as a result of revisions in the design of the landfill access road bridge, and are now 0.0368 acres, with only 0.002 acres of permanent impact. This is less than the impacts described in the 2003 Draft EIR. These impacts of 0.0368 acres will likewise be mitigated to a level below significance by habitat enhancement and/or creation planned for 88 acres of upland habitat onsite and 81.2 acres of riparian habitat as described in MM 4.9-4, and MM 4.9-18, as shown in Exhibit 4.9-6 of the 2006 RPDEIR.

SECTION 4 NOISE EFFECTS

4.1 METHODS

Information about operational noise impacts on potential sensitive riparian species were reviewed in the Gregory Canyon Landfill 2003 Draft EIR and this evaluation deals with potential changes in such effects along State Route (SR) 76 based on current traffic information. Elevated noise levels from landfill operation could negatively affect the reproductive success of the least Bell's vireo (*Vireo belli pusillus*) and the southwestern willow flycatcher (*Empidonax trailli extimus*) on and offsite. Noise levels above 60 dBA L_{eq} occurring during the breeding season (March 15 through September 15) may mask least Bell's vireo vocalizations and adversely affect reproductive success (County of San Diego 1991, Ogden 1993, SANDAG 1990). Therefore, the distances to the 60 dBA L_{eq} contour from the Right-of-Way (ROW) of SR-76 were calculated under existing, existing plus project, and cumulative with project conditions based on the new 2006 traffic study. These contours were added to the vegetation community GIS-based map discussed in Section 2.1. The acreage of riparian habitat that would support least Bell's vireo and southwestern willow flycatcher occurring within 60 dBA L_{eq} contour was calculated for the difference between existing conditions and existing plus project conditions along SR-76. Riparian habitat between Interstate 15 (I-15) and the project property boundary were mapped from January, 2005 aerial photographs with 1-foot resolution. Therefore, riparian vegetation communities are combined as riparian scrub habitat offsite and are believed to overestimate actual acreages within the impact area.

4.2 RESULTS AND DISCUSSION OF IMPACTS AND MITIGATION

With the addition of project traffic to the existing highway, the distance that the existing 60 dBA L_{eq} noise contour would shift onsite as a result of project traffic is approximately 127 feet west of the access road and 7 feet east of the access road. This project-related increase in noise impacts from SR-76 would affect 7.1 acres of riparian habitat (4.0 acres of southern willow scrub and 3.1 acres of cottonwood-willow riparian forest) on the landfill site. The distances to the noise contour are provided in Table 4-1 and illustrated on Figure 4-1.

There is the potential for vireo habitat offsite, along SR-76 between I-15 and the project site, to be affected by traffic noise levels produced by the project. Similar to the onsite riparian habitat, habitat within the San Luis Rey River west of the site is designated critical habitat for the vireo and has been mapped as southern riparian forest by the County. Much of the area adjacent to SR-76 has been modified by agricultural fields and citrus groves. However, riparian habitat is situated within 50 feet of the roadway along two sections of the river (i.e., one mile east of I-15 and adjacent to the hairpin curve). The distance that the existing 60 dBA L_{eq} noise contour would shift offsite is approximately 130 feet from Couser Canyon Road to I-15. This project-related increase in noise impacts would affect 12.9 acres of riparian habitat. The distances to the noise contour are provided in Table 4-1 and illustrated on Figure 4-1.

Mitigation for onsite and offsite impacts of 20 acres (7.1 acres onsite; 12.9 acres offsite) could be mitigated by either creation or enhancement of 20 acres of riparian scrub habitat onsite beyond the existing plus project 60 dBA L_{eq} contour or offsite acquisition , or in whole through offsite acquisition. Onsite, 17.1 acres of habitat for creation or enhancement is available outside of the 60 L_{eq} contour (see Table 4-1), and outside of the easement for the pipelines. This 1:1 mitigation is consistent with the

mitigation ratio provided in the 2003 Draft EIR. In addition, it is our opinion that this level of mitigation is sufficient to fully compensate for indirect noise impacts on least Bell's vireo and southwestern willow flycatcher from the project.

SECTION 5 UPDATE AND SUPPLEMENT TO THE WETLAND MITIGATION AND HABITAT ENHANCEMENT PLAN

The following text supplements and updates the Wetland Mitigation and Habitat Enhancement Plan contained in Appendix L of the 2003 Draft EIR to the extent not already addressed in Sections 1.0 through 4.0 of this report.

5.1 MITIGATION AREAS

The scope of the Wetland Mitigation and Habitat Enhancement Plan has been expanded from 88 acres of upland habitat and 13 acres of riparian habitat to 131.4 acres of upland habitat and 81.2 acres of riparian habitat, for a total of 212.6 acres. Consistent with the existing Wetland Mitigation and Habitat Enhancement Plan, these acreages exclude those areas within the two pipeline easements. See Section 5.3 below for a more detailed discussion regarding the calculation of these revised acreages.

5.2 JURISDICTIONAL WATERS

The U.S. Army Corps of Engineers (2004) confirmed a jurisdictional delineation of waters of the United States, including potential wetlands, within the potential project impact areas that was prepared by URS (2004). This delineation differs from the delineation presented in the 2003 Draft EIR and Wetland Mitigation and Habitat Enhancement Plan. Jurisdictional waters of the U.S. bounded by an Ordinary High Water Mark (OHWM) and adjacent wetlands only occur along the San Luis Rey River within or near project impact areas. Impacts on jurisdictional waters of the U.S. and jurisdictional waters of the State that are defined by an OHWM will only occur within the landfill project area as a result of constructing the bridge crossing of the San Luis Rey River from the permanent discharge of dredged or fill materials in 0.002 acres of riparian wetland and the temporary disturbance of 0.368 acres of riparian wetland (the 0.368 acres of temporary impact area will revegetate upon completion of the bridge.

It should be noted that the 2003 Draft EIR and Wetland Mitigation and Habitat Enhancement Plan used the term open channel to describe unvegetated areas, such as sand bars and exposed sands, that are outside the OHWM of the river, but within the greater floodplain. Although it may have been more appropriate to rename these areas, such as calling them barren sand, we have retained the term open channel in this report to maintain continuity with the 2003 Draft EIR, even though they are not jurisdictional waters.

5.3 SUPPLEMENTAL ANALYSIS OF EXTENT OF PIPELINE RIGHT OF WAYS

The existing Wetland Mitigation and Habitat Enhancement Plan excluded acreages for the existing easement for SDCWA Pipelines Nos. 1 and 2, and a separate easement for proposed Pipeline No. 6. Based on more recent information obtained from the SDCWA Pipeline 6 website Metropolitan Water District of Southern California website (www.mwdh20.com/mwdh20/pdf/at%2øa%2øglance/SD6FS.pdf), the Pipeline No. 6 crossing of the San Luis Rey River will be parallel and adjacent to existing Pipelines Nos. 1 and 2. Therefore, in calculating the acreages to be excluded for purposes of this supplement to the

Wetland Mitigation and Habitat Enhancement Plan, an additional 15-foot width was added to the existing Pipelines Nos. 1 and 2 easement, and the revised acreage of this expanded easement recalculated.

5.4 ADDITIONAL UPDATES TO THE WETLAND MITIGATION AND HABITAT ENHANCEMENT PLAN

Chapter VI of the Wetland Mitigation and Enhancement Plan listed several responsible parties. This section is changed to remove specific companies from the mitigation specialist, hydrologist/civil engineer, and landscape architect to reflect the fact that such companies will be selected at a future date and will be based on qualifications.

The mitigation specialist will supervise installation, maintenance, and monitoring of this mitigation project. The mitigation specialist will educate participants with regard to mitigation goals and requirements, and will oversee site preparation, planting, maintenance, and monitoring. The mitigation specialist will provide the project proponent and other contractors appropriate reports, such as actions required, documentation of results, and annual mitigation monitoring reports. The mitigation specialist shall be a company providing a mitigation manager who is a biologist or other qualified individual with experience supervising similar types of mitigation projects.

A hydrologist/civil engineer will be secured to design excavation and fill of areas for habitat creation and enhancement, and to work with the mitigation specialist and project proponent. The hydrologist/civil engineer shall be a company providing individuals experienced in these areas and with appropriate certifications, when required for the work being performed.

A landscape architect or mitigation planner will work with the mitigation specialist (or may be the mitigation specialist) and the hydrologist/civil engineer to prepare planting plans and excavation/fill construction drawings, if needed, that can be used by installation and maintenance contractors for habitat creation and enhancement. A landscape architect or mitigation planner (who may be the mitigation specialist) shall be a company providing a qualified individual with experience supervising similar types of projects.

SECTION 6 SUPPLEMENTAL ANALYSIS OF CUMULATIVE AND SECONDARY IMPACTS ON BIOLOGICAL RESOURCES

6.1 SUPPLEMENTAL ANALYSIS OF CUMULATIVE IMPACTS

Cumulative impacts on biological resources were evaluated in Section 5.2.9 of the 2003 Draft EIR. Potential impacts have been re-evaluated based on the revised analysis of vegetation impacts, the updated list of individual projects described the traffic report prepared by Darnell & Associates and contained in Appendix A of the Revised Partial Draft EIR, and changes in county-wide acreage of specified vegetative communities. Based on this re-evaluation, it has been determined that the findings in the 2003 Draft EIR regarding cumulative impacts and the suitability of mitigation measures have not changed. Some details contained in Section 5.2.9, such as the acreage of vegetative impacts from the project, the acreage of existing specified vegetative communities, and this list of cumulative projects, may have changed. However, there is no change to the overall analysis and conclusions, and no changes to Section 5.2.9 are recommended. The amount of projects impacts on vegetation communities is minimal in comparison to the existent extent of those communities within the County.

San Diego County has undergone substantial levels of development over the last ten years. This has reduced the amount of undeveloped land containing vegetation communities that provide habitat for sensitive or endangered species. The amount of project impacts on vegetation communities is minimal in comparison to the current extent of those communities within the County. Moreover, past, present, and future projects that have created or would create project-related impacts on biological resources have been required to implement mitigations to reduce those impacts to a level of not significant.

In addition, the development and implementation of a Multiple Species Conservation Program (MSCP) (County of San Diego 2006) will reduce cumulative impacts on biological resources. The MSCP for the southern portion of the county was approved in 1997, and the MSCP for the northern portion of the county is currently under development. The goal of the MSCP, a 50-year program, is to maintain and enhance biological diversity in the region and maintain viable populations of endangered, threatened, and key sensitive species and their habitats. The development and implementation of the MSCPs has substantial potential to minimize or eliminate cumulative impacts on biological resources.

Finally, it was determined in the 2003 Draft EIR, that the implementation of the Wetland Mitigation and Habitat Enhancement Plan over 101 acres was sufficient to adequately mitigate for cumulative impacts on biological resources. The updated and revised Wetland Mitigation and Habitat Enhancement Plan described in Section 5.0 of this report has more than doubled in size, to 212.6 acres.

6.2 SUPPLEMENTAL ANALYSIS OF SECONDARY IMPACTS

An analysis of secondary impacts from biological mitigation was contained in Section 10.3 of the 2003 Draft EIR. A re-evaluation has been performed to analyze additional impacts arising from the increased area for on-site biological mitigation, based on the update to the Wetland and Mitigation and Habitat Enhancement Plan contained in Chapter 5 of Appendix B to the Revised Partial Draft EIR.

No significant adverse secondary impacts on biological resources would occur because mitigation would continue to be implemented in consultation with the project biologist. In addition, the incremental increase in the biological mitigation area would not cause additional adverse impacts on significant archaeological or cultural resources identified in Section 4.11 of the 2003 Draft EIR (URS 2005).

Some details contained in Table 10-4 would be different because the numbering of the MM 4.9 -1 series of mitigations has changed, and new mitigations have been added to the series. However, there is no change to the overall analysis and conclusions.

In addition, the Revised Partial Draft EIR contains new mitigation measures to reduce potential traffic impacts. The implementation of the new measures would not result in secondary effects to biological resources since the measures would limit the amount of trips during specific hours and would require monitoring of trips. The mitigation measures do not result in any roadway widening that could impact biological resources. Therefore, no secondary effects to biological resources would occur as a result of these new mitigation measures.

Based on the above analysis, no changes to Section 10.3 are recommended.

SECTION 7 LITERATURE CITED

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County of San Diego. 2006. Multiple Species Conservation Program Website Portal (http://sdpublic.sdcounty.ca.gov/portal/page?_pageid+341,36265,34)

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San Diego Association of Governments (SANDAG). 1990. *C*omprehensive Species Management Plan for the Least Bell's Vireo.

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Table 2-1
Vegetation Impacts and Mitigation Requirements

Vegetation Type	Acreage of Impacts	Mitigation Ratio	Mitigation Acreage
Agricultural Land	9.9		0.0
Agriculture/Developed	2.5		0.0
Chaparral	27.4	0.5	13.7
Rock Outcrop/Chaparral	1.6		0.0
Coastal Sage Scrub/Chaparral	51.5	2	103.0
Coastal Sage Scrub	170.8	2	341.6
Burned Coastal Sage Scrub	0.0	2	0.0
Disturbed Coastal Sage Scrub	1.7	2	3.4
Coast Live Oak Woodland	22.6	3	67.8
Southern Willow Scrub*	0.4	4	1.6
Cottonwood-willow Riparian Forest	0.2	4	0.8
Disturbed Southern Willow Scrub*	0.4	4	1.6
Open Channel* **	0.2		0.0
Native Perennial Grassland	0.6	3	1.8
Non-Native Grassland	15.8	0.5	7.9
Olives	0.3		0.0
Ornamental	0.4		0.0
Disturbed Habitat	2.3		0.0
Total	308.6	NA	543.2

*Impact and mitigation areas have been updated from the 2006 RPDEIR, and the values in the 2006 RPDEIR will be updated in the Final EIR.

**Note that “Open Channel” does not indicate jurisdictional water of the U.S. Open Channel in this sense is the same as open sand.

Table 3-1
Results of URS 2005 Arroyo Toad Surveys Within the Gregory Canyon Project Site

Survey Date	16-Mar-05	6-Apr-05	2-May-05	17-May-05
Time Onsite	1950-2200	2120-2340	2100-2330	2040-2130
Survey Conditions	57-52ºF clear, winds 0-1 mph	60-57ºF, clear, winds 0-1 mph	62-60ºF, Overcast, winds 0-2 mph	64ºF, clear, winds 0-2 mph
No. of Arroyo Toads Detected*	4	11 to 15**	3	2
Location***	San Luis Rey River	San Luis Rey River	San Luis Rey River	San Luis Rey River

*Includes arroyo toads directly observed and detected aurally.

**A range is provided because an exact number could not be determined based on aural detection.

***Locations of observed toads plotted on Figure 2-1.

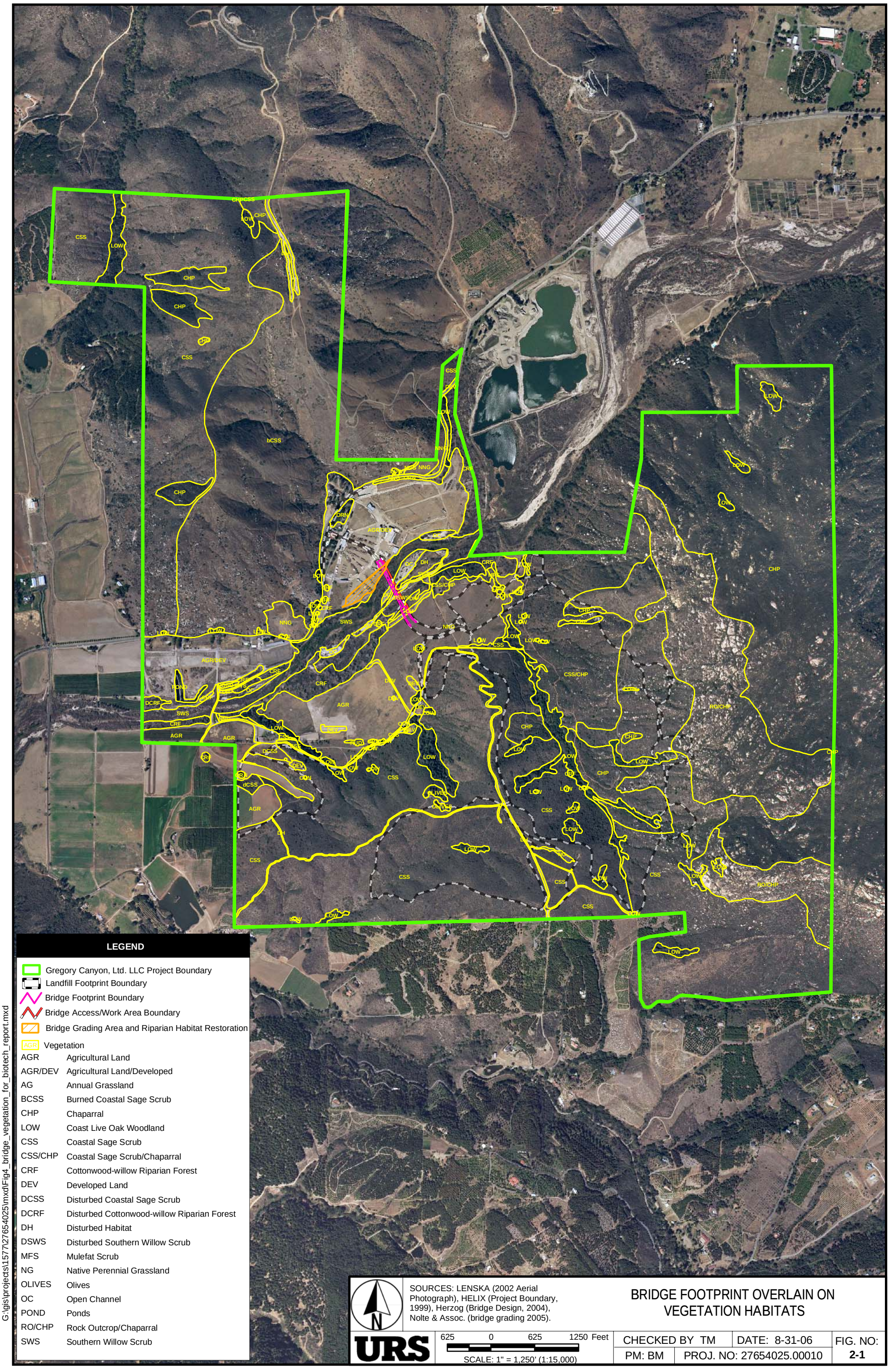
Table 3-2
Acreage of Suitable Arroyo Toad Soil Types Based on NRCS Mapping Within the Project Impact Footprint, Excluding Riparian Habitat

Soil Type	Soil Code	Acres
Fallbrook sandy loam, 9 to 15 percent slopes, eroded	FaD2	9.9
Tujunga sand, 0 to 5 percent slopes	TuB	3.5
Visalia sandy loam, 0 to 2 percent slopes	VaA	3.5
Visalia sandy loam, 2 to 5 percent slopes	VaB	0.6
	Total:	17.5

Table 4-1
Peak Hour L_{eq} and Traffic Noise Contour Distances
Existing and Year 2030 With and Without the Project

Roadway	Segment	Peak Hour L_{eq} @ 100 Feet, dBA	Approximate Distance to Peak Hour L_{eq} Contour From Right of Way of Roadway (feet)		
			70 dBA	65 dBA	60 dBA
Future Year 2030 With Project					
SR 76	I-15 to Pankey Rod	76.0	274	608	1,326
	Pankey Rd to Rice Cyn Rd	73.9	194	435	954
	Rice Cyn Rd to Couser Cyn Rd	73.9	194	435	954
	Couser Cyn Rd to Access Rd	73.0	166	376	827
	East of Access Rd	72.1	143	326	719
Future Year 2030 Without Project					
SR 76	I-15 to Pankey Rod	75.5	254	565	1,235
	Pankey Rd to Rice Cyn Rd	73.1	170	384	845
	Rice Cyn Rd to Couser Cyn Rd	73.1	170	384	845
	Couser Cyn Rd to Access Rd	72.0	141	321	710
	East of Access Rd	72.0	142	323	712
Existing Plus Project					
SR 76	I-15 to Pankey Rod	71.8	136	310	686
	Pankey Rd to Rice Cyn Rd	71.8	136	310	686
	Rice Cyn Rd to Couser Cyn Rd	71.8	136	310	686
	Couser Cyn Rd to Access Rd	72.0	142	323	713
	East of Access Rd	70.9	117	270	600
Existing					
SR 76	I-15 to Pankey Rod	70.4	108	250	556
	Pankey Rd to Rice Cyn Rd	70.4	108	250	556
	Rice Cyn Rd to Couser Cyn Rd	70.4	108	250	556
	Couser Cyn Rd to Access Rd	70.8	115	264	586
	East of Access Rd	70.8	116	276	593

Source: PCR Services Corporation, April 2006


LEGEND
Gregory Canyon, Ltd. LLC Project Boundary
Landfill Footprint Boundary
Bridge Footprint Boundary
Bridge Access/Work Area Boundary
Bridge Grading Area and Riparian Habitat Restoration
AGR Vegetation
AGR Agricultural Land
AGR/DEV Agricultural Land/Developed
AG Annual Grassland
BCSS Burned Coastal Sage Scrub
CHP Chaparral
LOW Coast Live Oak Woodland
CSS Coastal Sage Scrub
CSS/CHP Coastal Sage Scrub/Chaparral
CRF Cottonwood-willow Riparian Forest
DEV Developed Land
DCSS Disturbed Coastal Sage Scrub
DCRF Disturbed Cottonwood-willow Riparian Forest
DH Disturbed Habitat
DSWS Disturbed Southern Willow Scrub
MFS Mulefat Scrub
NG Native Perennial Grassland
OLIVES Olives
OC Open Channel
POND Ponds
RO/CHP Rock Outcrop/Chaparral
SWS Southern Willow Scrub
N
SOURCES: LENSKA (2002 Aerial Photograph), HELIX (Project Boundary, 1999), Herzog (Bridge Design, 2004), Nolte & Assoc. (bridge grading 2005).
BRIDGE FOOTPRINT OVERLAIN ON VEGETATION HABITATS
URS
625 0 625 1250 Feet
SCALE: 1" = 1,250' (1:15,000)
CHECKED BY TM
DATE: 8-31-06
PM: BM
PROJ. NO: 27654025.00010
FIG. NO: 2-1
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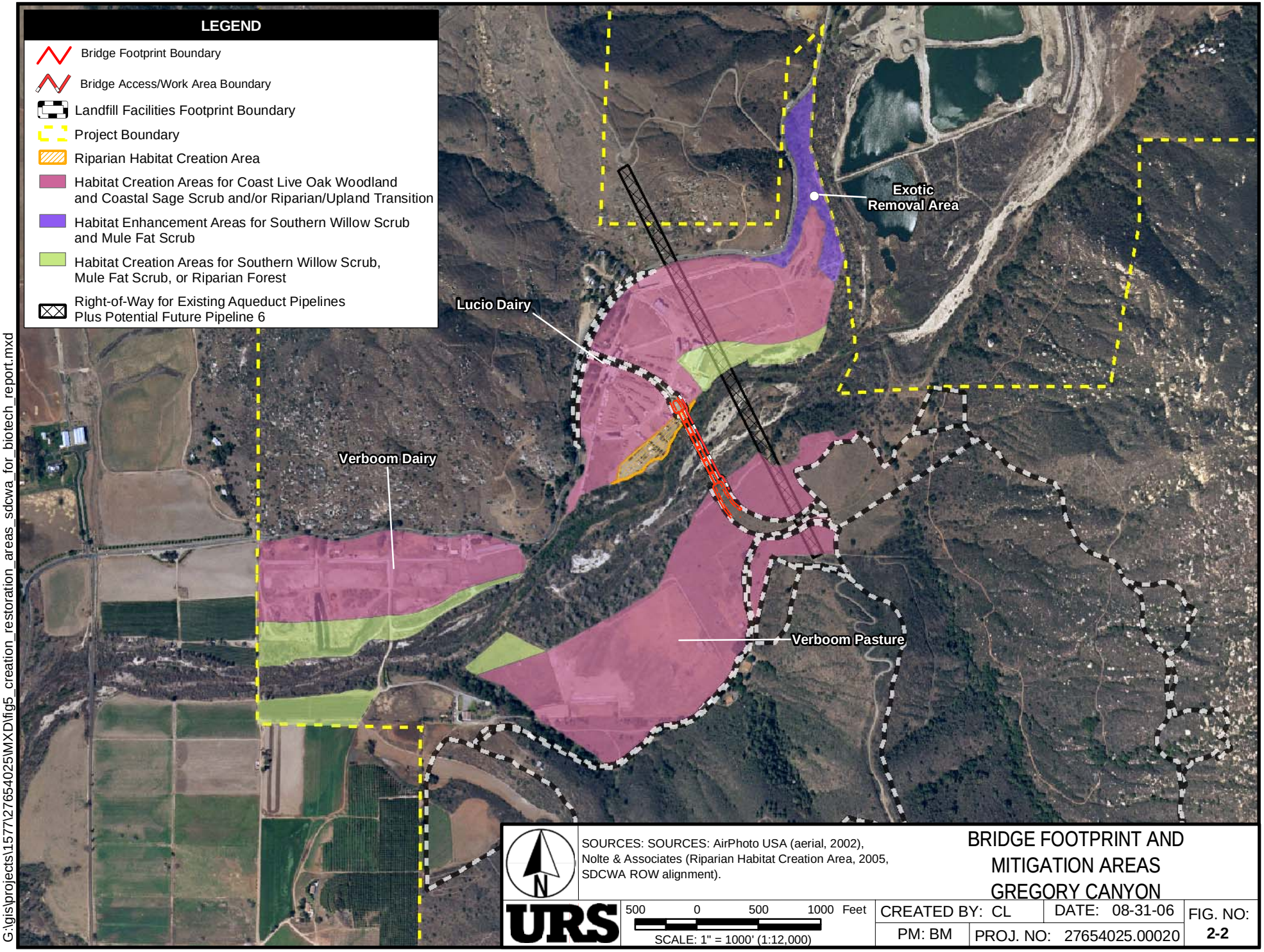

SOURCES: SOURCES: AirPhoto USA (aerial, 2002), Nolte & Associates (Riparian Habitat Creation Area, 2005, SDCWA ROW alignment).

BRIDGE FOOTPRINT AND MITIGATION AREAS GREGORY CANYON

URS

500 0 500 1000 Feet

SCALE: 1" = 1000' (1:12,000)

CREATED BY: CL	DATE: 08-31-06	FIG. NO: 2-2
PM: BM	PROJ. NO: 27654025.00020	

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SOURCES: Lenska (aerial, 2002);
SANDAG (soils); Herzog (2004 Bridge design);
Nolte & Assoc. (bridge grading, 2005).

POTENTIAL ARROYO TOAD UPLAND IMPACT AREAS

URS

400 0 400 Feet
SCALE: 1" = 800' (1:9600)

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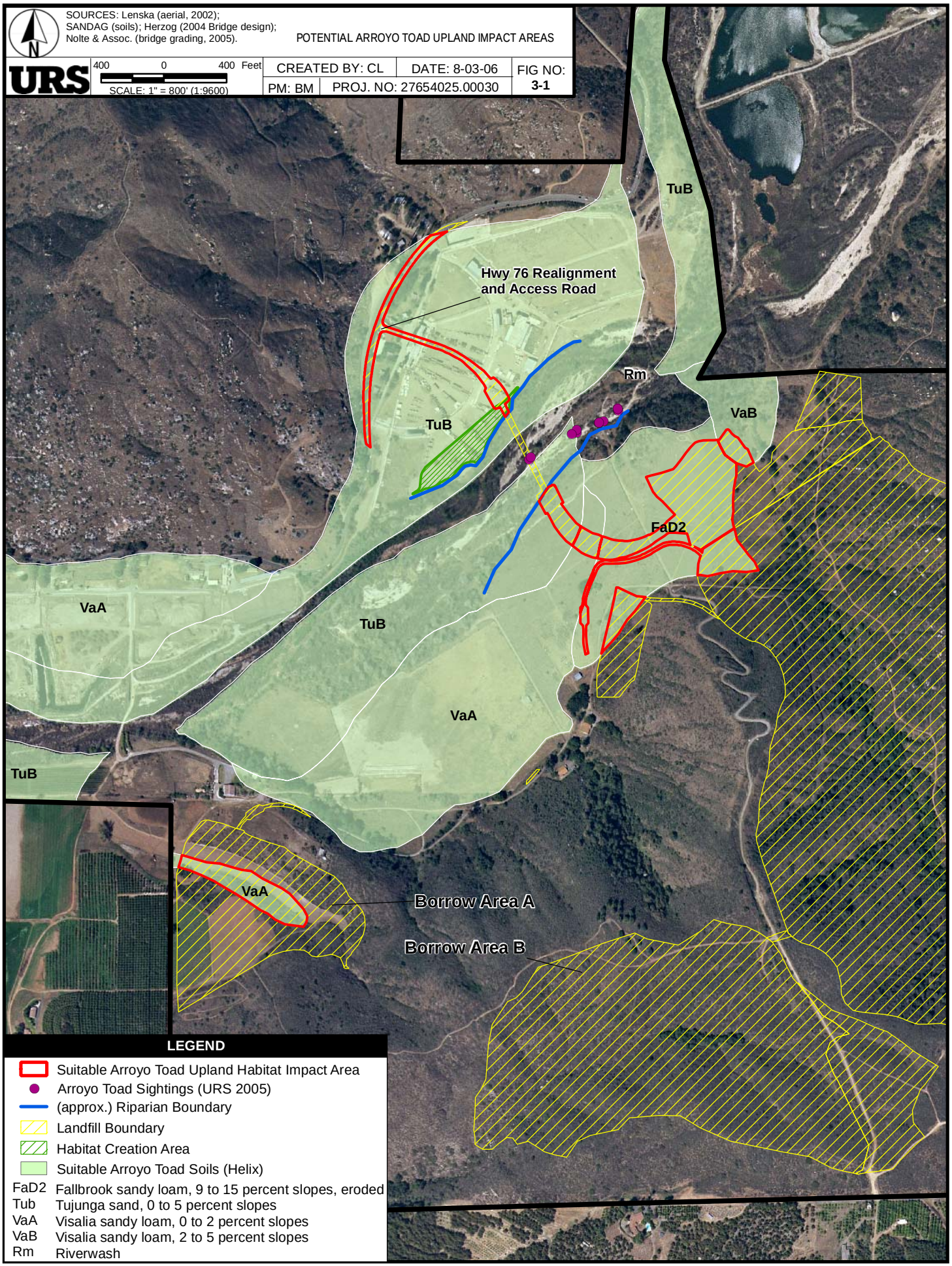

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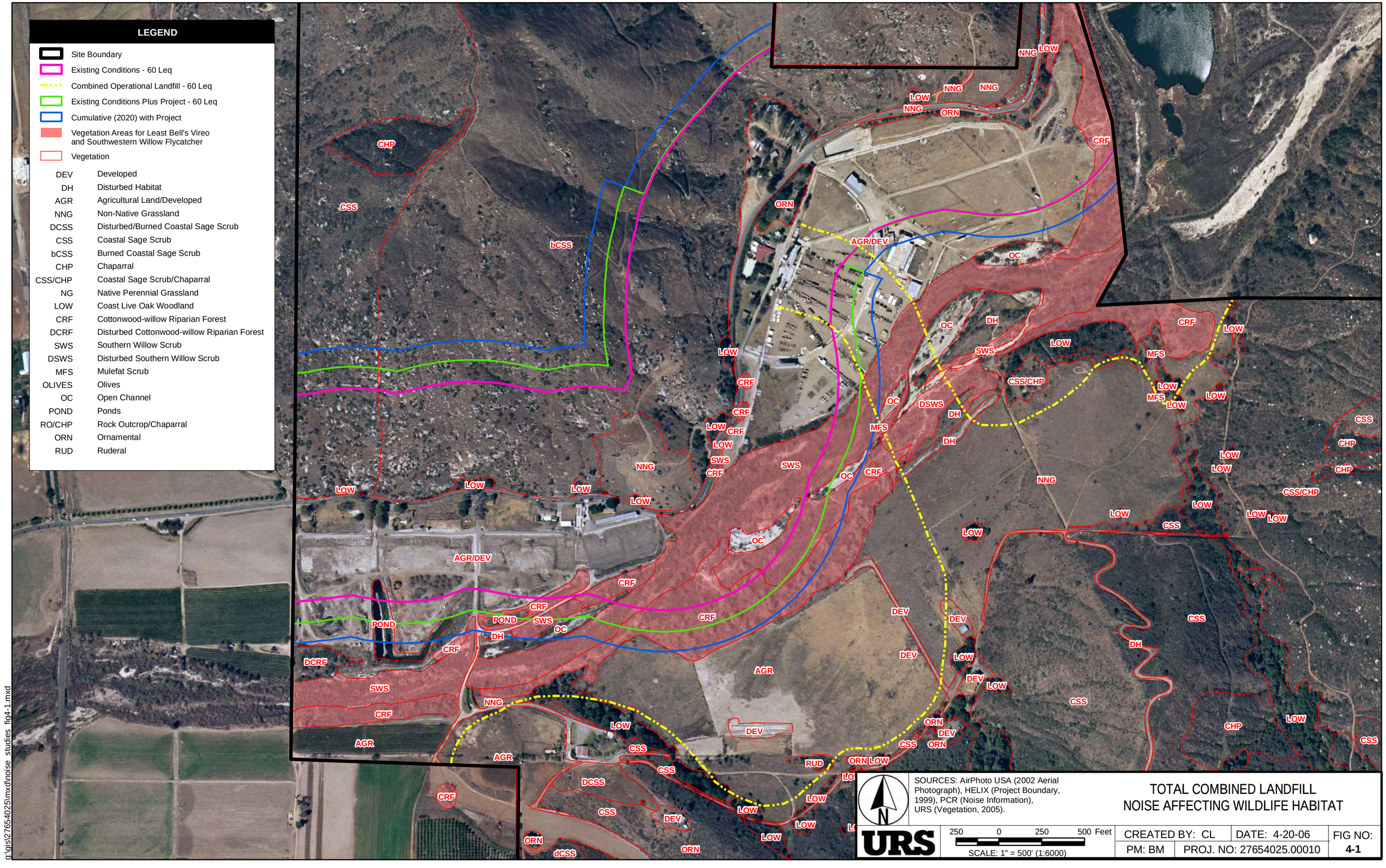
LEGEND
Site Boundary
Existing Conditions - 60 Leq
Combined Operational Landfill - 60 Leq
Existing Conditions Plus Project - 60 Leq
Cumulative (2020) with Project
Vegetation Areas for Least Bell's Vireo and Southwestern Willow Flycatcher
Vegetation
DEV Developed
DH Disturbed Habitat
AGR Agricultural Land/Developed
NNG Non-Native Grassland
DCSS Disturbed/Burned Coastal Sage Scrub
CSS Coastal Sage Scrub
bCSS Burned Coastal Sage Scrub
CHP Chaparral
CSS/CHP Coastal Sage Scrub/Chaparral
NG Native Perennial Grassland
LOW Coast Live Oak Woodland
CRF Cottonwood-willow Riparian Forest
DCRF Disturbed Cottonwood-willow Riparian Forest
SWS Southern Willow Scrub
DSWS Disturbed Southern Willow Scrub
MFS Mulefat Scrub
OLIVES Olives
OC Open Channel
POND Ponds
RO/CHP Rock Outcrop/Chaparral
ORN Ornamental
RUD Ruderal
SOURCES: AirPhoto USA (2002 Aerial Photograph), HELIX (Project Boundary, 1999), PCR (Noise Information), URS (Vegetation, 2005).
N
URS
250 0 250 500 Feet
SCALE: 1" = 500' (1:6000)
TOTAL COMBINED LANDFILL
NOISE AFFECTING WILDLIFE HABITAT
CREATED BY: CL
DATE: 4-20-06
FIG NO:
PM: BM
PROJ. NO: 27654025.00010
4-1
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