

SR-73 Basin Sedimentation

NES (MI)

Natural Environment Study (Minimal Impacts)

SR-73 Basin Sedimentation Project

SR-73 between Jamboree Road and I-5/SR-73 Interchange

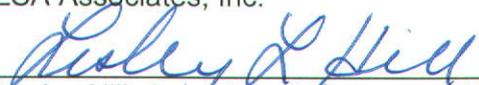
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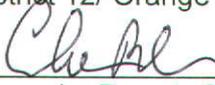
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1. Summary

The California Department of Transportation (the Department), District 12, in cooperation with the Cities of Irvine, Laguna Beach, Aliso Viejo, and Laguna Niguel, proposes to reduce sedimentation runoff into 39 storm water basins along the San Joaquin Hills Transportation Corridor (State Route 73 [SR-73]) with Best Management Practices (BMPs).

The purpose of the proposed project is to reduce erosion of internal basin slopes, erosion of adjacent slopes, bare areas within the median, and any areas identified within the Department right-of-way as source contributors that drain into basins.

An on-site assessment was conducted to evaluate the biological condition of the project area, including vegetation, wildlife, and suitability of habitat for the presence of various special-status species. The project area consists of urban/developed areas, native vegetation communities, and nonnative/ornamental/disturbed habitats.

The proposed project will not significantly impact any special-status plant or animal species or wildlife movement corridors. The project may have short-term impacts, but proposed impacts to nonsensitive habitats and corridors are not significant because of the small impact area; the short-term work schedule at each basin (i.e., probably one week to a few weeks); no night work; the disturbed, low-quality nature of the habitats; and implementation of recommended measures (see Section 6).

No long-term impacts to the wildlife crossings are anticipated; however, noise and construction activities may temporarily impact nesting birds in proximity to or within the basins; therefore, a preconstruction survey 500-foot (ft) buffer by a biologist should be conducted during the nesting season (February 15–August 15) prior to work activities around and within the basins. The project is expected to have a long-term benefit due to restoration with native vegetation and erosion reduction.

Of the 39 basins, 3 were excluded from this Natural Environment Study (Minimal Impacts) (NES[MI]) because of environmental resources. These will be addressed in a Natural Environment Study (NES) and include the following locations: **Basin 765L**, which may be subject to jurisdiction of the United States Army Corps of Engineers (ACOE), and **Basins 878R** and **780R**, which have expected impacts to coastal sage scrub (CSS).

At the time of the reconnaissance-level biological survey, a Jurisdictional Delineation was conducted to determine whether federal and State jurisdictional waters and wetland resources

are present. One significant area of potential jurisdiction was identified within the Biological Study Area (BSA). The Jurisdictional Delineation is included in Appendix F.

A request to extend an existing ACOE jurisdictional determination for the proposed storm water basin sediment loading was submitted in June 2008. The ACOE has not yet determined the jurisdictional status of many of the basins. Any activities within jurisdictional basins would require permits from the regulatory agencies. **Basin 765L** may be subject to jurisdiction; therefore, this basin is excluded from this NES(MI).

Impacts to CSS habitat are anticipated at **Basins 878R** and **780R**; therefore, these basins are excluded from this NES(MI). Impacts to CSS associated with the basins will require implementation of construction-related minimization measures as part of the Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) and the Biological Opinion (BO) on the Effects of the San Joaquin Hills Transportation Corridor on the California Gnatcatcher and Coastal Cactus Wren, Orange County, California. The Transportation Corridor Agencies (TCA) was a participating landowner in the NCCP/HCP (1996) for construction and operation of SR-73, and Take authorization, including future Take of Identified Species, extends to land that was controlled by TCA (i.e., the right-of-way) at the time the NCCP/HCP was finalized. According to the provisions of the NCCP/HCP and BO, monitoring of CSS within or adjacent to project construction shall occur throughout the construction period. If construction occurs within 100 feet (ft) of habitat occupied by the coastal California gnatcatcher or coastal cactus wren, the monitoring shall be continuous. Coordination with the United States Fish and Wildlife Service (USFWS) is also recommended, and disturbed areas outside of the basins but adjacent to natural open space should be revegetated with CSS species.

This NES(MI) includes the following 36 storm water basins along SR-73: **1194L, 1183L, 1180R, 1156R, 1151L, 1149L, 1143L, 1137L, 1133L, 1085L, 1081L, 1080R, 1076R, 1075L, 1032L, 1032R, 930L, 922R, 893L, 883L, 859L, 808R, 789L, 785L, 757, 696R, 659L, 654R, 635L, 630L, 613L, 604R, 583L, 535L, 506R, and 457L.**

2. Introduction

The California Department of Transportation (the Department), District 12, in cooperation with the Cities of Irvine, Laguna Beach, Aliso Viejo, and Laguna Niguel, proposes to reduce sedimentation runoff into 39 storm water basins along State Route 73 (SR-73) with Best Management Practices (BMPs) by reducing erosion of internal basin slopes, erosion of adjacent slopes, bare areas within the median, or any areas identified within Department right-of-way as source contributors that drain into basins.

A total of 95 acres (ac) would be revegetated along 15 miles on SR-73. The project proposes to treat bare soil and eroded areas with Low Impact Developments (LIDs) such as drought-tolerant plants, native plants, and erosion control measures. Temporary irrigation will be provided for new plantings in areas where there is no available water source or existing irrigation. Basin perimeter slopes with existing irrigation that require additional planting will be repaired or upgraded for efficiency to minimize water usage during plant establishment. Some areas will require engineer design recommendations for slope repair, grading, proposed concrete v-ditches, drainage issues, and maintenance safety concerns.

3. Study Methods

Prior to the on-site surveys, a literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special-status biological resources (e.g., plant and animal species) in or within the vicinity of the Biological Study Area (BSA¹).

Database records reviewed were:

- California Natural Diversity Database (CNDDDB) information (Version 3.1.0, November 4, 2008), which is administered by the California Department of Fish and Game (CDFG). This database covers sensitive plant and animal species as well as sensitive natural communities that occur within California.
- The California Native Plant Society (CNPS) On-Line Electronic Inventory of Rare and Endangered Vascular Plants of California (Version 7-06b, November 2008, CNPS Inventory).

Searches of these databases were conducted for special-status species expected to occur in the vicinity of the BSA. Other special-status species known to occur in the general area were also considered.

A reconnaissance-level survey was conducted on November 5, 6, 7, 10, and 18, 2008, by LSA biologists Corey Knips, Ingri Quon, Angela Roundy, and Leo Simone to generally characterize the biological resources of the site and to ascertain the presence or absence of special-status plants and animals or the likelihood of their occurrence in the BSA. The purpose of the survey was to evaluate the site based on existing conditions, with particular focus on the potential for native vegetation and special-status species within the BSA. The BSA includes the entire proposed ground disturbance area associated with the basin and a 500-ft buffer, which, in most cases, was surveyed from each basin with the aid of binoculars. All plant and animal species observed or otherwise detected in the BSA are summarized in Appendices C and D, respectively.

A formal Jurisdictional Delineation for the presence of federal and State jurisdictional waters and wetland resources was also conducted at the time of the reconnaissance-level survey. This delineation considered approved methods outlined in the Final Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Regional Supplement) (ACOE 2008). One significant area of potential jurisdiction was identified within

¹ The BSA includes the entire proposed ground disturbing area associated with the BMP activities.

the BSA (**Basin 765L**). Findings of the Jurisdictional Delineation are provided in Section 4.5 and the full report is included as Appendix F.

4. Environmental Setting

The linear project extends from Jamboree Road to the Interstate 5 (I-5)/SR-73 Interchange through the cities of Irvine, Laguna Beach, Aliso Viejo, and Laguna Niguel (Figure 1). The proposed project is located along 15 miles of SR-73 surrounded by portions of urban development and ornamental landscaping, with some areas of revegetated or naturally occurring CSS and riparian habitat. The entire BSA is located on the United States Geological Survey (USGS) *Tustin, Laguna Beach, and Dana Point, California* 7.5-minute topographic maps.

4.1. Description of the Existing Biological and Physical Conditions

The BSA consists of 36 basins along the SR-73 alignment and its associated on- and off-ramps. These basins were artificially constructed on dry land to collect storm water runoff from SR-73. The BSA passes through gently to steeply rolling hills ranging from approximately 30 to 1,030 ft in elevation. Five drainages cross SR-73 within the project length (from north to south), but outside of the BSA: San Diego Creek Channel, Laguna Canyon Creek, an unnamed tributary to Laguna Canyon Creek (adjacent to El Toro Road), Aliso Creek, and Oso Creek.

Many of the BSA basins are regularly mowed and have high concentrations of nonnative, ruderal plant species along the bottom of the basin, with ornamental plantings on the adjacent slopes. Many of the basins are surrounded by urban development with associated ornamental plantings, although substantial portions of SR-73 have been revegetated with or have naturally occurring CSS habitat. This revegetation measure was implemented in order to meet specific mitigation requirements for the original construction of the SR-73 toll road. The rest of the vegetation is predominantly ornamental landscaping and, in many locations, includes prostrate acacia (*Acacia redolens*), strawberry tree (*Arbutus unedo*), gum tree (*Eucalyptus* spp.), goldenrain tree (*Koelreuteria paniculata*), and Peruvian pepper tree (*Schinus molle*).

There are several wildlife crossings along SR-73 that were also implemented as part of the mitigation requirements for SR-73. These wildlife crossings were constructed at Laguna Canyon adjacent to Laguna Canyon Road, in the saddle between Shady and Laurel Canyons, and along the westerly fork of Bommer Canyon.

4.2. Special-Status Species

Special-status species include listed species and special-interest species. Listed species are those that are federally and/or State-listed, proposed for listing, or candidate species, as indicated by an asterisk [*] in the list below. Special-interest species are those listed as species of concern by the CDFG, those found on CNPS List 1B, or those that warrant additional consideration based on the professional opinion of those familiar with plant and animal species in the area. The 1B listing in the CNPS Inventory of Rare and Endangered Vascular Plants of California indicates those species considered endangered by the CNPS.

The results of the literature review indicated the potential occurrence of 3 listed plant species, 27 special-interest plant species, 4 listed animal species, and 19 special-interest animal species. Some species found in the literature search were excluded from the list below due to lack of suitable habitat within the BSA and immediate vicinity.

The special-status plant species identified as potentially occurring in the project area are:

- *Aphanisma (Aphanisma blitoides)*,
- Coulter's saltbush (*Atriplex coulteri*),
- South Coast saltscale (*Atriplex pacifica*),
- Parish's brittlescale (*Atriplex parishii*),
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*),
- *Thread-leaved brodiaea (*Brodiaea filifolia*),
- Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*),
- Lewis's evening primrose (*Camissonia lewisii*),
- Southern tarplant (*Centromadia parryi* ssp. *australis*),
- Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*),
- Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*),
- Many-stemmed dudleya (*Dudleya multicaulis*),
- *Laguna Beach dudleya (*Dudleya stolonifera*),
- *Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*),
- Palmer's grapplinghook (*Harpagonella palmeri*),
- Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*),
- Vernal barley (*Hordeum intercedens*),
- Mesa horkelia (*Horkelia cuneata* ssp. *puberula*),
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*),
- Mud nama (*Nama stenocarpum*),
- Gambel's watercress (*Nasturtium gambelii*),

- Prostrate navarretia (*Navarretia prostrata*),
- Coast woolly-heads (*Nemacaulis denudata* var. *denudata*),
- Allen's daisy (*Pentachaeta aurea* ssp. *allenii*),
- White rabbit-tobacco (*Psuedognaphalium leucocephalum*),
- Nuttall's scrub oak (*Quercus dumosa*),
- Sanford's arrowhead (*Sagittaria sanfordii*),
- Rayless ragwort (*Senecio aphanactis*),
- Salt spring checkerbloom (*Sidalcea neomexicana*), and
- San Bernardino aster (*Symphotrichum defoliatum*).

Although these plant species have been documented within the vicinity of the BSA and may occur in the surrounding area, with the exception of southern tarplant, the probability of the species identified above to occur within the project area ranges from "not expected" to "low" due to lack of suitable substrate or growing conditions within the project limits. Southern tarplant occurs in scattered to dense concentrations at several of the northern basins with habitat characteristics typical for this species (i.e., disturbed habitat, margins of swamps and marshes, valley and foothill grassland).

The special-status animal species identified as potentially occurring in the project area are:

- Cooper's hawk (*Accipiter cooperii*),
- Southwestern pond turtle (*Actinemys marmorata pallida*),
- Grasshopper sparrow (*Ammodramus savannarum*),
- Orange-throated whiptail (*Aspidoscelis hyperythra*),
- Burrowing owl (*Athene cunicularia*),
- *San Diego fairy shrimp (*Branchinecta sandiegonensis*),
- Coastal cactus wren (*Campylorhynchus brunneicapillus*),
- Dulzura pocket mouse (*Chaetodipus californicus femoralis*),
- Rosy boa (*Charina trivirgata*),
- Northern red-diamond rattlesnake (*Crotalus ruber ruber*),
- Western mastiff bat (*Eumops perotis californicus*),
- Yellow-breasted chat (*Icteria virens*),
- Western yellow bat (*Lasiurus xanthinus*),
- San Diego desert woodrat (*Neotoma lepida intermedia*),
- Big free-tailed bat (*Nyctinomops macrotis*),
- Coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*),
- *Coastal California gnatcatcher (*Polioptila californica californica*),

- Coast patch-nosed snake (*Salvadora hexalepis virgulata*),
- Western spadefoot (*Spea hammondi*),
- *Riverside fairy shrimp (*Streptocephalus woottoni*),
- American badger (*Taxidea taxus*),
- Two-striped garter snake (*Thamnophis hammondi*), and
- *Least Bell's vireo (*Vireo bellii pusillus*).

Although these animal species have been documented within the vicinity of the BSA and may be found nesting, roosting or foraging in the surrounding area, the probability of most of these species occurring within the project area ranges from not expected to low due to lack of suitable nesting, roosting, or foraging habitat within the project limits. The detected animal species (e.g., coastal California gnatcatcher) are included in Appendix D.

4.3. Vegetation

The BSA supports four primary habitat types or plant communities based on the *Orange County Habitat Classification System Natural Resources Geographic Information System (GIS) Project* (Gray and Bramlet 1992). This system was developed by the County of Orange and is based on the 1986 *Preliminary Description of the Terrestrial Natural Communities of California* by Robert Holland, with some revisions to more clearly define Orange County habitats. This State-wide system is also used by the CNDDDB.

The dominant habitat types within the BSA consist of mowed herbaceous plants within the basins (Ruderal, Habitat Classification System [HCS] 4.6) and planted and irrigated native and nonnative vegetation along the adjacent slopes (Parks and Ornamental Plantings, HCS 15.5). Other communities present include native scrub vegetation (Sagebrush-Coyote bush sage scrub, HCS 2.3.12), cattails (*Typha* sp.) and other marsh species (Coastal freshwater marsh, HCS 6.4), and barren dirt or gravel (Cleared or Graded, HCS 16.1). Plant species observed or detected on site are listed in Appendix C and the plant communities are described below.

Photographs of representative basins showing some of the habitat types are in Figure 2 (Appendix A). In addition, a photo of each basin is included in the Jurisdictional Delineation report (Appendix F).

4.3.1. Ruderal (HCS 4.6)

Most basins are mowed on the bottom and the slopes. Regular disturbance maintains a high number of nonnative species within the basins. In varying degrees of coverage, these species include Australian saltbush (*Atriplex semibaccata*), black mustard (*Brassica nigra*), foxtail chess (*Bromus madritensis* ssp. *rubens*), common horseweed (*Conyza canadensis*), tocalote (*Centaurea melitensis*), garland chrysanthemum (*Chrysanthemum coronarium*), telegraph weed (*Heterotheca grandiflora*), short-pod mustard (*Hirschfeldia incana*), coastal goldenbush (*Isocoma menziesii*), cheeseweed (*Malva parviflora*), bristly ox-tongue (*Picris echioides*), castor bean (*Ricinis communis*), Russian thistle (*Salsola tragus*), tall wreath-plant (*Stephanomeria virgata*), and common cocklebur (*Xanthium strumarium*). This habitat type was not specifically mapped, but is present in all basins.

4.3.2. Coastal Freshwater Marsh (HCS 6.4)

Coastal freshwater marsh was present at several of the low-lying basin areas with occasional standing water. Marsh habitat consisting primarily of cattails was typically localized within the basin, limited to a small portion of the basin around the culvert. Additional species include mulefat (*Baccharis salicifolia*), African brass buttons (*Cotula coronopifolia*), giant wild-rye (*Leymus condensatus*), white sweetclover (*Melilotus alba*), rabbitfoot grass (*Polypogon monspeliensis*), Spanish sunflower (*Pulicaria paludosa*), prickly sow-thistle, curly dock (*Rumex crispus*), common horseweed, and occasionally emergent willows (*Salix* sp.). Many of the dominant species are nonnative.

4.3.3. Ornamental Landscaping (HCS 15.5)

Significant portions of the study area consists of nonnative landscaped vegetation on the adjacent slopes of the basins. Species within this habitat type consist of gum tree, pine (*Pinus* spp.), Peruvian pepper tree, and goldenrain tree. Shrub and groundcover species include strawberry tree and prostrate acacia. In addition, these peripheral areas occasionally include native species such as coyote bush (*Baccharis pilularis*), California encelia (*Encelia californica*), western sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), California wild rose (*Rosa californica*), and black sage (*Salvia mellifera*).

4.3.4. Cleared or Graded (HCS 16.1)

Several portions of the study area consist of cleared or barren ground. These areas are devoid of vegetation and, in most locations, are a compacted dirt or gravel road.

4.4. Wildlife and Wildlife Corridors

The BSA is characterized by a mosaic of native and nonnative vegetation communities associated with the storm water basins along SR-73. During the construction of SR-73, several wildlife crossings (i.e., bridges) were designed so that wildlife could move between the surrounding open space areas of Crystal Cove State Park, City of Irvine Open Space Preserve – South (e.g., Bommer Canyon Cattle Camp), Laguna Laurel Ecological Reserve, Laguna Coast Wilderness Park, and Aliso and Wood Canyons Wildernes Park. These corridors occur within Laguna Canyon adjacent to Laguna Canyon Road, in the saddle between Shady and Laurel Canyons, and along the westerly fork of Bommer Canyon. Wildlife species occurring within the BSA are characteristic of those found within both native habitats and developed or disturbed habitats. Basins in proximity to the designated corridors are **Basins 930L, 922R** (Bommer Canyon), **859L** (Shady and Laurel Canyons), **789L**, and **785L** (Laguna Canyon). A list of animal species observed during the surveys is provided in Appendix D.

4.5. Jurisdictional Waters

A Jurisdictional Delineation was conducted to determine the potential for federal and State jurisdictional waters and wetland resources at the time of the reconnaissance-level biological survey. The Draft Jurisdictional Delineation report is provided as Appendix F.

As described in the Jurisdictional Delineation, the ACOE typically does not assert jurisdiction over “artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing” (Preamble Section 328.3). Furthermore, Section 328.3 of the regulations specifically states: “Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.”

Each of the storm water basins within the BSA was constructed on dry land in upland areas for the sole purpose of collecting and treating runoff and nuisance flows from SR-73. In addition, these areas are separated from any ACOE jurisdictional waters. For these reasons, it is concluded with confidence that the 36 basins within the BSA are not potentially subject to ACOE jurisdiction.

Several creeks and tributaries occur near the basins but do not occur within the BSA; therefore, they were not evaluated as a part of this study.

In addition, one basin located outside the limits of the BSA (**Basin 765L**) may be considered jurisdictional by the ACOE and CDFG due to the apparent direct hydrologic connection to an unnamed perennial creek. This basin was excluded from this NES(MI), but a description of the basin is included in the Jurisdictional Delineation report (Appendix F). Photographs of the 39 delineated basins are included in Appendix F of the Jurisdictional Delineation.

5. Project Impacts

5.1. Special-Status Species

The proposed project will not impact any special-status species. In addition, project activities are not expected to cause any substantial impacts to the wildlife movement corridors identified in Section 4.4 due to the relatively confined nature of the basins, the brief time period to complete project activities within each basin, and the minimal amount, if any, of heavy work proposed for the basins.

5.2. Vegetation Communities

Direct impacts to habitat are those associated with the removal of vegetation within the BSA. The basins included in this NES(MI) will not result in any direct significant impacts to any sensitive habitats or other protected biological resources. Hydroseeding in the bottom of basins, as described in the project plans, would likely have an adverse effect on southern tarplant at Basins 1194R, 1180R, and 1133L; therefore, measures will be taken to avoid impacts to southern tarplant, a CNPS List 1B plant species. See Section 6 for recommended measures.

No trees will be removed as a result of the proposed project activities. Impacts to nonsensitive habitats (i.e., nonnative trees and shrubs that may provide nesting habitat for migratory birds) are not significant because of the small amount of impact and the disturbed nature of the habitats. However, the Migratory Bird Treaty Act (MBTA) protects migratory birds; therefore, measures will be taken to protect active nests (see Section 6.3).

5.3. Jurisdictional Waters and Wetland Resources

Basins included in this NES(MI) and identified within the BSA during the reconnaissance-level survey are likely not jurisdictional. A jurisdictional determination by the ACOE and CDFG will be required in order to support these findings. Project-related activities are not expected to temporarily or permanently impact any jurisdictional waters.

5.4. Indirect Impacts

Potential indirect effects of the proposed project include both construction-related effects and operations effects inside and outside the BSA. Impacts from indirect effects are not expected to be significant because of the relatively disturbed and developed nature of the study area, the relatively confined nature of the basins, the brief time period to complete project activities within each basin, and minimal amount, if any, of heavy work proposed for the basins.

Indirect construction-related effects include potential fuel or fluid spills due to construction equipment fluid leakage, activities of equipment or personnel outside designated construction areas, and fugitive dust emissions. Other indirect operations effects outside and inside the BSA may include erosion, siltation, and runoff outside or within the basins; construction traffic; and an increase in the presence of trash and noise around the project.

6. Recommended Measures

6.1. Biological Resources Protection

The proposed project will not result in any direct impacts to any sensitive habitats, threatened or endangered species, or other protected biological resources. Impacts to nonsensitive habitats are not significant because of the small amount of impact and the disturbed nature of the habitats. General avoidance and minimization measures (i.e., project BMPs) can be applied to protect sensitive biological resources adjacent to the project area. Appendix B includes Table A, which summarizes basin characteristics (e.g., acreage, vegetation, adjacent habitat, sensitive species) and indicates, as a table footnote, if special interest species (e.g., southern tarplant, coastal California gnatcatcher) should be considered when developing the project construction schedule and activities.

Hydroseeding in the bottom of basins, as described in the project plans, would likely have an effect on southern tarplant in Basins 1194R, 1180R, and 1133L. It is therefore recommended that hydroseeding be restricted to the slopes only and not the bottom of Basins 1194R, 1180R, and 1133L. It is also recommended that a biologist/botanist define with fencing, rope, or stakes the tarplant areas during or soon after the blooming period (May–November) for avoidance during construction and hydroseeding activities. However, hydroseeding or planting on the slopes of these basins is not expected to impact southern tarplant because the quantities observed on the slopes of the basins in November 2008 were small compared to the amount of tarplant growing in the bottom of the basins. For example, at Basin 1180R, the slopes are estimated to have less than 20 percent of the observed southern tarplant in the basin population.

6.2. Site Protection: Storm Water Pollution Protection Plan and Best Management Practices

The project area exceeds 1 ac; therefore, a Storm Water Pollution Protection Plan (SWPPP) and BMPs are required. The SWPPP and BMPs will identify measures to restrict erosion, dust, noise, and lighting. Construction activities should occur outside the rainy season (October–May) to ensure that erosion caused by construction activities does not occur and that sedimentation is not deposited within the storm drain system and any adjacent drainages. If construction must occur during the rainy season, erosion control and sedimentation control measures specified in the SWPPP and BMPs will minimize potential impacts to storm water.

6.3. Invasive Plant Species Control

The proposed project is located in an area that consists of native plant communities (some relatively contiguous with dedicated open space areas like Laguna Coast Wilderness Park and Aliso and Wood Canyons Wilderness Park), urban/developed areas, and nonnative/disturbed vegetation communities. Even though the BSA consists primarily of disturbed areas, the proposed project has the potential to spread invasive plant species to adjacent native habitats by the entering and exiting of construction equipment contaminated by invasives, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that seed is spread along the highways. To avoid potential spread of invasive plant species and to fulfill National Pollutant Discharge Elimination System (NPDES) requirements, bare soil will be seeded with a Department-approved hydroseed mixture.

6.4. Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plant and animal species listed as threatened or endangered. In this case, no federally listed species are present within the direct impact area of the project, but some species, such as the California gnatcatcher, occur within the project area (i.e., within 500 ft). No direct impacts are expected to occur to listed species as a result of the proposed project, and no designated critical habitat for federally listed species will be impacted. Therefore, no consultation with applicable federal resource agencies is required.

To avoid potential impacts to sensitive species and resources (i.e., CSS or riparian habitats) that may occur adjacent to the proposed project (i.e., within 500 ft) and to prevent erosion into the storm drain system, it is recommended that both ESA fencing and silt fencing or other erosion control measures be installed along the construction perimeter during construction to prevent disturbance of sensitive species and resources and erosion/sedimentation.

To protect adjacent CSS or CSS within a basin (indicated by †), ESA fencing should be installed at the following basins: **Basins 506R, 785L, 789L[†], 808R, 859L, 883L, 893L, 922R, 930L, 1032R, 1032L, 1075L, and 1149L.**

Nearly all the basins are separated from nearby riparian habitat by major roadways, contained by on/off-ramps, or within cloverleaf roadways; therefore, ESA fencing should not be needed to protect riparian habitat except at **Basin 1085L**, which is immediately adjacent to riparian vegetation. Wildlife species protected under the FESA have potential to occur in riparian habitat within 500 ft of the BSA (e.g., federally endangered least Bell's vireo). See Section 6.3 below for nesting season survey methods.

Per Section 10.1: Minimization/mitigation Measures – Construction Related Impacts of the NCCP/HCP, field surveys by a monitoring biologist, acceptable to USFWS/CDFG, shall conduct a survey for federally threatened coastal California gnatcatcher and coastal cactus wren, a California Species of Special Concern, within 100 ft of the outer extent of projected soil disturbance activities. The locations of any such species shall be marked on the construction/grading plans. A monitoring biologist will also identify CSS habitat to be fenced or marked for avoidance and be on site during any CSS clearing activities. Additionally, when possible, project activities in proximity to CSS and riparian habitat will be scheduled for outside the nesting season for birds (February 15–August 15)¹. However, work may need to be scheduled during the nesting season. If work during the nesting season is necessary, field surveys for California gnatcatcher should be conducted at the following basins: **Basins 506R*, 785L, 789L, 808R, 859L, 883L, 893L, 922R*, 930L, 1032L*, 1032R, 1075L*, 1085L, and 1149L*** (See Appendix B, Table A). In November 2008, LSA observed California gnatcatcher at basins with an asterisk (*). If a nest is found, the guidelines in Section 6.3 below for establishing a buffer shall be followed.

Erosion and sedimentation control shall be implemented according to ground disturbing activities and locations within the basins. Silt fencing and other erosion control measures should be installed or implemented according to the site conditions and needs of the work area.

6.5. California Endangered Species Act

The California Endangered Species Act (CESA) protects plant and animal species listed as threatened or endangered. Currently, there is no habitat for State-listed species within the direct impact area of the project; however, CSS and riparian habitats do occur within the project vicinity (i.e., within 500 ft). No impacts to listed species are anticipated as a result of the proposed project, and no consultation is required.

6.6. Migratory Bird Treaty Act

All native nesting birds are protected by the MBTA. To comply with the MBTA and Fish and Game Code, vegetation clearing should be restricted to outside the active nesting season

¹ The NCCP/HCP states, to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting gnatcatchers occur during the breeding season (February 15 through July 15). Other birds may be nesting longer than the July 15 NCCP/HCP date for gnatcatchers.

(RWQCB) has a broader definition of waters of the State than CDFG (i.e., inclusion of vernal pools, ground water, etc.). There are no waters within the BSA that would qualify under the RWQCB definition of waters of the State. Therefore, it is expected that a State waste discharge permit from the RWQCB will not be required. These findings should be considered preliminary until verified by RWQCB. However, BMPs may be required by the ACOE and the RWQCB as part of National Pollutant Discharge Emission System NPDES requirements.

7. Permits Required

The proposed project is not likely to be subject to either ACOE or CDFG jurisdiction. Therefore, it is anticipated that regulatory permits will *not* be required from ACOE, CDFG, or RWQCB (i.e., Section 404 Nationwide Permit Authorization from ACOE, Section 1602 Streambed Alteration Agreement from CDFG, and Section 401 Water Quality Certification or Waste Discharge Report from RWQCB). These findings should be considered preliminary until verified by ACOE, CDFG and RWQCB.

This project will be covered by the Department Statewide NPDES Storm Water Permit (Order No. 99-06-DWQ, NPDES No. CAS000003), the NPDES Permit for Storm Water Discharges Associated with Construction Activities (Order No. 99-08-DWQ, NPDES No. CAS000002), the Department Storm Water Management Plan (SWMP), and other requirements of any subsequent revisions and additions to any applicable water quality regulations during the time of construction.

In addition, BMPs (i.e., all herbicide use conditions for mixing, application, and cleanup shall conform to all applicable federal, State, and local regulations; vehicle maintenance, staging, storage, and dispensing of fuel shall occur on existing access roads only; and spoil sites shall not be located within waters of the State/United States or in areas or such a manner where spoil material could be washed into waters of the State/United States) will be required by the Department and may also be required by and RWQCB as part of NPDES requirements.

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Hickman, J.C., ed. 1993. *The Jepson Manual: Higher Plants of California*. Berkeley and Los Angeles, California: University of California Press.

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Project Location

Project Location

LSA

LEGEND

- Basin Location
- Project Alignment



0 4,000 8,000 FEET



FIGURE 1

SR-73 Basin Sedimentation Project

Project Location Map

SOURCE: USGS 7.5' QUAD - LAGUNA BEACH (81); SAN JUAN CAPISTRANO (81); TUSTIN (81); CALIF.
 E:\CDT0807\GIS\Proj_Loc.mxd (12/1/2008)

Appendix B Table A

Table A: Basin Characteristics and Schedule Summary Table

Basin Number	Latitude (North)	Longitude (West)	Acreage	California Quadrangle	Vegetation Community in Basin & Slopes	Adjacent to Coastal Sage Scrub?*	Sensitive Species
457L	33 32'46.181"	117 40'30.032"	0.637	San Juan Capistrano	Mowed. Upland ruderal forbs/nonnative grass. Slopes ornamental.	No	None
506R	33 33'28.697"	117 40'54.657"	0.423	San Juan Capistrano	Mowed. Upland ruderal forbs/nonnative grass. Slopes mowed, ruderal.	Yes	CAGN
535L	33 33'33.073"	117 41'29.414"	0.247	San Juan Capistrano	Mowed. Upland ruderal forbs/nonnative grass. Slopes mowed, ruderal.	No. Patchy buckwheat.	CAGN possible in area (transient)
583L	33 34'6.855"	117 42'4.09"	0.673	San Juan Capistrano	Ruderal forbs. Cattails, some willows. Slopes ornamental.	No	None
604R	33 34'26.66"	117 42'18.727"	0.706	San Juan Capistrano	Upland ruderal forbs/nonnative grass/freshwater marsh. Slopes ornamental.	No	None
613L	33 34'25.812"	117 42'30.046"	0.423	San Juan Capistrano	Upland ruderal forbs/nonnative grass/freshwater marsh. Slopes ornamental.	No	None
630L	33 34'32.011"	117 42'45.655"	0.221	San Juan Capistrano	Unvegetated. Fenced.	No. Coyotebush scrub.	CAGN possible in area (transient)
635L	33 34'32.475"	117 42'55.286"	0.875	San Juan Capistrano	Upland ruderal forbs (dense). Slopes ornamental.	No	None
654R	33 34'50.649"	117 43'10.533"	0.996	San Juan Capistrano	Mowed. Upland ruderal forbs. Slopes ornamental groundcover.	No	None
659L	33 34'48.671"	117 43'20.518"	1.049	San Juan Capistrano	Mowed/barren. Upland ruderal forbs/nonnative grass. Slopes ornamental.	No	None
696R	33 35'16.511"	117 43'54.722"	1.221	San Juan Capistrano	Upland ruderal forbs (dense)/nonnative grass. Slopes same.	No	None
757L	33 35'24.75"	117 45'3.135"	0.565	Laguna Beach	Upland ruderal. Emergent riparian - cattails, willows. Slopes ruderal, ornamental, patchy buckwheat.	No	None
785L	33 35'26.547"	117 45'35.613"	0.183	Laguna Beach	Upland ruderal forbs/nonnative grass. Slopes ruderal, remnant CSS on north slope (to be avoided during work).	Yes. Willows also.	CAGN & LBVI possible in area
789L	33 35'33.053"	117 45'40.684"	0.019	Laguna Beach	Upland ruderal forbs/nonnative grass with scattered CSS, willows. Slopes scattered CSS, ruderal.	Yes	CAGN possible in area
808R	33 35'46.411"	117 45'51.722"	2.054	Laguna Beach	Mowed. Upland nonnative grass/forbs. Slopes same.	Yes	CAGN possible in area
859L	33 36'2.305"	117 46'51.812"	0.602	Laguna Beach	Mowed. Upland ruderal forbs/nonnative grass. Slopes same.	Yes	CAGN possible in area
883L	33 36'7.216"	117 47'18.318"	0.42	Laguna Beach	Mowed. Upland ruderal forbs/nonnative grass. Slopes same.	Yes	CAGN possible in area

Table A: Basin Characteristics and Schedule Summary Table

Basin Number	Latitude (North)	Longitude (West)	Acreage	California Quadrangle	Vegetation Community in Basin & Slopes	Adjacent to Coastal Sage Scrub?*	Sensitive Species
893L	33 36'9.819"	117 47'29.974"	0.319	Laguna Beach	Mowed. Upland ruderal forbs/nonnative grass. Slopes same.	Yes	CAGN possible in area
922R	33 36'27.663	117 47'56.471"	1.752	Laguna Beach	Mowed. Upland ruderal forbs/nonnative grass. Slopes same.	Yes	CAGN
930L	33 36'26.053"	117 48'9.972"	0.471	Laguna Beach	Mowed. Upland ruderal forbs/nonnative grass. Slopes same.	Yes	CAGN
1032L	33 37'21.25"	117 49'41.967"	0.416	Laguna Beach	Mowed. Upland ruderal forbs/nonnative grass. Scattered emergent mulefat in bottom. Slopes same.	Yes. Across road.	CAGN
1032R	33 37'26.812"	117 49'39.263"	1.225	Laguna Beach	Upland ruderal forbs/nonnative grass. Slopes same.	Yes. Across road.	CAGN possible in area
1075L	33 37'45.646"	117 50'19.155"	0.698	Laguna Beach	Upland ruderal forbs/nonnative grass with densely scattered mulefat. Slopes CSS.	Yes	CAGN
1076R	33 37'50.823"	117 50'22.307"	0.278	Tustin	Mowed. Upland ruderal forbs/nonnative grass with trace, emergent mulefat. Slopes ornamental.	No	None
1080R	33 37'53.003"	117 50'25.971"	0.467	Tustin	Concrete.	No	None
1081L	33 37'48.329"	117 50'27.381"	0.927	Tustin	Mowed. Upland nonnative grasses with trace mulefat. Slopes ruderal, planted oaks, sycamores.	No	None
1085L	33 37'49.803"	117 50'32.338"	0.627	Tustin	Upland ruderal species, coyotebush, coast goldenbush. Concrete. Fenced.	Yes. Willows also.	CAGN & LBYI possible in area
1133L	33 38'13.019"	117 51'22.225"	1.227	Tustin	Upland ruderal and freshwater marsh species. Slopes planted with oaks, ornamental, and some natives. Southern tarplant is plentiful in the northern third of the basin bottom.	Yes. Across road.	CAGN possible in area. Southern tarplant (<i>Centromadia parryi</i> ssp. <i>australis</i>) n>1,000
1137L	33 38'16.382"	117 51'26.634"	0.22	Tustin	Mowed. Upland ruderal forbs and grass with trace mulefat. Slopes planted oaks.	No	None
1143L	33 38'22.188"	117 51'31.105	0.17	Tustin	Mowed. Upland ruderal forbs/nonnative grass. Scattered mulefat. Slopes same.	No	None
1149L	33 38'25.04"	117 51'40.59"	0.522	Tustin	Upland ruderal forbs (dense)/nonnative grass/Juncus (rush) center bottom. Slopes same, ornamental groundcover.	Yes	CAGN
1151L	33 38'27.182"	117 51'34.994"	0.47	Tustin	Upland ruderal forbs (-dense)/emergent mulefat, curly dock, rabbitfoot grass.	No	None
1156R	33 38'33.506	117 51'32.688"	0.67	Tustin	Upland ruderal forbs/marsh species: cattails, rabbitfoot grass, African brassbuttons. Slopes planted sycamore, elderberry.	No	None
1180R	33 38'57.985"	117 51'36.748"	1.306	Tustin	Mowed. Upland ruderal forbs with emergent willows, mulefat, and African brass-buttons. Slopes mowed ruderal.	No	Southern tarplant (<i>Centromadia parryi</i> ssp. <i>australis</i>) n=1 Southern tarplant (<i>Centromadia parryi</i>)

Table A: Basin Characteristics and Schedule Summary Table

Basin Number	Latitude (North)	Longitude (West)	Acreage	California Quadrangle	Vegetation Community in Basin & Slopes	Adjacent to Coastal Sage Scrub? * Willows?	Sensitive Species
1183L	33 39'1.559"	117 51'43.756"	0.23	<i>Tustin</i>	Southern tarplant is scattered throughout basin, slopes, and perimeter access road. Mowed. Upland ruderal forbs with emergent mulefat in bottom. Slopes same.		<i>ssp. australis</i> n≈100
1194R	33 39'11.837"	117 51'42.366"	1.876	<i>Tustin</i>	Mowed. Upland ruderal forbs with small patches of mulefat. Southern tarplant is scattered, but primarily at the southern end of the largest basin.	No	None Southern tarplant (<i>Centromadia parryi</i> <i>ssp. australis</i>) n≈100

Note: All basins should have a biology survey conducted immediately prior to ground disturbing activities to survey for nesting birds (e.g., hawks, killdeer, song sparrow) within 100 feet of proposed ground disturbing activities.

* Note: Basins with a "Yes" in this column should have surveys that also focus on coastal California gnatcatcher.

Legend:

CAGN: Coastal California gnatcatcher (federally threatened bird species)

CSS: Coastal sage scrub habitat (typical habitat for California gnatcatcher)

LBVI: Least Bell's vireo (federal and State endangered bird species)

Southern tarplant: Rare, threatened, or endangered in California or elsewhere according to the California Native Plant Society (CNPS)

Appendix C Vascular Plant Species Observed

APPENDIX C VASCULAR PLANT SPECIES OBSERVED

The following vascular plant species were observed in the study area by biologists Corey Knips, Ingrid Quon, Angela Roundy, and Leo Simone during site surveys conducted during November 2008.

* Introduced, nonnative species

Equisetaceae

Equisetum arvense

GYMNOSPERMAE

Pinaceae

* *Pinus* sp.

ANGIOSPERMAE: DICOTYLEDONAE

Aizoaceae

- * *Carpobrotus edulis*
- * *Mesembryanthemum crystallinum*
- * *Mesembryanthemum nodiflorum*

Amaranthaceae

Amaranthus sp.

Anacardiaceae

- Rhus integrifolia*
- * *Schinus molle*

Apiaceae

Daucus pusillus

Asteraceae

- Artemisia californica*
- Baccharis pilularis*
- Baccharis salicifolia*
- * *Centaurea melitensis*
- Centromadia parryi* ssp. *australis*
- * *Chrysanthemum coronarium*
- * *Cirsium vulgare*
- Conyza canadensis*
- * *Cotula coronopifolia*
- * *Cynara cardunculus*
- Encelia californica*
- * *Gazania linearis*
- Heterotheca grandiflora*

Horsetail Family

Common horsetail

CONE-BEARING PLANTS

Pine Family

Pine

DICOT FLOWERING PLANTS

Carpet-Weed Family

- Hottentot-fig
- Crystal ice plant
- Small-flowered ice plant

Amaranth Family

Pigweed

Sumac Family

- Lemonade berry
- Peruvian pepper tree

Carrot Family

Rattlesnake weed

Sunflower Family

- California sagebrush
- Coyote bush
- Mulefat
- Tocalote
- Southern tarplant
- Garland chrysanthemum
- Bull thistle
- Common horseweed
- African brass-buttons
- Artichoke thistle
- California encelia
- Gazania
- Telegraph weed

- Isocoma menziesii* var. *vernonioides*
 * *Picris echioides*
Pluchea odorata
 * *Pulicaria paludosa*
 * *Sonchus asper* ssp. *asper*
Stephanomeria virgata ssp. *virgata*
Xanthium strumarium

Coastal goldenbush
 Bristly ox-tongue
 Marsh fleabane
 Spanish sunflower
 Prickly sow-thistle
 Tall wreath-plant
 Common cocklebur

Boraginaceae

Heliotropium curassavicum

Borage Family

Salt heliotrope

Brassicaceae

- * *Brassica nigra*
 * *Hirschfeldia incana*
 * *Lepidium latifolium*
 * *Raphanus sativus*

Mustard Family

Black mustard
 Shortpod mustard
 Broad-leaved peppergrass
 Wild radish

Caprifoliaceae

Sambucus mexicana

Honeysuckle Family

Mexican elderberry

Caryophyllaceae

Spergula sp.

Pink Family

Spurry

Chenopodiaceae

- * *Atriplex semibaccata*
 * *Bassia hyssopifolia*
 * *Chenopodium album*
 * *Chenopodium ambrosioides*
 * *Salsola tragus*

Goosefoot Family

Australian saltbush
 Five-hook bassia
 Lamb's quarters
 Mexican tea
 Russian-thistle

Ericaceae

- * *Arbutus unedo*

Heath Family

Strawberry tree

Euphorbiaceae

- Croton setigerus*
Euphorbia sp.
 * *Ricinus communis*

Spurge Family

Doveweed
 Spurge
 Castor bean

Fabaceae

- * *Acacia* sp.
 * *Acacia redolens*
Lotus purshianus var. *purshianus*
 * *Melilotus alba*
 * *Melilotus indica*

Legume Family

Acacia
 Prostrate acacia
 Spanish lotus
 White sweetclover
 Yellow sweetclover

Fagaceae

Quercus agrifolia var. *agrifolia*

Beech Family

Coast live oak

Geraniaceae* *Erodium cicutarium***Lamiaceae***Salvia mellifera***Malvaceae*** *Malva parviflora***Myoporaceae*** *Myoporum laetum***Myrtaceae*** *Eucalyptus* sp.**Plantanaceae***Platanus racemosa***Plantaginaceae*** *Plantago coronopus***Plumbaginaceae*** *Plumbago auriculata***Polygonaceae***Eriogonum fasciculatum** *Rumex crispus***Primulaceae*** *Anagallis arvensis***Rosaceae***Adenostoma fasciculatum**Heteromeles arbutifolia**Rosa californica***Salicaceae***Populus fremontii* ssp. *fremontii**Salix gooddingii**Salix lasiolepis***Sapindaceae*** *Koelreuteria paniculata***Scrophulariaceae***Antirrhinum* sp.**Geranium Family**

Red-stemmed filaree

Mint Family

Black sage

Mallow Family

Cheeseweed

Myoporum Family

Myoporum

Myrtle Family

Gum tree

Sycamore Family

Western sycamore

Plantain Family

Buckhorn plantain

Leadwort Family

Cape leadwort

Buckwheat Family

California buckwheat

Curly dock

Primrose Family

Scarlet pimpernel

Rose Family

Chamise

Toyon

California wild rose

Willow Family

Western cottonwood

Goodding's black willow

Arroyo willow

Lychee Family

Goldenrain tree

Figwort Family

Snapdragon

Solanaceae

- * *Nicotiana glauca*
- Solanum* sp.

Tamaricaceae

- * *Tamarix* sp.

ANGIOSPERMAE: MONOCOTYLEDONAE**Arecaceae**

- * *Washingtonia robusta*

Cyperaceae

- Carex* sp.

Poaceae

- * *Arundo donax*
- * *Bromus diandrus*
- * *Bromus madritensis*
- * *Cynodon dactylon*
- * *Echinochloa crus-galli*
- Leptochloa uninervia*
- Leymus condensatus*
- * *Paspalum dilatatum*
- * *Polypogon monspeliensis*

Juncaceae

- Juncus* sp.

Typhaceae

- Typha* sp.

Nightshade Family

- Tree tobacco
- Nightshade

Tamarisk Family

- Tamarisk

MONOCOT FLOWERING PLANTS**Palm Family**

- Mexican fan palm

Sedge Family

- Sedge

Grass Family

- Giant reed
- Ripgut grass
- Foxtail chess
- Bermuda grass
- Barnyard grass
- Dense-flowered sprangletop
- Giant wild-rye
- Dallis grass
- Rabbitfoot grass

Rush Family

- Rush

Cat-Tail Family

- Cat-tail

Taxonomy and scientific nomenclature conform to Hickman (1993). Common names for each taxa generally conform to Roberts (1998), although Abrams (1923, 1944, 1951) and Abrams and Ferris (1960) are used, particularly when species specific common names are not identified in Roberts (1998).

Appendix D Animal Species Detected

APPENDIX D ANIMAL SPECIES DETECTED

This is a list of the conspicuous aerial insects, reptiles, birds, and mammals noted within the BSA by biologists Corey Knips, Ingri Quon, Angela Roundy, and Leo Simone in November 2008. Presence may be noted if a species is seen or heard, or identified by the presence of tracks, scat, or other signs.

* Species not native to the study area

LEPIDOPTERA

Papilionidae

Papilio rutulus

Lycaenidae

Brephidium exilie

Pieridae

Colias cf. eurytheme

Nymphalidae

Vanessa cardui

Danaus plexippus

REPTILIA

Phrynosomatidae

Sceloporus occidentalis

AVES

Odontophoridae

Callipepla californica

Cathartidae

Cathartes aura

Accipitridae

Buteo jamaicensis

Charadriidae

Charadrius vociferus

Columbidae

* *Columba livia*

Zenaida macroura

BUTTERFLIES

Swallowtails

Western tiger swallowtail

Gossamer-Wing Butterflies

Western pygmy-blue

Whites and Sulphurs

Orange sulphur

Brush-Footed Butterflies

Painted lady

Monarch

REPTILES

Phrynosomatid Lizards

Western fence lizard

BIRDS

New World Quail

California quail

New World Vultures

Turkey vulture

Hawks, Kites, Eagles, and Allies

Red-tailed hawk

Plovers and Lapwings

Killdeer

Pigeons and Doves

Rock (Feral) pigeon

Mourning dove

Apodidae*Aeronautes saxatilis***Trochilidae***Calypte anna**Calypte costae***Tyrannidae***Sayornis nigricans**Sayornis saya**Tyrannus verticalis***Corvidae***Aphelocoma californica**Corvus brachyrhynchos**Corvus corax***Alaudidae***Eremophila alpestris***Hirundinidae***Petrochelidon pyrrhonota***Aegithalidae***Psaltriparus minimus***Troglodytidae***Thryomanes bewickii**Troglodytes aedon***Sylviidae***Poliophtila caerulea**Poliophtila californica californica***Timaliidae***Chamaea fasciata***Mimidae***Mimus polyglottos***Parulidae***Vermivora celata**Dendroica coronata**Geothlypis trichas***Emberizidae***Pipilo maculatus**Pipilo crissalis**Melospiza melodia**Zonotrichia leucophrys***Swifts**

White-throated swift

Hummingbirds

Anna's hummingbird

Costa's hummingbird

Tyrant Flycatchers

Black phoebe

Say's phoebe

Western kingbird

Crows and Jays

Western scrub-jay

American crow

Common raven

Larks

Horned lark

Swallows

Cliff swallow

Long-Tailed Tits and Bushtits

Bushtit

Wrens

Bewick's wren

House wren

Old World Warblers and Gnatcatchers

Blue-gray gnatcatcher

Coastal California gnatcatcher

Babblers

Wrentit

Mockingbirds and Thrashers

Northern mockingbird

Wood Warblers

Orange-crowned warbler

Yellow-rumped warbler

Common yellowthroat

Emberizids

Spotted towhee

California towhee

Song sparrow

White-crowned sparrow

Fringillidae

Carpodacus mexicanus
Carduelis psaltria

Passeridae

* *Passer domesticus*

MAMMALIA**Geomyidae**

Thomomys bottae

Heteromyidae

Dipodomys sp.

Leporidae

Sylvilagus audubonii

Felidae

Lynx rufus

Canidae

Canis latrans

Procyonidae

Procyon lotor

Cervidae

Odocoileus hemionus

Fringilline and Cardueline Finches and Allies

House finch
Lesser goldfinch

Old World Sparrows

House sparrow

MAMMALS**Pocket Gophers**

Botta's pocket gopher

Pocket Mice and Kangaroo Rats

Kangaroo rat species

Rabbits and Hares

Audubon's cottontail

Cats

Bobcat

Foxes, Wolves, and Allies

Coyote

Raccoons and Allies

Raccoon

Deer, Elk, and Allies

Mule deer

Taxonomy and nomenclature are based on the following.

Butterflies: North American Butterfly Association (2001, NABA checklist and English Names of North American Butterflies, Second Edition, North American Butterfly Association, Morristown, New Jersey).

Amphibians and reptiles: Crother, B.I. ed. (2008. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico. *Herpetological Circular* 37) for species taxonomy and nomenclature; Stebbins, R.C. (2003, A Field Guide to Western Reptiles and Amphibians, third edition, Houghton Mifflin, Boston) for sequence and higher order taxonomy.

Birds: American Ornithologists' Union (1998, The A.O.U. Checklist of North American Birds, Seventh Edition, American Ornithologists' Union, Washington D.C.; and 2000, 2002, 2003, 2004, 2005, 2006, 2007, and 2008 supplements; see <http://aou.org.whsites.net/checklist/index.php3>).

Mammals: Wilson, D.E., and D.M. Reeder, eds. (2005. Mammal Species of the World, 3rd ed. Johns Hopkins University Press, Baltimore, Maryland; see <http://nmnhgoph.si.edu/msw/>).

Appendix E Field Notes – Biological Evaluation
Data Sheets

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR73 Basins Project # CD10807 Survey Type _____
 Location/Site I.D. # 457L
 Biologist(s) IQ, AR Date 11/07/08 Time (start) 13:30 (end) 14:00
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, lt breeze
 Air Temp. (°F) (start) 82 (end) 82 Photo# 9, 10

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

WQ + FC basins w/ ~ 30° slopes
 Soils in WQ basin are black
 Soils in FC basin are sandy clay loam

Ruderal/non-native grassland

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: ⁷³ Underpass

South: 73 Underpass

East: Train tracks

West: Ornamental Slope

Animal Species Present (observed, detected, activity):

Ho fi
 Monarch
 YR Wa

Plant Species Present ("D" dominant):

① non native ag.	Bra nig	Bac Sal	ambrosia sp.
Bra nig	Pic Eca	cheese weed	hemizonia - Diandra fasciculata
Taraxac	Erk Cal	Telegraph weed	heliotrope curassavicum
antelope thistle	Wild radish	→ Yellow bill on shrub = Pulicaria paludosa	
		Isomenon	

Existing Structures Present?

NO YES (describe)

Inlet/out let

WQ monitoring Structures

Visible Site Disturbances?

NO YES (describe)



BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 BASINS Project # CDT 0807 Survey Type GEN BIOLocation/Site I.D. # 506RBiologist(s) LEO SIMONE Date 11-10-2008 Time (start) 930 (end) 1030Weather (cloud cover, est. wind speed/direction, precipitation) PARTLY CLOUDYLIGHT WIND OUT OF THE WESTAir Temp. (°F) (start) 62°F (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin & immediate adjacent area mostly void of vegetation - @ base of small canyon vegetation a mix of CSS & NMGExisting Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: CSS, NMG, EUCALYPTUS STAND @ TOP OF HILLSouth: NMG w SCATTERED CSSEast: CSS w RESIDENTIAL HOUSING BEYONDWest: SR-73 ORNAMENTAL w/ RESIDENTIAL HOUSING BEYONDAnimal Species Present (observed, detected, activity): RTHA, CORA, WCSA, NONG, CATO, SAPH, HOUR
WESTERN FLYING LIZARD
COYOTEPAIR CARR. TO CSS SOUTH OF BASIN

Plant Species Present ("D" dominant):

IN BASIN: NICOTIANA, Bromus sp. ADJACENT: Artemisia cal, Eriogonum fasc.
Baccharis sal B. palm, Brassica nigra QUERCUS agrExisting Structures Present? NO YES (describe)INTAKE & OUTFLOW STRUCTURESVisible Site Disturbances? NO YES (describe)MOSTLY VOID OF VEGETATION

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

CSS

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)
PAIR OF CAGN SOUTH SIDE OF BASIN LESS THAN 50 FT FROM
BASINOther Special Interest Species Present? NO YES (list)Suitable Habitat Present? NO YES (describe for each species)"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)
UNKNOWN E ADJST 4 QUAGGUS OF ARE NEAR THE
NORTH EAST CORNER OF BASINWill Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)
UNKNOWN

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # COT 0807 Survey Type _____Location/Site I.D. # 535LBiologist(s) IQ, AR Date 11/07/08 Time (start) 13:00 (end) _____Weather (cloud cover, est. wind speed/direction, precipitation) Clear, 5-10mphAir Temp. (°F) (start) 82 (end) 82Photo# 6, 7, 8
↓
canyon

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

WQ basin + FC basin w/ ~ 25-30° slopes, surrounded by v-ditch
Recently mowed

Dry

Soils = sandy clay loam, top of bank = gravel

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Ruderal slope

South: landscaped slope, then residential

East: 73

West: Canyon (ornamental w/ patch of coyote bush scrub)

Animal Species Present (observed, detected, activity):

Pigeons

An Hu

Co Hu

Plant Species Present ("D" dominant):

Russian thistle,

Yellow button shrub (sample)

Dove weed

amaranthus sp.

Eric. cal

Rumex sp.

→ Pulicaria paludosa

① Non-native annual grasses

Rabbitsfoot grass

Existing Structures Present?

NO YES (describe)

WQ monitoring structures

Inlet/outlet, riprap

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)*Check Map*Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR73 Basins Project # COTO807 Survey Type _____
 Location/Site I.D. # 583 L
 Biologist(s) IQ, AR Date 11/7 Time (start) 12:15 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____
 Air Temp. (°F) (start) 84 (end) 84 Photo# None

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin w/ 20°-40° slopes
Standing water in center (3-5")

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Acacia slope, then 73
 South: Highway then landscaped slope, then residential
 East: Acacia slope, then 73
 West: Landscaped slope

Animal Species Present (observed, detected, activity):

Mo do
An hu
Ho fi

Plant Species Present ("D" dominant):

over edge of basin
from in lower portion

<u>Conyza</u>	<u>Pic Ech</u>	<u>Bac 'Sal</u>	<u>que aqui</u>	<u>FWM dominants</u> (sample)
<u>Bra Nig</u>	<u>Prickly Sowthistle</u>	<u>non native annual grasses</u>		<u>Cat tails</u>
<u>Garland Chrysanthemum</u>	<u>Tamarisk</u>	<u>Euc sp.</u>	<u>Ornamental Rose</u>	<u>Yellow flower shrub</u>
<u>Rockle ben</u>	<u>Cattails</u>	<u>Acacia sp.</u>	<u>Brass buttons</u>	<u>= Pulicaria paludosa</u>
<u>Marsh fleabane</u>	<u>Bac pil</u>	<u>umbrella sedge</u>		<u>Rarest dominants</u>
		<u>Sample from Basin 604</u>		<u>MAAG</u>
				<u>Bac pil</u>
				<u>Garland Chrysanthemum</u>

Existing Structures Present? NO YES (describe)

Inlet/Outlet

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

FWM?

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)

Check Map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 604R
 Biologist(s) IQ, AR Date 11/7/08 Time (start) 11:30 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, lt breeze 2-5mph
 Air Temp. (°F) (start) 80 (end) 80 Photo# 4,5

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin w/ ~ 30°-40° slopes
 Small patch of FWM near inlet
 Ruderal basin surrounded by ornamental slopes

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: landscaped slope, then roads

South: 73

East: landscaped slope, then 73

West: La Paz

Animal Species Present (observed, detected, activity):

Am Cr BI ph Rabbit (scat)
 An Hu
 Ho Fi
 Le Go

Plant Species Present ("D" dominant):

① nonnative annual grasses	Bra nig	Coryza	ambrosia
Euc. sp.	Cheese weed	Marsh fleabane	Scarlet pimp.
② Mes cry	Pic Ech	Sedge	Sal goo
③ Garden Crisanthemum	Rumex sp.	yellow button-shrub (sample)	Mel alb
Russian thistle	cocklebur	Atriplex sp.	Rabbits foot grass
			Rab pil

Existing Structures Present?

NO YES (describe)

inlet/outlet wood detention wall

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)

Check Map

Will Proposed Action Involve Tree Removal?

NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement?

NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR73 Basin Project # COTO807 Survey Type _____
 Location/Site I.D. # 630L
 Biologist(s) IQ, AR Date 11/07/08 Time (start) 15:30 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) Clear, breezy
 Air Temp. (°F) (start) 80 (end) 80 Photo# 14

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin is entirely concrete w/ asphalt access rd. Water trickling through basin.
 Adjacent to Aliso Creek → 1 non-native grass plant growing inside basin

Existing Habitat Quality: NA Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Aliso creek + bike path
 South: Ruderal Slope + overpass
 East: 73
 West: Aliso Creek + bike path

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

Bac Sal (on upper edge of basin, behind a fence)
Bra nig
Rumex (5' tall) crispus
Black Sage

Existing Structures Present? NO YES (describe)

Basin is a Cement W@ structure

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)

check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

Check plans to verify that veg outside of fence will not be impacted.

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR-73 basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 635L
 Biologist(s) LS Date 11/10/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____
 Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

sediment collection basin
 dominated w/ Russian thistle

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: ornamental / residences beyond

South: disturbed rlderal + ornamental

East: orn. / SR-73

West: orn. / sports park

Animal Species Present (observed, detected, activity):

house finch	white-crowned sparrow	black phoebe
American crow	Botta's pocket gopher	
CA towhee	northern mockingbird	
house sparrow	bush tit	

Plant Species Present ("D" dominant):

<u>(D)</u> Russian thistle	mylefal
Acacia	Quercus sp.
bromus sp.	toyon
shisnvs malle	plumbago
buckwheat	

Existing Structures Present?

NO YES (describe)

inlet / outlet

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Check Map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # COT0807 Survey Type _____
 Location/Site I.D. # 659L
 Biologist(s) TQ, AR Date 11/7/08 Time (start) 14:15 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, breezy
 Air Temp. (°F) (start) 82 (end) 82 Photo# 11

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin w/ ~ 30-40° slopes
 Entirely surrounded by 73 on-ramp
 Mowed

Soils - looks like they've spread gravel in portion of basin bottom

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Entirely surrounded by
 73 on-ramp, then
 commercial +/- residential

Animal Species Present (observed, detected, activity):

Dragonfly (unknown)
 No do

Plant Species Present ("D" dominant):

① Non-native A Grass
 tocolote
 Russian Thistle

Existing Structures Present?

NO YES (describe)

inlet/outlet only

Visible Site Disturbances?

NO YES (describe)

1 pile of gravel, 1 pile of dirt
 Appears that some gravel was spread in a portion of the basin

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

CSS

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)Other Special Interest Species Present? NO YES (list)Suitable Habitat Present? NO YES (describe for each species)

CSS, WILLOW FOREST

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

WATER COLLECTS FROM LAGUNA CYCLOID. BASIN DOES NOT
 APPEAR TO BE AN INLINE STRUCTURE ASSOCIATED
 WITH LAGUNA CYCLOID
 BUT DOES ALTIMATELY DISCHARGE TO CANAL

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 Basins Project # CDT0807 Survey Type Bio
 Location/Site I.D. # 1096 R
 Biologist(s) Leo Simone Ingrid Quon Date 11/18/08 Time (start) 0845 (end) 0900
 Weather (cloud cover, est. wind speed/direction, precipitation) _____
0% cover ± 3 mph
 Air Temp. (°F) (start) 72°F (end) _____ Photo# 6

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Existing Habitat Quality: Ruderal Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Can lat (coyote)

Plant Species Present ("D" dominant):

<u>Atri Semi</u>	<u>Bac Pil</u>	<u>Bac Sal</u>
<u>Tocalote</u>	<u>Wselower</u>	<u>Nic Gla</u>
<u>ISO Men</u>	<u>Bromad</u>	<u>Het Grand</u>
<u>D-Hiv Inc</u>	<u>Sal Trag</u>	<u>Congza</u>

Existing Structures Present? NO YES (describe)

gravel road
drain stand pipe (short)

Visible Site Disturbances? NO YES (describe)

Clean

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 Basins Project # CDT0807 Survey Type BIO / JD
 Location/Site I.D. # 757
 Biologist(s) Leo Simone Inyri Quera Date 11/18/08 Time (start) 0815 (end) 0845
 Weather (cloud cover, est. wind speed/direction, precipitation) _____
0% Cover 0 mph
 Air Temp. (°F) (start) 65°F (end) _____ Photo# 5

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

100% Cover of Typha in basin channel CSS w/in 500 ft to west,
Arroyo/Bed Northwest
Narrow drainage

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: El Toro / 73
 South: off ramps of El Toro / 73
 East: Houses, ruderal veg under bridges of 73
 West: CSS / Riparian / AWCWP / on ramp to 73 S

Animal Species Present (observed, detected, activity):

FePi CoYe YRwa ThoBot (gopher)
AmCr CaLT WCSP
HoFi Beur

Plant Species Present ("D" dominant): Slopes

<u>D-Typha</u>	<u>Caster bean</u>	<u>Bac Sal</u>	<u>Crysanthemum</u>
<u>Salix</u>	<u>wheat plant</u>	<u>BroMad</u>	<u>Quercus agn.</u>
<u>Caster bean</u>	<u>Conyza</u>	<u>Telegraph</u>	<u>Pop Fine</u>
	<u>Enc Cal</u>	<u>Sandlex weed</u>	<u>Sal Tragg</u>
	<u>Hir Inc</u>		

Existing Structures Present? NO YES (describe)

Stand pipe Fenced
rip rap
Gravel road

Visible Site Disturbances? NO YES (describe)

Clean

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)Riparian - typha/Salix
CSS w/in 500ftFederal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Not expected in young, narrow veg.

Other Special Interest Species Present? NO YES (list)No Swallow nests on bridge
Possible batsSuitable Habitat Present? NO YES (describe for each species)"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

AWCWP adjacent

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Small Salix

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 BASINS Project # CDT0807 Survey Type GEN B10
 Location/Site I.D. # 785L
 Biologist(s) LEO SIMONE Date 11-07-2008 Time (start) 14:30 (end) 15:10
 Weather (cloud cover, est. wind speed/direction, precipitation) CLEAR WIND FROM E @ 5-10 MPH
 Air Temp. (°F) (start) 85°F (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

SMALL BASIN NEAR SOUTHWEST CORNER OF SR-73 SOUTH BOUNDARY OF RAMP @ LAGUNA CYN. RD.
BASIN UPLOPE OF DRAINAGE THAT IS DOWNWARD BY SOUTHERN WILLOW
BASIN DOMINATED BY NMG w/ ISOLATED MULF FAT

Existing Habitat Quality: ^{BASIN} Poor Fair Moderate Good Pristine ^{ADJACENT HABITAT}

Adjacent Land Uses:

North: SR-73

South: LAGUNA CYN. RD., SOUTHERN WILLOW, CSS

East: LAGUNA CYN. RD

West: SOUTHERN WILLOW FOREST, CSS, CHAPARRAL

Animal Species Present (observed, detected, activity):

CATO, CORA, HOFI

Plant Species Present ("D" dominant):

IN BASIN
TOLBRAPH WOOD, NMG, MULF FAT

ADJACENT NMG, ARTEMISA cal, Eriogonum fasc., Salix
TRASSICA

Existing Structures Present? NO YES (describe)

INLET OUTLET STRUCTURES

Visible Site Disturbances? NO YES (describe)

ACCESS ROAD ROCK BARRIER NEAR ACCESS POINT

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

CSS

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)Other Special Interest Species Present? NO YES (list)Suitable Habitat Present? NO YES (describe for each species)

CSS, WILLOW FOREST

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

WATER COLLECTS FROM LAGUNA CYCLOID. -BOSCH DOES NOT
 APPEAR TO BE AN IN-LINE STRUCTURE ASSOCIATED
 WITH LAGUNA CYCLOID
 BUT DOES ALTIMATELY DISCHARGE TO CANAL

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR-73 BASINS Project # CPT0807 Survey Type _____
 Location/Site I.D. # 789L
 Biologist(s) LS Date 11/10/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

sediment collectn basin
 ryderal NVO in basin

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: CSS

South: CSS

East: SR-73 offramp

West: chaparral

Animal Species Present (observed, detected, activity):

common raven Butta's pocket gopher
 CaTo
 So Sp
 No Mo

Plant Species Present ("D" dominant):

enigonum fasciculatum	Hetermolius
artemesia californica	Quercus agrifolia
Lotus sp.	Bac Pal
Bac Sal	Chamise
salix	bromus sp.

Existing Structures Present? NO YES (describe)

Inlet

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

CSS

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # CDT0807 Survey Type _____
Location/Site I.D. # 808R Basin
Biologist(s) Corey Knips, Leo Simone Date 11/7/08 Time (start) 0950 (end) 1035
Weather (cloud cover, est. wind speed/direction, precipitation) Clear, 5 mph wind from the NE

Air Temp. (°F) (start) 80 (end) _____ Photo# 5363, 5364

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):
10-15° slope, NNG, mowed, muddy in SE basin

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses: _____

North: CSS
South: CSS + SR-73
East: CSS
West: CSS + SR-73

Animal Species Present (observed, detected, activity):
Rabbit scat

Plant Species Present ("D" dominant):
Bra nig NNG D
Iso men Dove weed
Bac sal
Bac pil

Existing Structures Present? NO YES (describe)
In: 2 pipes (36") (gravel)
Out: Standpipe Service road on NE side of basins

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

CSS surrounding basin

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

CSS surrounding basin

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR-73 BASINS Project # CDT0807 Survey Type GEN BIO
 Location/Site I.D. # 859 L
 Biologist(s) LEO SIMONE Date 11/07/2008 Time (start) 1340 (end) 1415
 Weather (cloud cover, est. wind speed/direction, precipitation) CLEAR 5-10 MPH FROM EAST

Air Temp. (°F) (start) 83°F (end) _____

Photo# 949-254-1749

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

SEDIMENT COLLECTION BASIN BUILT INTO TERRACE SLOPE MODERATE TO STEEP
 SOILS DG VEGOTATION NNG RUDERAL INSIDE BASIN CSS ON PERIMETER

Existing Habitat Quality: INSIDE BASIN ADJACENT TO BASIN
 Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: CSS SR-73
 South: CSS CHAPARRAL
 East: CSS CHAPARRAL
 West: CSS CHAPARRAL

Animal Species Present (observed, detected, activity):

CATO, YRWA, TUVU, HOE, SOSP, CORA

PAINTED LADY

Plant Species Present ("D" dominant): NNG, ISO - INSIDE BASIN

ADJACENT TO BASIN Eriogonum fasc. Artemesia cal Brasica

Existing Structures Present? NO YES (describe)

INLET & OUTLET STRUCTURES

Visible Site Disturbances? NO YES (describe)

MOWING INSIDE BASIN NO DISTURBANCES PRESENT OUTSIDE OF BASIN

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

ADJACENT CSS

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

ADJACENT CSS

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

CHECK MAP

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR-73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 883 L
 Biologist(s) Corey Knips, Leo Simone Date 11/7/08 Time (start) 12:25 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) Clear, 5 mph from the East
 Air Temp. (°F) (start) 84° (end) _____ Photo# 5373

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Sandy loam, Ruderal NNG, 15° slope

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: CSS, then SR-73

South: CSS

East: CSS

West: CSS

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

- ① Iso men, Enc cal Bac pil
Russian thistle
Bra nig
 ② NNG

Existing Structures Present?

NO YES (describe)

In: 2 pipes

out: stand pipe

small V-ditch around Western basin

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

check map

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR-73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 893L
 Biologist(s) Corey Knips, Leo Simone Date 11/7/08 Time (start) 1205 (end) 1225
 Weather (cloud cover, est. wind speed/direction, precipitation) Clear, 5 mph from the NE
 Air Temp. (°F) (start) 83° (end) _____ Photo# 5370, 5371

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Sandy loam, Ruderal NNG, 20° slope

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: CSS, then SR-73

South: CSS

East: CSS

West: CSS,

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

Iso men

Bra nig

NNG

Eri fas

Bac pil

Existing Structures Present?

NO YES (describe)

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR-73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 922 R Basin
 Biologist(s) Corey Knips, Leo Simone Date 11/7/08 Time (start) 1100 (end) 1130
 Weather (cloud cover, est. wind speed/direction, precipitation) Clear, 0-3 mph from the north
 Air Temp. (°F) (start) 80° (end) _____ Photo# 5367

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

15° slope; sandy, gravelly soil, NNG

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses: gravel service road around basin

North: CSS

South: CSS SR-73

East: CSS

West: CSS

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

Iso men Ⓧ NNG
Bra nig Bac sal
Bac pit
Eri fag

Existing Structures Present? NO YES (describe)

In: 2 pipes
out: standpipe

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Adjacent CSS

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)California Gnatcatchers (2) in CSS Northeast of Basin
possibly a third one alsoOther Special Interest Species Present? NO YES (list)Suitable Habitat Present? NO YES (describe for each species)

Adjacent CSS

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Check MAP

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR-73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 9302 Basin
 Biologist(s) Corey Knips, Leo Simone Date 11/7/08 Time (start) 1130 (end) 1200
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, 2 mph
 Air Temp. (°F) (start) 82 (end) _____ Photo# 5368, 5369

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

NNG, 15° slope, ~~sandy~~ sandy silt loam

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: CSS, then SR-73
 South: (V-ditch), CSS, then Chaparral
 East: CSS
 West: CSS, then Chaparral

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

Bra nig Eri fas
Russian thistle I so men
Enc cal

① NNG

Existing Structures Present?

NO YES (describe)

V-ditch on south edge of Basin

In: 1 pipe, out: stand pipe

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Adjacent CSS

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

2 California Gnatcatchers in adjacent CSS

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

Adjacent CSS

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # 10T0807 Survey Type _____
 Location/Site I.D. # 1032R
 Biologist(s) LS, AR, AP Date 11/6 Time (start) 15:40 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, 1+ breeze
 Air Temp. (°F) (start) 67 (end) 67 Photo# 15, 16

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin w/ berm through middle

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Surrounded entirely by an on-ramp to the 73

South:

East:

West:

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

Bra nig
dove weed
Isomen
Buckwheat

Eriogonum cal
non native annual grasses (D)

Que agr ^{toyon} planted along
top of basin, adjacent to road.

Existing Structures Present?

NO YES (describe)
36" C.P. catch basin w/ filter

inlet/outlet + riprap

2 large cement water quality features

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR73 Basins Project # COT0807 Survey Type _____Location/Site I.D. # 1032LBiologist(s) LS, AR, AP Date 11/06/08 Time (start) 16:20 (end) 16:35Weather (cloud cover, est. wind speed/direction, precipitation) Clear, H breezeAir Temp. (°F) (start) 65 (end) 65 Photo# 17, 18

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin w/ ~40° slopes
Ruderal habitat

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Planted slopes - toyon, que agr.South: 73East: 73West: Entrance ramp to 73 (CSS on other side of ramp ~100' west of basin)

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

Bac Sal(D) mel albISO men(D) non-native annual grasscoyote bush
telegraph weed

Existing Structures Present?

NO YES (describe)inlet/outlet (~24" c.A. + ~24" drop structure)

Visible Site Disturbances?

NO YES (describe)Minor trash

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

caqn - ~ 100' west (css on other side of on-ramp)
CA quail catfish

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

~100' west of basin on other side of on-ramp

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)

(Check Map)

Will Proposed Action Involve Tree Removal?

NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement?

NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 basins Project # CJTO807 Survey Type _____
 Location/Site I.D. # 1075L
 Biologist(s) LS, AR Date 11/6 Time (start) 13:20 (end) 13:50
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) 74 (end) 74 Photo# 9, 10

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

*Irregular basin w/ 0-45° slope
 Soils = sandy, gravel + loam*

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: *gravel piles, then MFS*
 South: *MFS continues, then CSS*
 East: *ruderal bank, then 73*
 West: *fence, then CSS*

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

Iso Man *castor bean*
 Bar Sal *tree tobacco*
 Equisetum sp.
 Bra nig
 telegraph weed

Existing Structures Present? NO YES (describe)

inlet/outlet, v-ditch

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

*Ca gn - see LS notes
CA gnatcatcher (pair) NW & SW about 75 ft.*

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

Adjacent CSS

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Check Map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basin Project # COT0807 Survey Type _____
 Location/Site I.D. # 1076 R
 Biologist(s) LS, AR, AP Date 11/6 Time (start) 16:00 (end) 16:20
 Weather (cloud cover, est. wind speed/direction, precipitation) Clear, 14 breeze
 Air Temp. (°F) (start) 74 (end) 74 Photo# 14

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin w/ ~ 20° banks surrounded by dirt road
Sandy clay loam

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: On ramp

South: Ruderal

East: Ruderal slope, then fence, then ornamental slope, then residential

West: Ruderal slope + planted oak trees, then 73

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

BacSal nonnative annual grasses (D)
mel alb
ISO man
Bra nig

Existing Structures Present? NO YES (describe)

inlet/outlet

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)*Check map*Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # CAT0807 Survey Type _____
 Location/Site I.D. # 1080R
 Biologist(s) LS, AR, AP Date 11/6/08 Time (start) 14:05 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, 14 breezy

Air Temp. (°F) (start) 74° (end) 74° Photo# 11, 12, 13

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Cement basin w/ ~5" verticle cement walls, ^{surrounded} _{by gravel} access ~20'x15'
 trickle of water moving through, small patch of wetland plants surrounding
 Developed outlet

Existing Habitat Quality: NA Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Bonita Cny Drive

South: Landscaped area (Olive agr + Western Six)

East: Bonita Cny Drive

West: planted slope (syc's) then 73

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

NN-Plantago sp. red-stem ? water-spoodwell?
 Ronia Salix sp. (D)
 Rabbitsfoot grass
 Cattails
 grass w/ tops

Existing Structures Present? NO YES (describe)

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)*Check Map*Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # COT0807 Survey Type _____
 Location/Site I.D. # 10816
 Biologist(s) LS, AR, AP Date 11/6/08 Time (start) 13:00 (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, 14 breeze
 Air Temp. (°F) (start) 74 (end) 74 Photo# 7,8

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

2 basins divided by berm.
 Slopes ~ 30%
 dirt access rd surrounding

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Ramp, then Southern willow forest

South: Entrance ramp

East: Landscaped slope w/ sycamores, then 73

West: Entrance ramp

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

Telegraph weed

Bac Sal

Russian Thistle

① non-native annual grasses

Bac pil, golden bush

Que. agri + toyon = adjacent to basins

Existing Structures Present?

NO YES (describe)

Inlet + outlet structures

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Check Map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # COT0807 Survey Type _____
 Location/Site I.D. # 1085L
 Biologist(s) LS, AR, AP Date 11/6 Time (start) 12:30 (end) 13:00
 Weather (cloud cover, est. wind speed/direction, precipitation) Clear, 14 breeze
 Air Temp. (°F) (start) 74° (end) 74° Photo# 4, 5, 6

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Basin is flat. Adjacent area to be planted is gently sloping (~10%)

Soil = mix of sandy loam & gravel

Basin = off-line by pass

Trib to Bonita Creek is to the North

Ruderal = in basin
 Southern Willow Forest
 adjacent to N.

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

East ~~North~~: Southern Willow Riparian forest (~20' from basin fence)

West ~~South~~: Exit ramp from 73

South ~~East~~: Slope w/ CSS remnants to be re-vegged

North ~~West~~: Bonita Canyon Drive

Animal Species Present (observed, detected, activity):

See LS Notes

Plant Species Present ("D" dominant):

Golden Bush

Bac Pil

Russian Thistle

Bac Sal

Bra nig

Ⓢ not native annual grasses

Existing Structures Present? NO YES (describe)

Cement w& structure

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)*Potential LBV habitat in adjacent SWF*

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)*ASK RE*Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

See LS notes for add'l wildlife info.

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 BASINS Project # CDT0807 Survey Type _____
 Location/Site I.D. # 1133 L
 Biologist(s) FY, AR, LS Date 11/5/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

- NNG dominated
- concrete-lined
- 18' pit dug - clay sandy loam

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

Polypogon monspeliensis
Rumex sp.

Existing Structures Present? NO YES (describe)

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Centromadia pennye $n > 1000$ ~ 100% cover in north half of basin

Suitable Habitat Present?

NO YES (describe for each species)

for 

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 1137L
 Biologist(s) TQ, AR, LS Date 11/5/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

- NNG dominated
- inlet drains from north to south
- no hydrophytic veg

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

Ⓢ NNG	coyote bush
mulefat	Plantago maritima
tree tobacco	Atriplex semibaccata
Russian mistle	

Existing Structures Present? NO YES (describe)

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 1143h
 Biologist(s) LS, AR, AP Date 11/6/08 Time (start) 11:55 (end) 12:20
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, lt breeze
 Air Temp. (°F) (start) 72 (end) 72 Photo# 2, 3

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

Inverted Sediment entrapment basin
~2:1 slopes, flat bottom

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: Ruderal Ramp

South: 73 entrance ramp

East: 73

West: CSS across 73 on-ramp. Behind Fence = no impacts proposed

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

<u>Golden bush</u>	<u>Bac sal</u>
<u>Non-native annual grasses</u>	<u>Med alb</u>
<u>Russian thistle</u>	<u>Erc cal</u>
<u>Picris echinoides</u>	
<u>Atriplex semibacata</u>	

Existing Structures Present? NO YES (describe)

Cement riprap for all inlet structures
Fence + asphalt monitoring stations

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name SR 73 Basins Project # COT0807 Survey Type _____
 Location/Site I.D. # 1149L
 Biologist(s) LS, AR Date 11/6/08 Time (start) 11am (end) 11:30
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, 14 breeze
 Air Temp. (°F) (start) 70° (end) 70° Photo# 1

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

inverted basin w/ ~ 2:1 slopes
Sediment (loamy sand)

ornamental - south
native grassland - in basin
non-native grassland - surrounding basin
CSS (N + W)
Southern Willow forest - nearby drainage.

Existing Habitat Quality:

Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North: CSS

South: ornamental (Euc Sp)

East: MacArthur

West: CSS

Animal Species Present (observed, detected, activity):

See LS notes

Plant Species Present ("D" dominant):

<u>Bra nig</u>	<u>melilotus indica</u>
<u>native bunch</u>	<u>Picris echioides</u>
<u>prickly sow thistle</u>	<u>scarlet pimpernel</u>
<u>Sedge</u>	<u>① Southern BacSal</u>
<u>Baccharis pilularis</u>	<u>② juncus sp.</u>
<u>art cal</u>	

Existing Structures Present?

NO YES (describe)

irrigation pipes + emitters
inlet/outlet

Visible Site Disturbances?

NO YES (describe)

Except entire site is made up of
artificially constructed sediment basin

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Cagn in adjacent CSS - see LS notes
CA quatrather

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

CSS to North + West

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)

Check map

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 1151L
 Biologist(s) IQ, AP, LS Date 11/5/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

- concrete-lined bottom
- ~6" sediment deposited on top of concrete pad
- 2-3" standing water throughout much of basin

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

golden bush
 Rumex
 polypogon
 Bassia hyssopifolia

Existing Structures Present? NO YES (describe)

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Other Special Interest Species Present?

NO YES (list)

Centromadia pervyi
 n=1 along roadway (dirt) in southwest corner.

Suitable Habitat Present?

NO YES (describe for each species)

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

?

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 BASINS Project # CDT0807 Survey Type _____
 Location/Site I.D. # 1156 R
 Biologist(s) IQ, AR, LS Date 11/5/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

- standing water

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

Typha sp.
 Polypogon

Pulicaria paludosa
 Pluchea odorata
 Spergularia sp.
 Atriplex sp.

Existing Structures Present? NO YES (describe)

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)Other Special Interest Species Present? NO YES (list)

Centromadia perryi
 n=1 along roadway (dirt) in southwest corner.

Suitable Habitat Present? NO YES (describe for each species)"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

?

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 Basins Project # CDT0807 Survey Type _____
 Location/Site I.D. # 1180 R
 Biologist(s) DQ, AR, LS Date 11/5/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

- concrete-lined
- hydrophytic veg. @ north end
- ~6"-12" of sediment over concrete-lined bottom
- standing water 1"-2" @ north end

Existing Habitat Quality: Mowed Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

mulefat D-Ruderal
 arroyo willow
 brass button

Existing Structures Present? NO YES (describe)

Concrete-lined / culvert

Visible Site Disturbances? NO YES (describe)

Mowed

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)*Centromadia pennyi* $n \approx 100$ throughout basin

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

~~NO~~ YES (describe for each species)*for Centromadia*

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)

?

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 BASINS Project # C DT0807 Survey Type _____
 Location/Site I.D. # 1183 L
 Biologist(s) TQ, AR, LS Date 11/5/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) _____

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography, soils, aspect/slope, vegetation/plant communities):

- concrete bottom
- no hydric soils

Existing Habitat Quality: Poor Fair Moderate Good Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Plant Species Present ("D" dominant):

mulefat (isolated clumps)

Existing Structures Present? NO YES (describe)

Visible Site Disturbances? NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present? NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present? NO YES (list)

Other Special Interest Species Present? NO YES (list)

Suitable Habitat Present? NO YES (describe for each species)

"Designated Critical Habitat" Present? NO YES (describe habitat, location, source of info.)

Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion? NO YES (describe conditions/circumstances)

Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

BIOLOGICAL EVALUATION DATA SHEET

Project Name 73 B99NS Project # CDT0807 Survey Type _____
 Location/Site I.D. # 1194 R
 Biologist(s) IQ, AR, LS Date 11/5/08 Time (start) _____ (end) _____
 Weather (cloud cover, est. wind speed/direction, precipitation) clear, warm, calm winds

Air Temp. (°F) (start) _____ (end) _____ Photo# _____

General Site Conditions (topography; soils, aspect/slope, vegetation/plant communities):

pond of standing water 2x6' 3-4" deep

Existing Habitat Quality:

Mowed

Poor

Fair

Moderate

Good

Pristine

Adjacent Land Uses:

North:

South:

East:

West:

Animal Species Present (observed, detected, activity):

Hofi

Plant Species Present ("D" dominant):

mylefat

D-Ruderal

Existing Structures Present?

NO YES (describe)

Visible Site Disturbances?

NO YES (describe)

BIOLOGICAL EVALUATION DATA SHEET (Continued)

Sensitive Natural Communities Present?

NO YES (describe)

Federal/State Listed Plant or Animal Species, or Species Proposed for Listing, Present?

NO YES (list)

Centromadia perryi @ 2nd gate & interior of basin (west half)
 $n \leq 100$

Other Special Interest Species Present?

NO YES (list)

Suitable Habitat Present?

NO YES (describe for each species)

for *Centromadia*

"Designated Critical Habitat" Present?

NO YES (describe habitat, location, source of info.)Will Proposed Action Involve Tree Removal? NO YES (describe conditions/circumstances)

Will Proposed Action Involve Water Diversion?

NO YES (describe conditions/circumstances)Will Proposed Action Fragment Habitat or Impede Wildlife Movement? NO YES (describe)

Notes/Comments:

Appendix F Jurisdictional Delineation

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JURISDICTIONAL DELINEATION

SR-73 BASIN SEDIMENTATION PROJECT
SR-73 BETWEEN JAMBOREE ROAD AND I-5/SR-73 INTERCHANGE
ORANGE COUNTY, CALIFORNIA

Prepared for:

State of California
Department of Transportation
District 12
Orange County, California 92702

Prepared by:

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Irvine, California 92614
(949) 553-0666

LSA Project No. CDT0807

LSA

January 2009

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APPENDICES

- A: BASIN LOCATIONS
- B: COPIES OF WETLAND DATA FORMS
- C: POTENTIAL ACOE, CDFG, AND RWQCB JURISDICTIONAL AREAS
- D: BASIN SITE PHOTOS

INTRODUCTION

This report presents the results of a delineation by LSA Associates, Inc. (LSA) of potential wetlands and waters subject to jurisdiction by the United States Army Corps of Engineers (ACOE), the California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWQCB) as part of their evaluation for permit authorization under Section 404 of the federal Clean Water Act (CWA) for Streambed Alteration Agreement processing under Section 1600 et seq. of the California Fish and Game Code and certification under Section 401 of the CWA, respectively. This jurisdictional delineation is also an important source of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) information for the evaluation of potential impacts associated with reducing sedimentation runoff into 39 storm water basins along State Route 73 (SR-73) between the Interstate 5 (I-5)/SR-73 interchange and Jamboree Road, a distance of approximately 15 miles (mi) (Figure 1).

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters (or lack of) subject to regulatory jurisdiction, represent the professional opinion of LSA and should be considered tentative until verified by representatives of the ACOE, CDFG, and RWQCB.

SITE DESCRIPTION

The biological study area (BSA) is approximately 15 linear miles along the SR-73 corridor, reaching from approximately the I-5 interchange (southern limit) to Jamboree Road (northern limit) and extending through the cities of Laguna Niguel, Aliso Viejo, Laguna Beach, Newport Beach, and Irvine, California. Specifically, the survey extends from approximate Latitude 33 39'11.837"N, Longitude 117 51'42.366"W to Latitude 33 32'46.181"N, Longitude 117 40'30.032"W within Sections 1, 5, 6, 9, 10, 14, 15, 18, 19, 20, 28, 34, and 35, Township 6 and 7 South, Range 8 and 9 West, as shown on the *San Juan Capistrano, Laguna Beach, and Tustin, California 7.5-minute series United States Geological Survey (USGS) topographic maps*.

The project proposes to reduce sedimentation runoff into 39 storm water basins along SR-73 between Jamboree Road and the I-5/SR-73 interchange with Best Management Practices (BMPs) by reducing erosion of internal basin slopes, erosion of adjacent slopes, bare areas within the median, or any areas identified within the Caltrans right-of-way as source contributors that drain into basins.

REGULATORY BACKGROUND

United States Army Corps of Engineers

The ACOE regulates discharges of dredged or fill material into waters of the United States. These waters include wetland and nonwetland bodies of water that meet specific criteria. ACOE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the ACOE regulations. The following definition of waters of the United States is taken from the discussion provided at 33 Code of Federal Regulations (CFR) 328.3.

“The term waters of the United States means:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce . . . ;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams) . . . the use, degradation or destruction of which could affect interstate or foreign commerce . . . ;
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition; and
- (5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section.”

The ACOE typically regulates as waters of the United States any body of water displaying an ordinary high water mark (OHWM). ACOE jurisdiction over nontidal waters of the United States extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.” (33 CFR 328.3). Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

As discussed above, ACOE regulatory jurisdiction under Section 404 of the CWA is founded on a connection between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the ACOE regulations. In the past, an indirect nexus could potentially be established if isolated waters provided habitat for migratory birds, even in the absence of a surface connection to a navigable water of the United States. The 1984 rule that enabled the ACOE to expand jurisdiction over isolated waters of this type became known as the Migratory Bird Rule. However, on January 9, 2001, the United States Supreme Court narrowly limited the ACOE jurisdiction of “nonnavigable, isolated, intrastate” waters based solely on the use of such waters by migratory birds and particularly, the use of indirect indicators of interstate commerce (e.g., use by migratory birds that cross state lines) as a basis for jurisdiction. The Court’s ruling derives from the case *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (SWANCC). The Supreme Court determined that the ACOE exceeded its statutory authority by asserting CWA jurisdiction over an abandoned sand and gravel pit in northern Illinois that provides habitat for migratory birds.

In 2006, the United States Supreme Court further considered the ACOE jurisdiction of “waters of the United States” in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as *Rapanos*. The Supreme Court concluded that wetlands are “waters of the United States” if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. On June 5, 2007, the ACOE

issued guidance regarding the Rapanos decision. This guidance states that the ACOE will continue to assert jurisdiction over traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent nonnavigable tributaries that have a continuous flow at least seasonally (typically three months), and wetlands that directly abut relatively permanent tributaries. The ACOE will determine jurisdiction over waters that are nonnavigable tributaries that are not relatively permanent and wetlands adjacent to nonnavigable tributaries that are not relatively permanent only after making a significant nexus finding.

The ACOE regulations (CFR Section 328.3, Definitions) states that "Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States."

Furthermore, the preamble to ACOE regulations (Preamble Section 328.3, Definitions) states that the ACOE does not generally consider the following waters to be waters of the United States. The ACOE does, however, reserve the right to regulate these waters on a case-by-case basis.

- Nontidal drainage and irrigation ditches excavated on dry land
- Artificially irrigated areas that would revert to upland if the irrigation ceased
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing
- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons
- Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for purposes of obtaining fill, sand, or gravel, unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States.

Waters found to be isolated and not subject to CWA regulation are often still regulated by the RWQCB under the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Wetlands

Wetland delineations for Section 404 purposes must be conducted according to the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Regional Supplement) (ACOE 2006) and the Corps of Engineers 1987 Wetland Delineation Manual (1987 Manual) (Environmental Laboratory 1987). Where there are differences between the two documents, the Regional Supplement takes precedence over the 1987 Manual.

The ACOE and United States Environmental Protection Agency (EPA) define wetlands as follows:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions."

In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met. Several indicators may be analyzed to determine whether the criteria are satisfied.

Hydrophytic vegetation and hydric soils indicators provide evidence that episodes of inundation have lasted more than a few days or have occurred repeatedly over a period of years, but do not confirm that an episode has occurred recently. Conversely, wetland hydrology indicators provide evidence that an episode of inundation or soil saturation occurred recently, but do not provide evidence that episodes have lasted more than a few days or have occurred repeatedly over a period of years. Because of this, if an area lacks one of the three characteristics under normal circumstances, the area is considered nonwetland under most circumstances.

Determination of wetland limits may be obfuscated by a variety of natural environmental factors or human activities, collectively called difficult wetland situations, including cyclic periods of drought and flooding or highly ephemeral stream systems. During periods of drought, for example, bank return flows are reduced and water tables are lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow the temporary invasion of hydrophytic species into nonwetland areas. In highly ephemeral systems typical of Southern California, these problems are encountered frequently. In these situations, professional judgment based on years of practical experience and extensive knowledge of local ecological conditions comes into play in delineating wetlands. The Regional Supplement provides additional guidance for difficult wetland situations.

Hydrophytic Vegetation. Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on the *National List of Plant Species That Occur in Wetlands: California (Region 0)* (Reed 1988), published by the United States Fish and Wildlife Service (USFWS). Each species on the list is rated according to a wetland indicator category, as shown in the table provided below. To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated as OBL, FACW, or FAC).

Hydrophytic Vegetation

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability > 99 percent)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability 67-99 percent)
Facultative	FAC	Equally likely to occur in wetlands and nonwetlands (estimated probability 34-66 percent)
Facultative Upland	FACU	Usually occur in nonwetlands (estimated probability 67-99 percent)
Obligate Upland	UPL	Almost always occur in nonwetlands (estimated probability > 99 percent)

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the ACOE recommends the use of the "50/20" rule (also known as the dominance test) from the Regional Supplement for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species composing 20 percent or more of the total dominance measure for the stratum. In cases where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling plot. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, ACOE guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (ACOE 2006). If the plant community passes either the dominance test or prevalence index after reconsidering the indicator status of any plant species that exhibit morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

Hydric Soils.¹ Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.² Soils are considered likely to meet the definition of a hydric soil when one or more of the following criteria are met:

1. All Histels except Folistels and Histosols except Folistis;
2. Soils that are frequently ponded for long duration or very long duration³ during the growing season; or
3. Soils that are frequently flooded for long duration or very long duration during the growing season.

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil that causes a depletion of oxygen. While saturation may occur at any time of year, microbial activity is limited to the growing season, when soil temperature is above biologic zero (the soil temperature at a depth of 50 centimeters (cm), below which the growth and function of locally adapted plants are negligible). Biogeochemical processes that occur under anaerobic conditions during the growing season result in the distinctive morphologic characteristics of hydric soils. Based on these criteria, a National List of Hydric Soils was created from the National Soil Information System (NASIS) database and is updated annually.

¹ The hydric soil definition and criteria included in the 1987 Manual are obsolete. Users of the Manual are directed to the United States Department of Agriculture (USDA) Natural Resources Conservation Service Web site for the most current information on hydric soils.

² Current definition as of 1994 (FR July 13, 1994).

³ Long duration is defined as a single event ranging from 7 to 30 days; very long duration is defined as a single event that lasts longer than 30 days.

The Regional Supplement has a number of field indicators that may be used to identify hydric soils. The Natural Resources Conservation Service (NRCS) (2003) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These indicators include hydrogen sulfide generation, the accumulation of organic matter, and the reduction, translocation and/or accumulation of iron and other reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

Wetland Hydrology. Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987). The wetland hydrology parameter is satisfied if the area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season in most years (ACOE 2006).

Hydrology is often the most difficult criterion to measure in the field due to seasonal and annual variations in water availability. Some of the indicators that are commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

California Department of Fish and Game

The CDFG, through provisions of the California Fish and Game Code (Sec. 1600 et seq.), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFG regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFG.

In obtaining CDFG agreements, the limits of wetlands are not typically determined. The reason for this is that the CDFG generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, mulefat, and other vegetation typically associated with the banks of a stream or lake shorelines and may not be consistent with ACOE definitions. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFG jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet ACOE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

Regional Water Quality Control Board

The California RWQCB is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the ACOE (i.e., waters of the United States, including any wetlands). RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Act.

METHODOLOGY

The fieldwork for this evaluation was conducted by LSA biologists Corey Knips, Ingri Quon, Angela Roundy, and Leo Simone. The field work was conducted on November 5, 6, 7, 10, and 18, 2008. All 39 basins within the study area were surveyed on foot for both federal and State jurisdictional areas. Appendix A shows the locations of the 39 basins associated with SR-73. The boundaries of the potential jurisdictional areas were observed in the field and mapped on 26 aerial photographs (each scale 1 inch = approximately 300 feet [ft]), which together show the entire study area.

Areas suspected of potential jurisdiction were evaluated according to ACOE, CDFG, and RWQCB criteria. Basins 1156R, 1180R, 1183L, and 1194R were examined on November 5, 2008. Due to the presence of hydrophytic vegetation, these basins were suspected of potentially being wetland waters. After consulting with Jae Chung of the ACOE, it was determined that because these basins were constructed on dry land for the sole purpose of collecting and treating runoff water from SR-73 and are separate from any ACOE jurisdictional waters, they would not be subject to ACOE regulatory authority.

Hydrophytic vegetation was also present within Basins 583L, 604R, 613L, 780R, 1080R, 1133L, 1149L, and 1151L. However, these basins were analyzed after consulting with Jae Chung of the ACOE, and because there is clear evidence that all of these basins were constructed on dry land for the sole purpose of collecting and treating runoff water from SR-73 and are separate from any ACOE jurisdictional waters, they would not be under ACOE regulatory authority. Therefore, soil pits were not dug at these basins.

Hydrophytic vegetation and standing water were present in Basins 757 and 765L. A soil pit was dug at each of these locations because of their proximity to a large wetland area associated with an unnamed perennial creek located on the east side of El Toro Road.

Measurements of potential federal and State jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs. Areas supporting species of plant life potentially indicative of wetlands were evaluated according to routine wetland delineation procedures described in the Regional Supplement. Representative sample plots were selected and examined in the field in those areas where wetland jurisdiction was in question or needed to be confirmed. The locations of sample plots and the potential jurisdictional areas are shown in Appendix A. At each sample plot, the dominant and subdominant plant species were identified and their wetland indicator status noted (Reed 1988). When possible, a small sample pit (approximately 24 inches deep) was dug at each plot in order to examine soil characteristics and composition. Soil matrix colors were classified according to the Munsell Soil Color Charts (Munsell Color 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were noted. General site characteristics were also noted. Standard data forms were completed for each sample plot; copies of these data forms are included in Appendix B of this report. Potential ACOE, CDFG, and RWQCB jurisdictional and nonjurisdictional areas within the project area are presented as Table A in Appendix C. Representative site photos are located in Appendix D.

RESULTS

The proposed project consists of 39 storm water collection basins along SR-73 between the I-5/SR-73 interchange and Jamboree Road, a distance of approximately 15 miles. The majority of the basins within the project area are concrete-lined. The remaining basins are composed of natural earthen bottoms, riprap bottoms, or a combination of these. Basin 765L, located across El Toro Road from an unnamed tributary, is the only storm water basin identified (Appendix A, Sheet 11 of 30) where potential ACOE, CDFG, and RWQCB jurisdiction occurs.

Potential ACOE Jurisdiction

Establishing the Potential for ACOE Jurisdiction. Per (CFR Section 328.3, Definitions) wetlands adjacent to waters (other than waters that are themselves wetlands) and/or waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11 [m]) are not waters of the United States. Therefore, the ACOE does not assert jurisdiction over these waters.

Additionally, the ACOE typically does not assert jurisdiction over “artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing” (Preamble Section 328.3).

Thirty-eight of the storm water basins within the study area were constructed on dry land in upland areas for the sole purpose of collecting and treating runoff and nuisance flows from SR-73 and adjacent areas. In addition, these areas are separated from any ACOE jurisdictional waters. For these reasons, it is concluded with confidence that these 38 basins are not potentially subject to ACOE jurisdiction.

Basin 765L, however, appears to have a direct hydrologic connection to an unnamed drainage situated across El Toro Road from the basin. The unnamed drainage is tributary to Laguna Canyon Creek. Laguna Canyon Creek eventually flows into the Pacific Ocean, thereby establishing a nexus to interstate commerce. Because this basin abuts relatively permanent water a significant nexus determination by the ACOE will not be required. However, the ACOE might determine that this basin is not jurisdictional because it is nevertheless a treatment pond.

Potential Wetland Waters of the United States. Basin 765L is the only basin within the study area where potential ACOE jurisdiction occurs. This basin is adjacent to an unnamed perennial creek via a connection under El Toro Road. The basin appears to be at a similar elevation as the unnamed perennial stream, and during high flow it appears that water flows back and forth between the basin and the creek. The basin appears to remain inundated or saturated long enough to meet ACOE wetland criteria, and is adjacent to a relatively permanent tributary to a traditional navigable body that also appears to meet the ACOE wetland criteria. The total acreage of potential ACOE wetland waters within the study area is 1.32 acres (ac). See Appendix A for details regarding the location of this potential wetland area. Additional discussion regarding wetland criteria is provided in the description for Basin 765L below.

Potential Nonwetland Waters of the United States. As described above, ACOE typically does not assert jurisdiction over man-made storm water collection basins excavated on dry land. Basin 765L is the only basin that is adjacent to a traditional navigable body of water and it was determined to meet ACOE wetland criteria. Therefore, there are no potential ACOE nonwetland waters of the United States within the study area. See Appendix A for details regarding the locations of the potentially nonjurisdictional basins.

Basin Descriptions

Basin 457L. Basin 457L is a small rectangular-shaped storm water collection basin located west of SR-73 between the I-5/SR-73 interchange and Pas de Colinas (Sheet 1, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs, such as salt heliotrope (*Heliotropium curassavicum*), telegraph weed (*Heterotheca grandiflora*), and black mustard (*Brassica nigra*). The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 506R. Basin 506R is a rectangular-shaped storm water collection basin located north of SR-73 and west of Crown Valley Parkway (Sheet 2, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. The basin is sparsely vegetated with upland species consisting of nonnative grasses and ruderal forbs, including black mustard, foxtail chess (*Bromus madritensis* ssp. *rubens*), and tree tobacco (*Nicotiana glauca*). The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 535L. Basin 535L is a rectangular-shaped storm water collection basin located south of SR-73 and approximately 1,800 ft west of Green Field Drive (Sheet 3, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. The basin is vegetated with upland species consisting of nonnative grasses and ruderal forbs, including Russian thistle (*Salsola tragus*), foxtail chess, and doveweed (*Croton setigerus*). The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 583L. Basin 583L is a triangular-shaped, concrete-lined storm water collection basin. The basin is located to the south of SR-73, and situated adjacent to the west side of Moulton Parkway (Sheet 5, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation growing within the basin is dominated by ruderal species. Opportunistic species such as common cocklebur (*Xanthum strumarium*; FAC), curly dock (*Rumex crispus*; FACW), and cattail (*Typha* sp.; OBL) were observed growing in an area of standing water that accumulated over the impermeable concrete-lined basin bottom. The remainder of the vegetation within the basin primarily consists of upland species. A soil pit to determine if the area

satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain water. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 604R. Basin 604R is an oval-shaped storm water collection basin. The basin is located to the north of SR-73, and east of La Paz Road (Sheet 6, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure, and sheet flows across the basin. Vegetation growing within the basin is dominated by ruderal species. A small patch of fresh water marsh was observed near the basin inlet structure. Vegetation growing in this area of standing water included common cocklebur (FAC), curly dock (FACW), and rabbitfoot grass (*Polygonum monspeliensis*, FACW). The remainder of the vegetation within the basin consists primarily of upland nonnative grassland and ruderal species. A soil pit to determine if the area satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain water. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 613L. Basin 613L is a triangular-shaped basin located south of SR-73 and west of La Paz Road (Sheet 6, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation growing within the basin is dominated by nonnative annual grasses. Opportunistic species, including marsh fleabane (*Senecio congestus*; OBL) and tamarisk (*Tamarix* sp.; FACW), were observed growing in the wetter areas of the basin. The remainder of the vegetation within the basin consists primarily of upland species. A soil pit to determine if the area satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain water. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 630L. Basin 630L is a small off-line bypass storm water collection basin. The basin is located south of SR-73, west of Alicia Parkway, and east of Aliso Creek (Sheet 6, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure. There was no sediment or vegetation observed within this concrete structure. The basin was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 635L. Basin 635L is a narrow west-to-east-draining storm water collection basin. The basin is located south of SR-73 and east of Aliso Creek Road (Sheets 6 and 7, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure, and sheet flows across the basin. Vegetation growing within the basin is dominated by upland ruderal and ornamental species, including Russian thistle, foxtail chess, and prostrate acacia (*Acacia redolens*). The basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 654R. Basin 654R is an oval-shaped storm water collection basin. The basin is located north of SR-73 and east of Aliso Creek Road (Sheet 7, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation growing within the basin is dominated by upland ruderal and ornamental species, including Russian thistle, foxtail chess, and Sydney golden wattle. The basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 659L. Basin 659L is an oval-shaped storm water collection basin. The basin is located south of SR-73 and west of Aliso Creek Road (Sheet 7, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation growing within the basin is dominated by upland ruderal and nonnative grasses, including Russian thistle, foxtail chess, and tocolote (*Centaurea melitensis*). The basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 696R. Basin 696R is an oval-shaped storm water collection basin. The basin is located north of SR-73 and east of Glenwood Drive (Sheet 9, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation growing within the basin is dominated by upland ruderal and nonnative grasses, including Russian thistle, foxtail chess, and telegraph weed. The basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 757. Basin 757 is a riprap-lined oval-shaped storm water collection basin that receives runoff collected from SR-73 via a 36-inch inlet structure. It is located south of SR-73, east of El Toro Road, and approximately 500 ft north of an unnamed perennial creek (Sheet 11, Appendix A). A sediment-filled riprap-lined pilot channel extends from the inlet structure near the eastern end of the basin to the outlet structure located near the west end of the basin. Hydrophytic vegetation consisting of cattail (OBL), rabbitfoot grass (FACW), and African brass-buttons (*Cotula coronopifolia*; OBL) was observed growing within the ponded portions of the concrete-lined pilot channel and adjacent areas. The remainder of the vegetation within the basin consists primarily of upland ruderal species. Due to the presence of hydrophytic vegetation and standing water (there was a rain event one day prior to the survey), a soil pit (SP 6) was taken to determine if the area satisfies wetland criteria. Soils consisting of clay loam were saturated and met the hydric soils indicator requirements outlined in the Regional Supplement (Munsell Matrix – Gleyed 1 2-5/10Y). It should be noted that most of the basin bottom is lined with riprap, thereby providing an impermeable surface that most likely accounted for the ponded water observed within the basin. Additionally, the accumulation of soil in the basin appears to be the result of erosion from adjacent upland areas. Although the basin met all three wetland criteria parameters (hydric soils, hydrophytic vegetation, and wetland hydrology) the basin was separated from, and at a significantly higher elevation than the unnamed perennial creek located downslope of the basin. Therefore, it is LSA's opinion that because this basin is separate from any ACOE jurisdictional waters that it should not be considered jurisdictional by the ACOE.

Basin 765L. Basin 765L is a triangular-shaped storm water collection basin located south of SR-73 and adjacent to the west side of El Toro Road (Sheet 11, Appendix A). Vegetation within the basin consists entirely of hydrophytes, including cattail, Goodding's black willow (*Salix gooddingii*; OBL), arroyo willow (*Salix lasiolepis*; FACW), western cottonwood (*Populus fremontii*; FACW), and mulefat (*Baccharis salicifolia*; FACW). The basin appears to be hydrologically connected to a large wetland area associated with an unnamed perennial creek located on the east side of El Toro Road across from the basin, and during high flow it appears that water flows back and forth between the basin and the creek. Because of the prevalence of hydrophytic vegetation and saturated soil throughout the basin, a soil pit (SP 5) was taken to determine if the area satisfies wetland criteria. The basin consists of soils made up of sandy clay loam. The gleyed soils within Basin 765L exhibit clear hydric soil characteristics. Soils examined in SP 5 do not fit into the technical descriptions for the hydric soil indicators listed in the final Regional Supplement. However, the existence of hydrophytic vegetation and observed hydrology in this basin, in addition to the presence of gleyed soils, supports the conclusion that this area meets the hydric soils wetland criteria. Therefore, all three wetland parameters (hydric soils, hydrophytic vegetation, and wetland hydrology) are met within this basin. Based on the hydrologic connection and the abutting position relative to existing jurisdictional waters, it is LSA's opinion that this basin may be considered jurisdictional by the ACOE.

Basin 780R. Basin 780R is a triangular-shaped storm water collection basin located north of SR-73 and east of Laguna Canyon Road (Sheets 11 and 12, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists mostly of upland nonnative grasses with scattered mulefat. A small stand of mulefat and cattails was observed in the southern portion of the basin. A soil pit to determine if the area satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction, was constructed on dry land to collect and retain runoff water from SR-73, and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 785L. Basin 785L is a small rectangular-shaped storm water collection basin situated on a terraced hillside located upslope of Laguna Canyon Creek, south of SR-73 and west of Laguna Canyon Road (Sheet 12, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs, including telegraph weed, black mustard, and foxtail chess. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 789L. Basin 789L is a small oval-shaped storm water collection basin located south of SR-73 and west of Laguna Canyon Road (Sheet 12, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses, with scattered coastal sage scrub growing mostly on the banks. The basin was constructed on dry land to collect and retain runoff water

from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 808R. Basin 808R is a long linear-shaped storm water collection basin located north of SR-73 and approximately 1,600 ft west of Laguna Canyon Road (Sheets 12 and 13, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses on the basin bottom, with coastal sage scrub growing mostly on the banks. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 859L. Basin 859L is an oval-shaped storm water collection basin located south of SR-73 (Sheet 14, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 878R. Basin 878R is an oval-shaped storm water collection basin located north of SR-73 and approximately 1,600 ft east of the toll plaza (Sheet 15, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs with scattered mulefat. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 883L. Basin 883L is a kidney-shaped storm water collection basin located south of SR-73 and approximately 1,500 ft east of the toll plaza (Sheet 15, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 893L. Basin 893L is a small oval-shaped storm water collection basin located south of SR-73 and east of the toll plaza (Sheet 15, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 922R. Basin 922R is a triangular-shaped storm water collection basin located north of SR-73 (Sheet 16, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 930L. Basin 930L is a rectangular-shaped storm water collection basin located south of SR-73 (Sheet 16, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated by nonnative grasses. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1032L. Basin 1032L is a rectangular-shaped storm water collection basin located south of SR-73 and west of Newport Coast Drive (Sheet 20, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs and shrubs, with scattered mulefat. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1032R. Basin 1032R is an oval-shaped storm water collection basin located north of SR-73 and east of Newport Coast Drive (Sheet 20, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses, with a few isolated plants of the coastal sage scrub community. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1075L. Basin 1075L is a rectangular-shaped storm water collection basin located south of SR-73 and east of Bonita Canyon Road (Sheet 21, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin from north to south. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses and ruderal forbs and shrubs with scattered mulefat. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1076R. Basin 1076R is a triangular-shaped storm water collection basin located north of SR-73 and east of Bonita Canyon Road (Sheet 21, Appendix A). Runoff from SR-73 is collected within the

basin via a 36-inch inlet structure and sheet flows across the basin from north to south. Vegetation in this basin consists entirely of upland species dominated primarily by nonnative grasses, with a few isolated mulefat plants. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1080R. Basin 1080R is a concrete-lined storm water collection basin. The basin is located north of SR-73 and east of Bonita Canyon Road (Sheet 21, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation is absent within the basin except for a small remnant of hydrophytic vegetation consisting of cattail and willow growing in soil that accumulated at the basins outfall structure. A soil pit to determine if the area satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain water. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1081L. Basin 1081L is a triangular-shaped storm water collection basin located south of SR-73 and east of Bonita Canyon Road (Sheet 21, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin from north to south. Vegetation in this basin consists entirely of upland species dominated primarily by Russian thistle and nonnative grasses, with a few isolated mulefat plants. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1085L. Basin 1085L is a small off-line bypass storm water collection basin. The basin is located adjacent to and south of a tributary of Bonita Creek, south of SR-73, and west of Bonita Canyon Road (Sheets 21 and 22, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure. Vegetation is absent within most of the basin. Remnant vegetation within the basin consists entirely of ruderal upland species. Hydrophytic vegetation was not observed in the basin. The basin was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1133L. Basin 1133L is an oval-shaped, south-to-north-draining concrete-lined storm water collection basin. The basin is located to the west of SR-73, and south of Bison Avenue (Sheet 23, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure, and sheet flows across the basin. Vegetation growing within the basin is dominated by ruderal species. Opportunistic species such as rabbitfoot grass (FACW) and curly dock (FACW) were observed growing in the wet soil that accumulated over the impermeable concrete-lined basin bottom. The remainder of the vegetation within the basin consists primarily of upland species. A soil pit to determine if the area satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1137L. Basin 1137L is a small triangular-shaped storm water collection basin located west of SR-73 and north of Bison Avenue (Sheets 23 and 24, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin from north to south. Vegetation in this basin consists entirely of upland species dominated primarily by Russian thistle and nonnative grasses, with a few isolated mulefat plants. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1143L. Basin 1143L is a small oval-shaped storm water collection basin located west of SR-73 and south of MacArthur Boulevard (Sheets 23 and 24, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin consists entirely of upland ruderal species dominated primarily by nonnative grasses. The basin was constructed on dry land to collect and retain runoff water from SR-73 and is separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1149L. Basin 1149L is an oval-shaped storm water collection basin located west of MacArthur Boulevard (Sheet 24, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation in this basin primarily consists of upland species dominated by nonnative grasses and forbs. Common rush (*Juncus*; FACW) occupied the central portion of the basin. A soil pit to determine if the area satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain runoff from SR-73. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1151L. Basin 1151L is a narrow, south-to-north-draining concrete-lined storm water collection basin. The basin is located to the west of SR-73, and situated partially under the MacArthur Boulevard overpass (Sheet 24, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure and sheet flows across the basin. Vegetation growing within the basin is dominated by ruderal species. Opportunistic species such as rabbitfoot grass (FACW) and curly dock (FACW) were observed growing in the wet soil that accumulated over the impermeable concrete-lined basin bottom. The remainder of the vegetation within the basin consists primarily of upland species. A soil pit to determine if the area satisfies wetland criteria was not taken because the basin is separated from any waters currently under ACOE jurisdiction and was constructed on dry land to collect and retain water. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1156R. Basin 1156R is a south-to-north-draining, concrete-lined rectangular-shaped storm water collection basin. The basin is located to the east of SR-73 and partially under the MacArthur Boulevard overpass (Sheet 24, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure. A sediment filled concrete-lined pilot channel extends from the inlet structure near the southern end of the basin to the outlet structure located near the north end of the basin.

Hydrophytic vegetation consisting of cat-tail (OBL), rabbitfoot grass (FACW) and African brass-buttons (OBL) was observed growing within the ponded portions of the concrete-lined pilot channel and adjacent areas. The remainder of the vegetation within the basin consists primarily of upland ruderal species. Due to the presence of hydrophytic vegetation and a significant amount of standing water (rain event one day prior to survey), a soil pit (SP 4) was taken to determine if the area satisfies wetland criteria. Soils were saturated and consisted of sandy clay loam and sandy loam. The soils appeared to meet the hydric soils indicator requirements outlined in the Regional Supplement (Munsell Matrix – Gleyed 1 N 2.5/Black; 10 Y 3/1). It should be noted that most of the basin bottom is concrete-lined, thereby providing an impermeable surface that most likely accounted for the ponded water observed within the basin. Additionally, the accumulation of soil in the basin appears to be the result of erosion from adjacent upland areas. Although the basin met all of the criteria (hydric soils, hydrophytic vegetation, and wetland hydrology) it is separated from any waters currently under ACOE jurisdiction. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1180R. Basin 1180R is a south-to-north-draining, concrete-lined rectangular shaped storm water collection basin. The basin is located east of SR-73, west of MacArthur Boulevard, and south of University Drive (Sheet 25, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure. No OHWM was visible within the basin; however, a concrete-lined pilot channel extends approximately 200 ft, from the inlet structure near the southern end of the basin to the outlet structure located near the north end of the basin. Vegetation within the basin consists primarily of upland ruderal plants. A small stand of potential hydrophytic vegetation consisting of mulefat (FACW), arroyo willow (FACW), curly dock (FACW), and African brass-buttons (OBL) was observed in the area of ponded water near the basin's inlet structure. Due to the presence of potential hydrophytic vegetation and a small amount of standing water (rain event one day prior to survey), a soil pit (SP 3) was taken to determine if the area satisfies wetland criteria. Soils consisted of sandy clay loam. The soils failed to meet any hydric soils indicators outlined in the Regional Supplement (Munsell Matrix – 10 YR 4/2). Most of the basin bottom is concrete-lined, thereby providing an impermeable surface that accounted for the ponded water observed within the basin. The accumulation of soil in the basin appears to be the result of erosion from adjacent upland areas. The basin did not meet any of the criteria (hydric soils, hydrophytic vegetation, and wetland hydrology) in order to be classified as a jurisdictional wetland. This basin also lacked any connection or nexus to any navigable water or tributary to any waters subject to ACOE jurisdiction. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1183L. Basin 1183L is a west-to-east-oriented, concrete-lined rectangular-shaped storm water collection basin. The basin is located partially under the southbound side of SR-73, north of University Drive and south of San Diego Creek (Sheets 25, Appendix A). Runoff from SR-73 is collected within the basin via a 36-inch inlet structure. An OHWM was not observed within the basin; runoff appears to sheet-flow across the basin in a easterly direction. Vegetation within the basin consists primarily of upland ruderal plants with small patches of mulefat (FACW). Because of the presence of potential hydrophytic vegetation and a small amount of standing water (there was a rain event one day prior to the survey) on the central portion of the basin, a soil pit (SP 2) was taken to determine if the area satisfies wetland criteria. Soils consisted of sandy clay loam. The soils failed to meet any hydric soils indicators outlined in the Regional Supplement (Munsell Matrix – 10 YR 4/2).

Much of the basin bottom is concrete-lined, thereby providing an impermeable surface that accounted for the ponded water observed within the basin. The accumulation of soil in the basin appears to be the result of erosion from adjacent upland areas. The basin did not meet any of the criteria (hydric soils, hydrophytic vegetation, and wetland hydrology) required to be classified as a jurisdictional wetland. This basin also lacked any connection or nexus to any navigable water or tributary to any waters subject to ACOE jurisdiction. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

Basin 1194R. Basin 1194R is a mostly concrete-lined rectangular-shaped storm water collection basin that receives runoff collected from SR-73 via a 36-inch inlet structure. It is located east of SR-73, west of MacArthur Boulevard, south of Jamboree Road, and north of San Diego Creek (Sheets 25 and 26, Appendix A). An OHWM was not visible within the basin. Runoff appears to sheet-flow across the basin from north to south. Vegetation within the basin consists primarily of upland ruderal vegetation with small patches of mulefat (FACW). Because of the presence of potential hydrophytic vegetation and standing water (there was a rain event one day prior to the survey) on the southern portion of the basin, a soil pit (SP 1) was taken to determine if the area satisfies wetland criteria. It consisted of soils made up of sandy clay loam. The soils failed to meet any hydric soils indicators outlined in the Regional Supplement (Munsell Matrix - 7.5 YR 4/3). Much of the basin bottom is concrete-lined, thereby providing an impermeable surface that accounted for the ponded water observed within the basin. The accumulation of soil in the basin appears to be primarily from erosion of adjacent upland areas. Therefore, the basin did not meet any of the criteria (hydric soils, hydrophytic vegetation, and wetland hydrology) required to be classified as a jurisdictional wetland. This basin also lacked any connection or nexus to any navigable water or tributary to any waters subject to ACOE jurisdiction. Therefore, it is LSA's opinion that this basin should not be considered jurisdictional by the ACOE.

CONCLUSIONS

ACOE Jurisdiction

Of the 39 storm water collection basins discussed above, Basin 765L was the only basin considered by LSA to have potential ACOE jurisdiction. Basin 765L appears to have a direct hydrologic connection to the unnamed perennial creek situated across El Toro Road from the basin. The unnamed drainage is tributary to Laguna Canyon Creek. Laguna Canyon Creek eventually flows into the Pacific Ocean. Wetlands adjacent to waters (other than waters that are themselves wetlands) and/or waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA, are not waters of the United States. However, since Basin 765L appears to have a direct hydrologic connection to a perennial creek that also appears to meet the wetland criteria, it is LSA's opinion that this basin may be considered jurisdictional by the ACOE even though it was constructed for and also functions as a treatment pond.

As described above, the remaining basins were constructed on dry land to collect and treat runoff water from SR-73 and are separated from any ACOE jurisdictional waters. Therefore, it is LSA's opinion that these basins should not be considered jurisdictional by the ACOE. The locations of these basins are shown in Appendix A.

CDFG Jurisdiction

The areas satisfying the ACOE jurisdictional criteria for waters of the United States and adjacent wetlands, as described above, are also subject to CDFG jurisdiction pursuant to Section 1602 of the California Fish and Game Code. Of the 39 storm water collection basins discussed above, Basin 765L was the only basin considered by LSA to have potential CDFG jurisdiction. Basin 765L appears to have a direct hydrologic connection to the unnamed perennial creek situated across El Toro Road from the basin. Additionally, riparian vegetation associated with the basin is similar to that of the creek. It is LSA's opinion that this basin is an extension of the creek and thereby may be considered jurisdictional by the CDFG.

The other 38 storm water collection basins were artificially constructed on dry land for the sole purpose of collecting and treating storm water runoff from SR-73 and adjacent areas. It is LSA's opinion that these basins would not be considered jurisdictional since they are separated from any other water bodies under CDFG jurisdiction and clearly are not part of a river, stream, or lake as defined by the CDFG.

The total acreage of CDFG jurisdiction within the study area is 1.32 ac, which is the same total area delineated as ACOE jurisdiction.

RWQCB Jurisdiction

Of the 39 storm water collection basins discussed above, Basin 765L was the only basin considered by LSA to have potential RWQCB jurisdiction per Section 401 of the CWA. Basin 765L appears to have a direct hydrologic connection to an unnamed perennial creek situated across El Toro Road and during high flow it appears that water flows back and forth between the basin and the creek. Therefore, it is LSA's opinion that this basin would be subject to RWQCB regulatory authority per Section 401 of the CWA. Since there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of wetlands (three-parameter) and other waters of the United States (OHWM) as recommended by the September 2004 Workplan. The total area of potential RWQCB jurisdiction is 1.32 ac.

As discussed above, the remaining 38 basins were constructed on dry land for the sole purpose of collecting and treating runoff water from SR-73. The storm water collection basins were built pursuant to CWA authorization and are designed to protect waters of the United States and waters of the State as part of the SR-73 project. Therefore, it is LSA's opinion that these basins should not be considered jurisdictional by RWQCB per either Section 401 of the CWA or the Porter-Cologne Act. The locations of these basins are shown in Appendix A. Table A in Appendix C shows the total potential ACOE, CDFG, and RWQCB jurisdictional and nonjurisdictional areas within the project area.

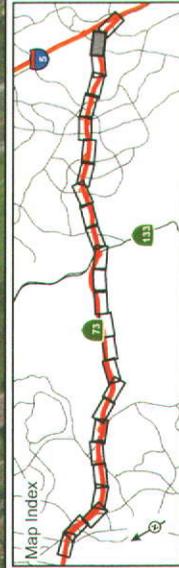
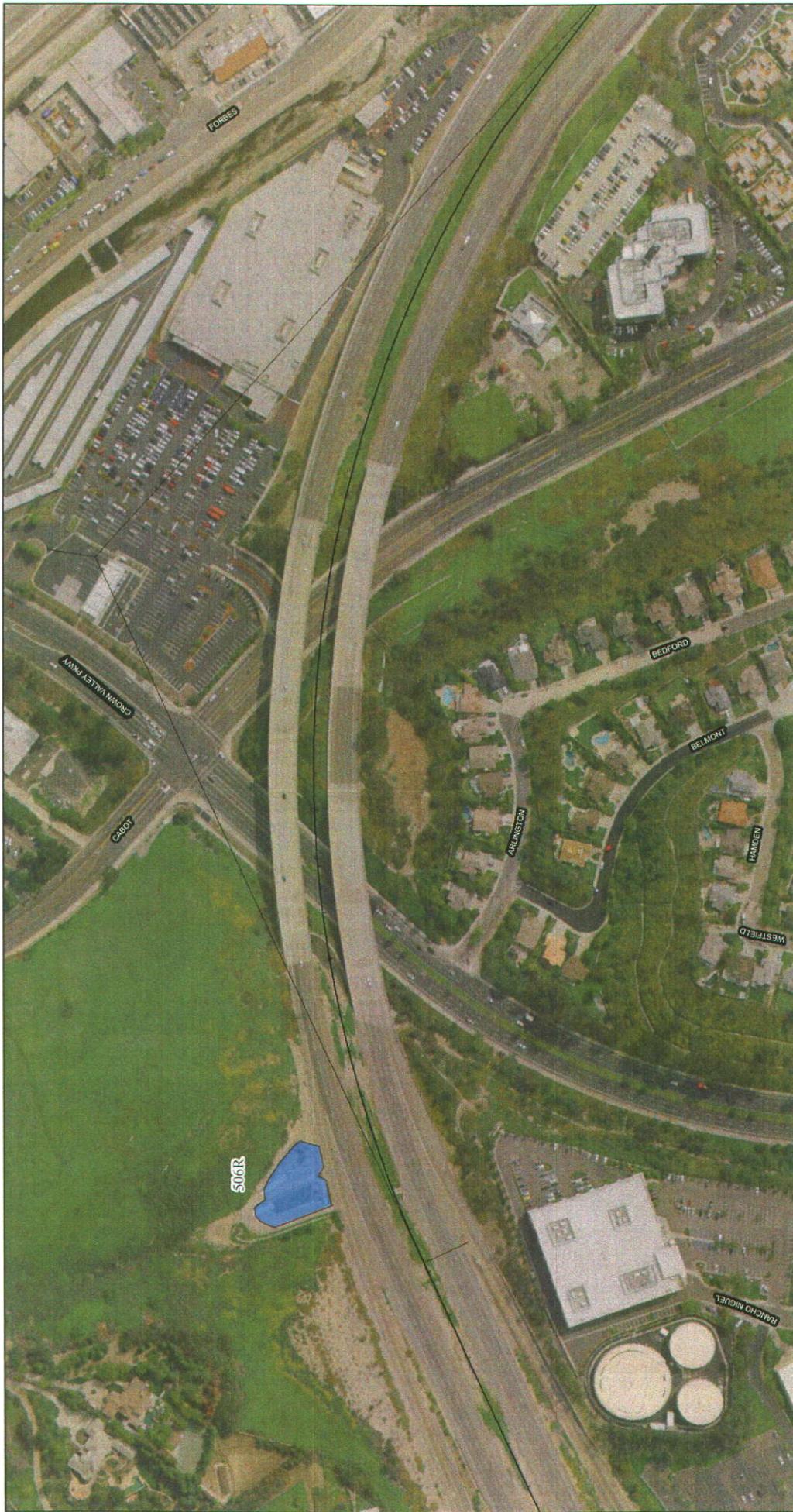
The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction (or lack thereof), represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the ACOE, CDFG, and RWQCB.

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APPENDIX A

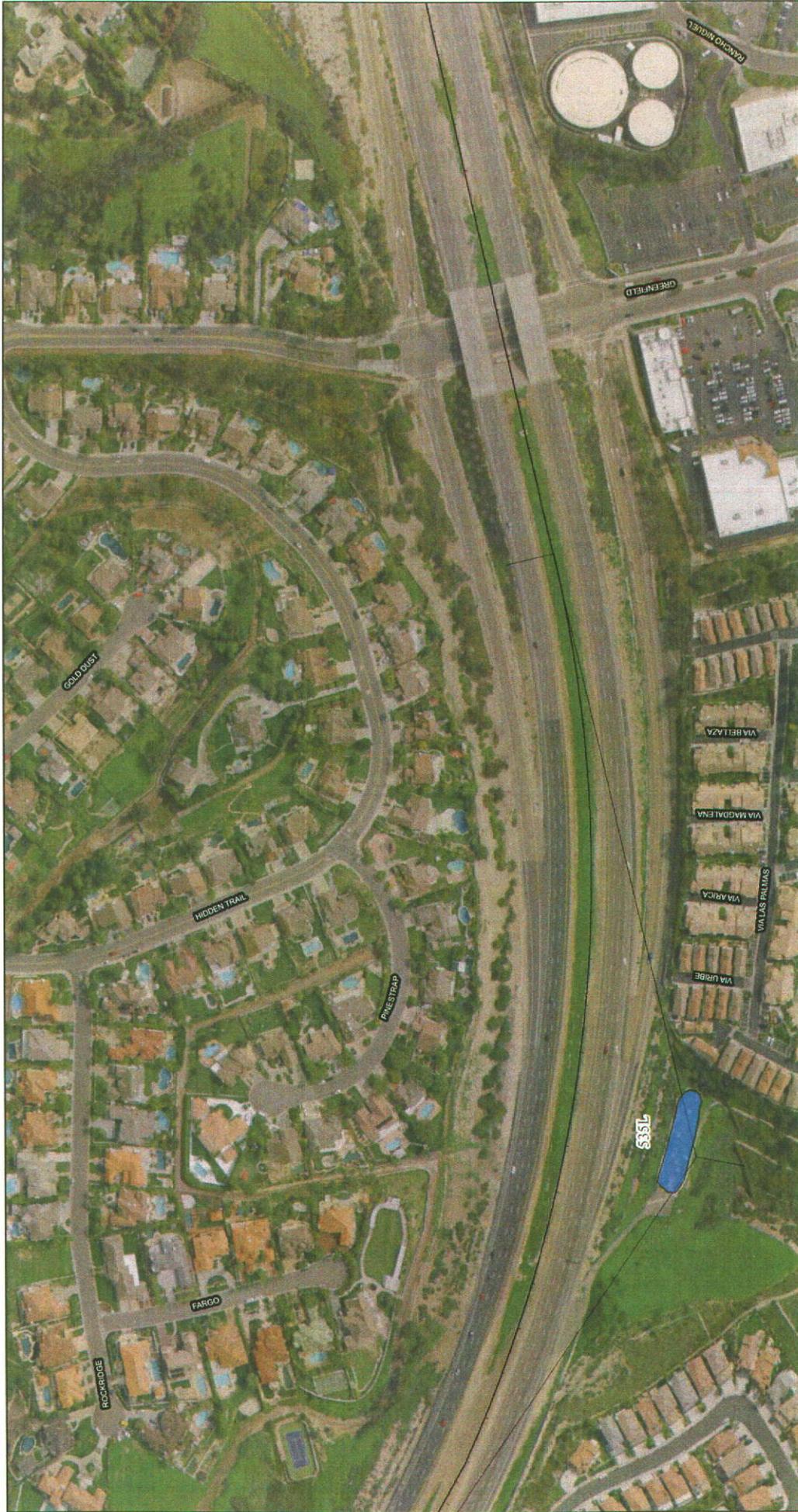
BASIN LOCATIONS



- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDEG Jurisdiction)
 - Soil Pit

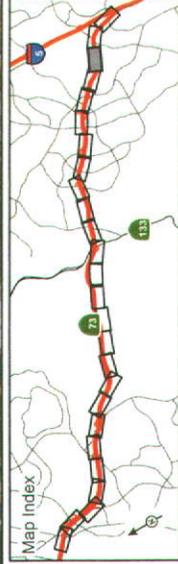


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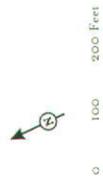


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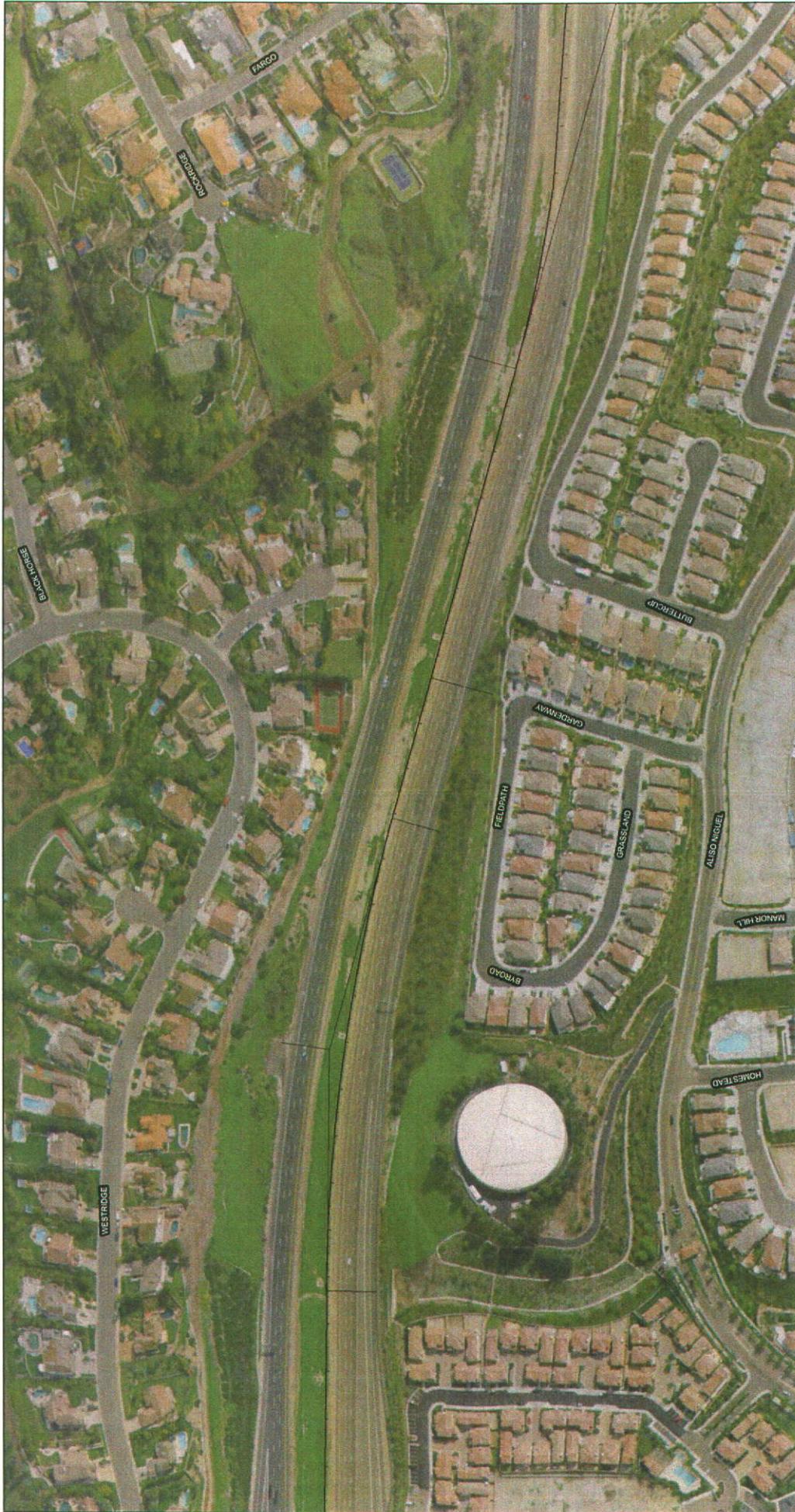
SR-73 Basin Sedimentation Project
Jurisdictional Delineation Map



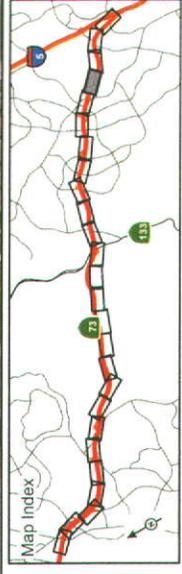
- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



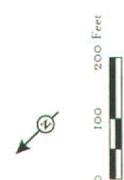
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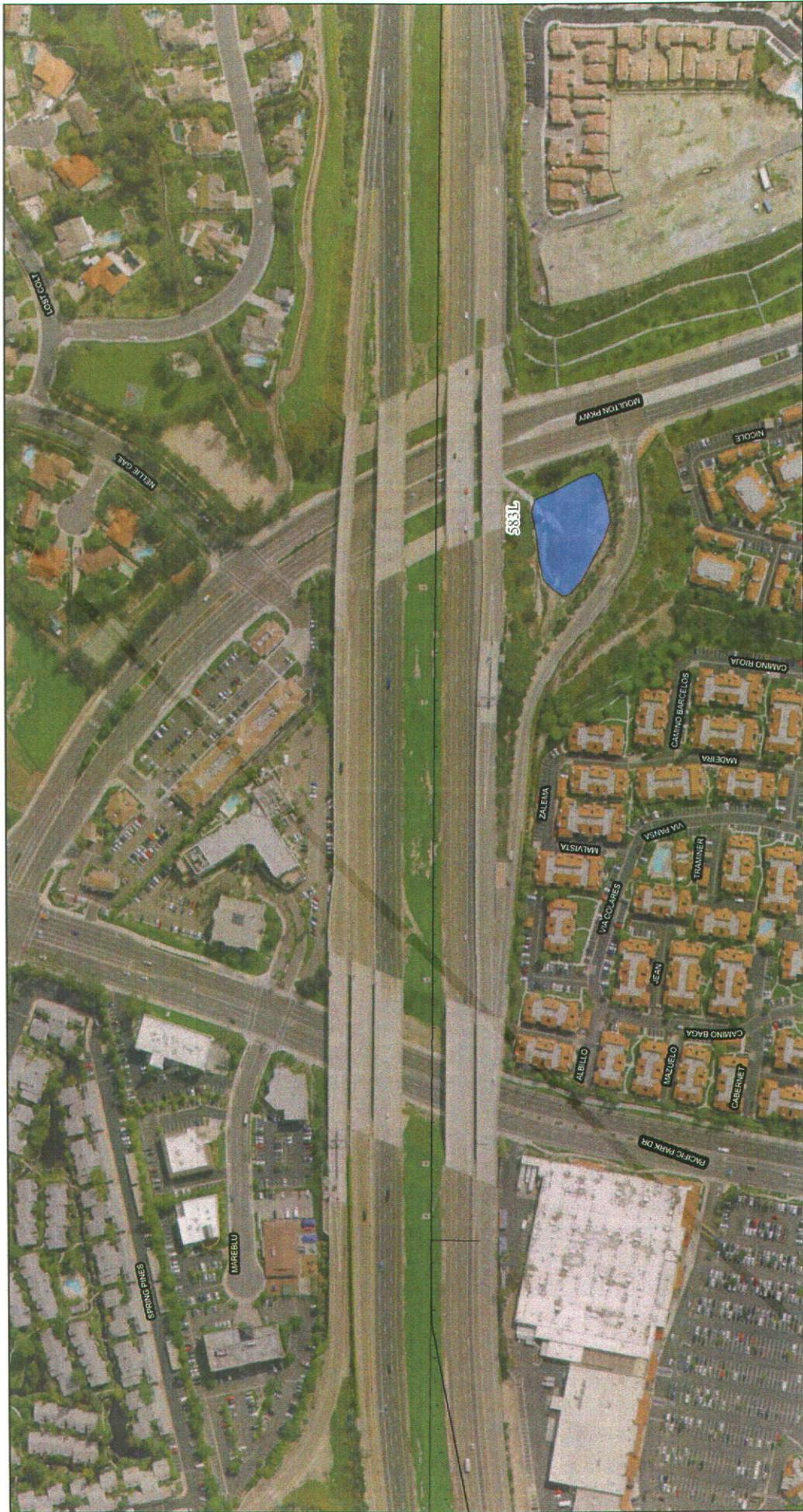
SR-73 Basin Sedimentation Project
Jurisdictional Delineation Map



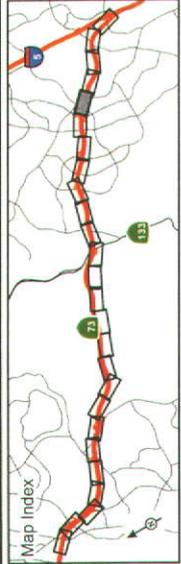
- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



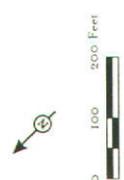
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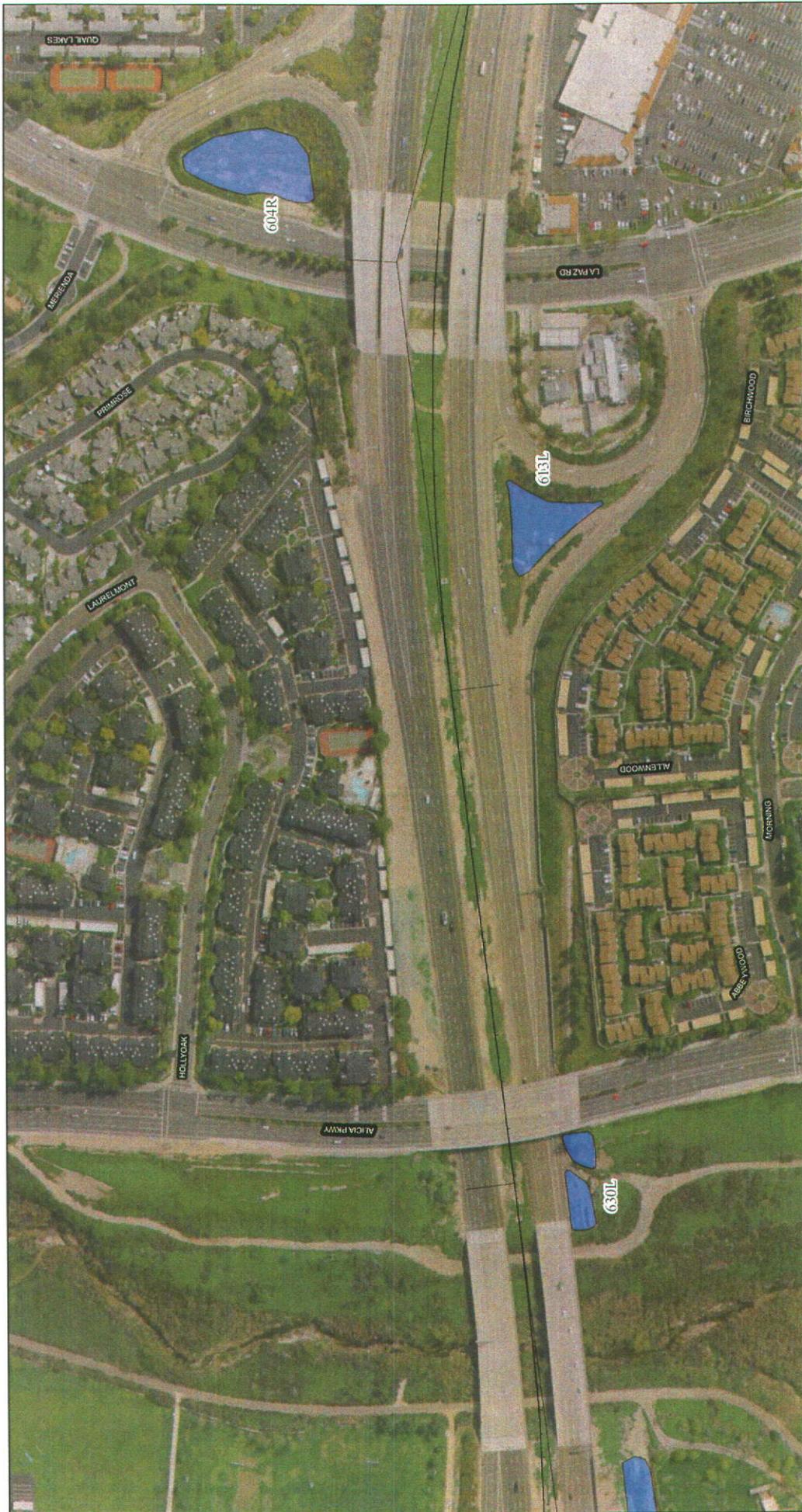


- Legend**
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

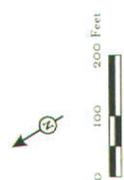


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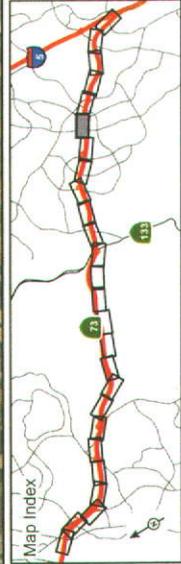
SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map

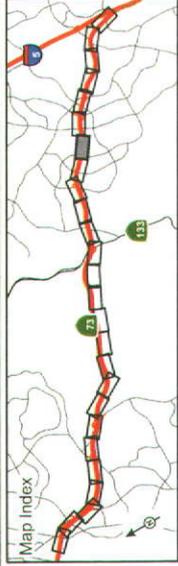


- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

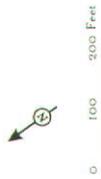


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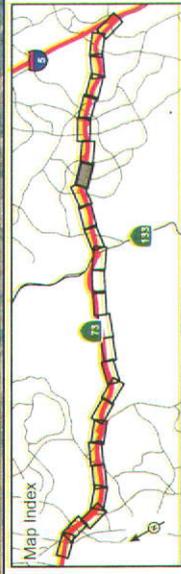




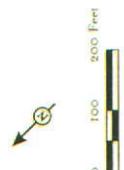
- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



SOURCE: Air Photo USA (2008).
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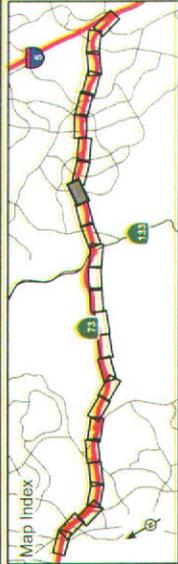
- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



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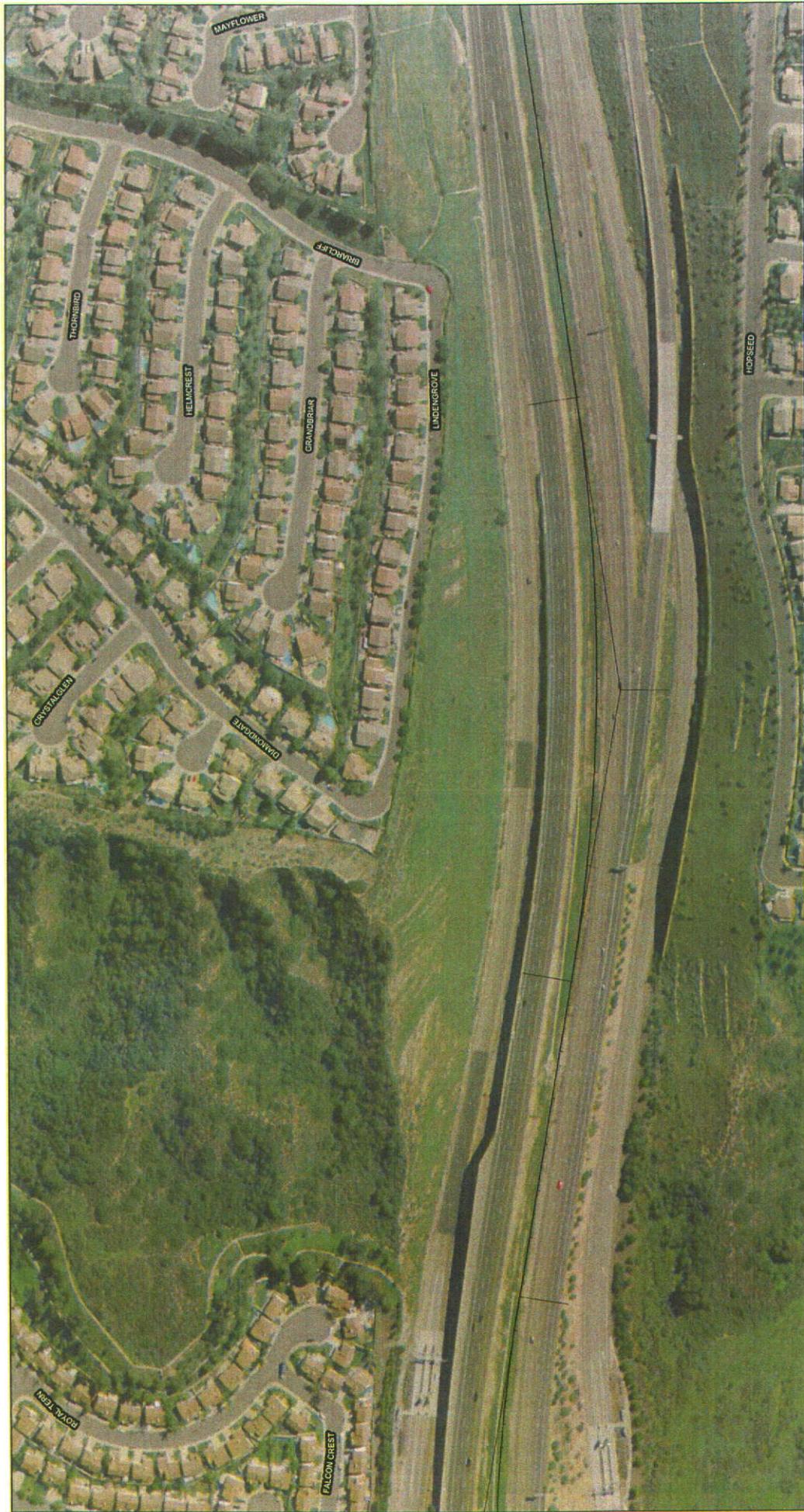


- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

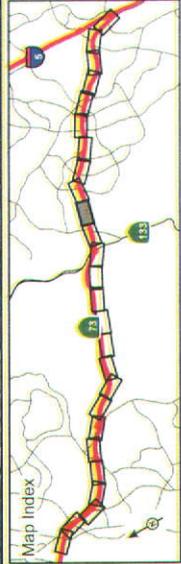


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SR-73 Basin Sedimentation Project
Jurisdictional Delineation Map

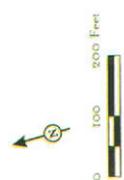


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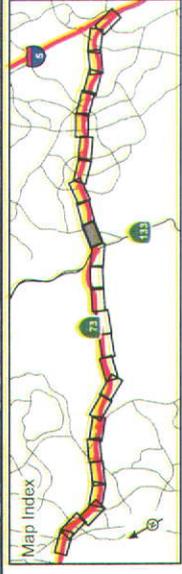


SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map

- Legend**
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



SOURCE: Air Photo: USA (2008)
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- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

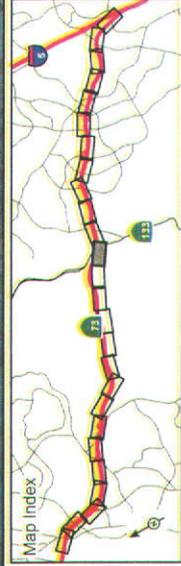


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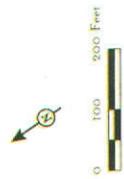


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SK-73 Basin Sedimentation Project
 Jurisdictional Delineation Map



- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

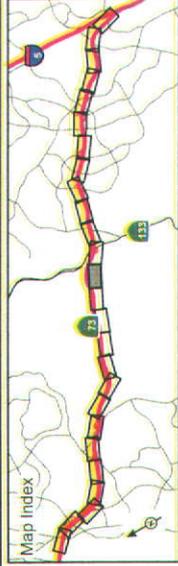


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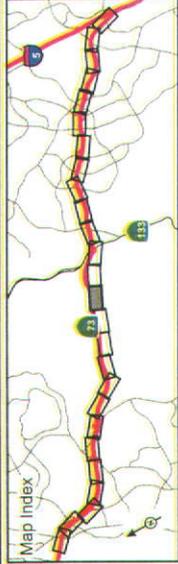
SR-73 Basin Sedimentation Project
Jurisdictional Delineation Map



- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps. & CDFG Jurisdiction)
 - Soil Pit

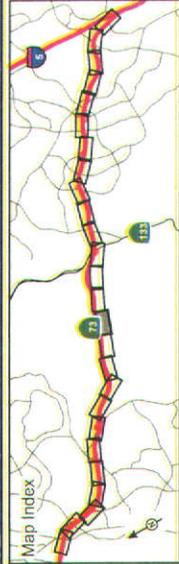


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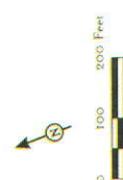


- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

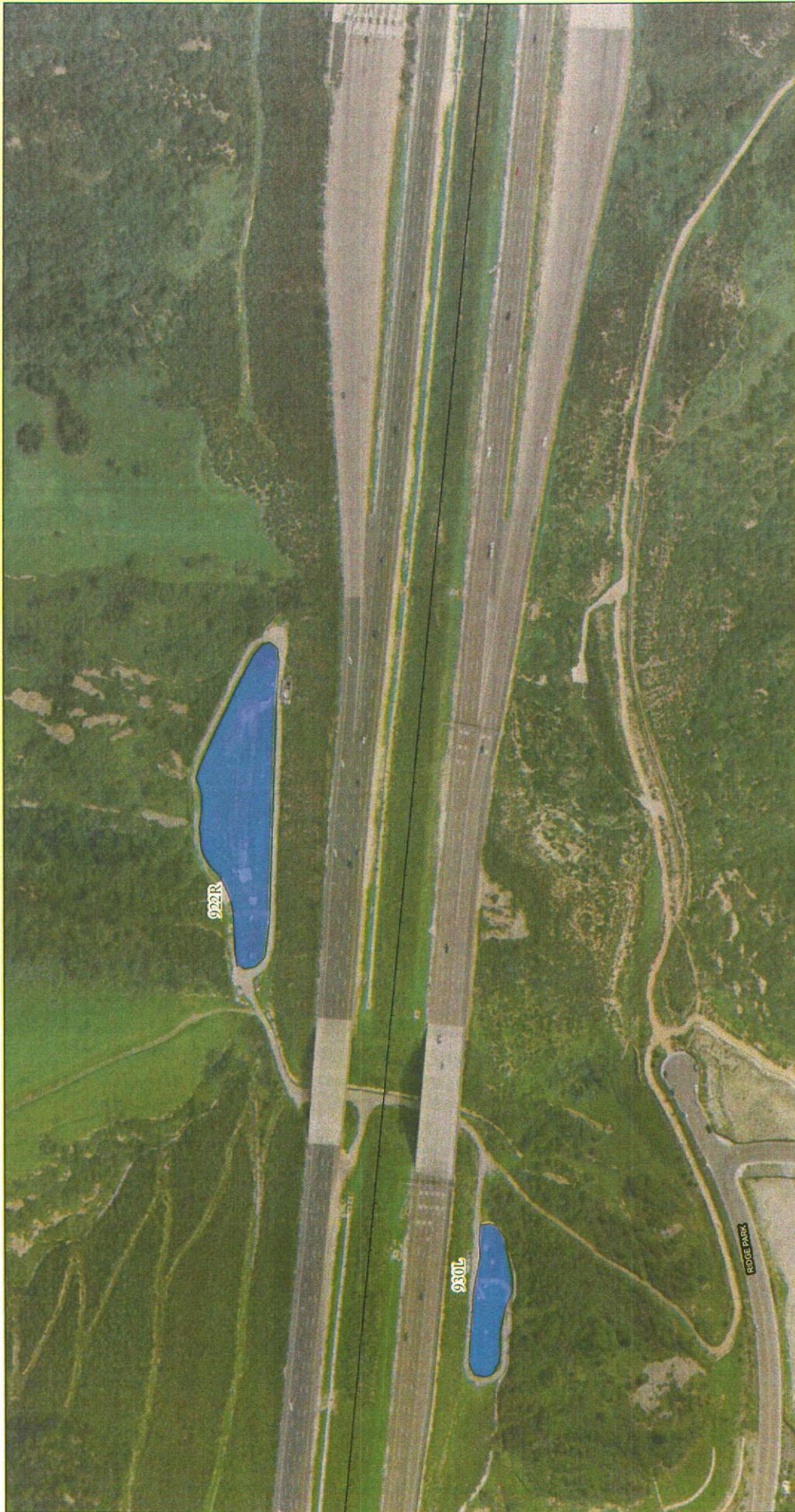




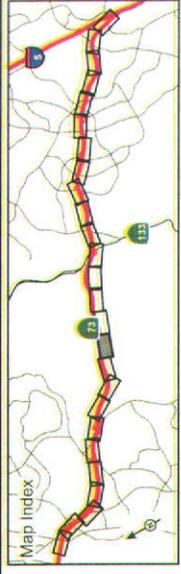
- Legend**
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



SOURCE: Air Photo (USA, 2008)
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Appendix A
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- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

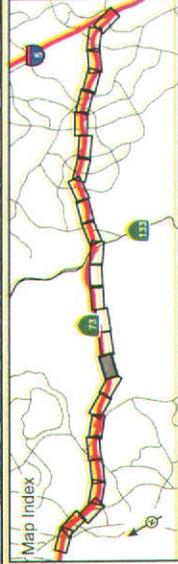
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SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map



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SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map



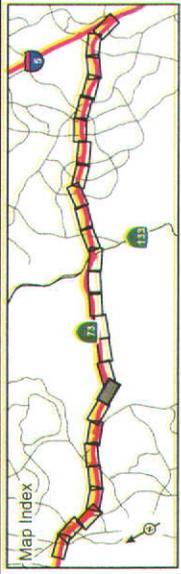
- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



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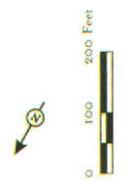


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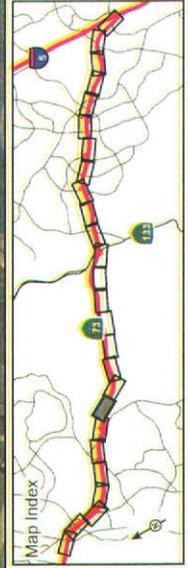


SR-73 Basin Sedimentation Project
Jurisdictional Delineation Map

- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



SOURCE: Air Photo USA (2008).
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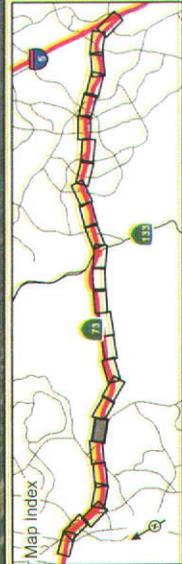


- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit





Appendix A
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- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

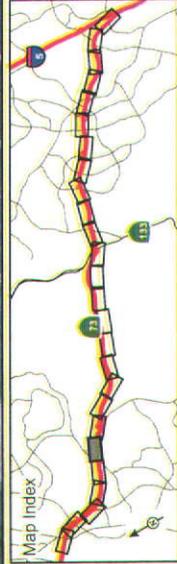


SOURCE: Air Photo USA (2008).
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SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map



Appendix A
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0 100 200 Feet

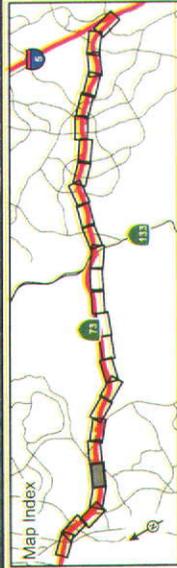
- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

SOURCE: Air Photo (USA, 2008)
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SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map

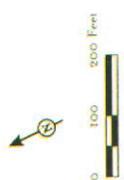


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SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map

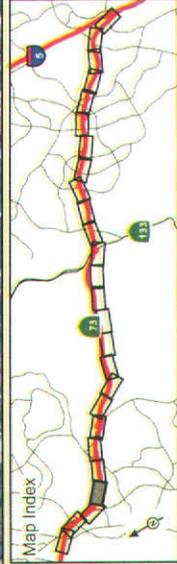
- Legend**
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



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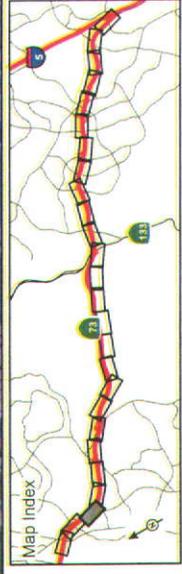
Appendix A
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- Legend**
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit

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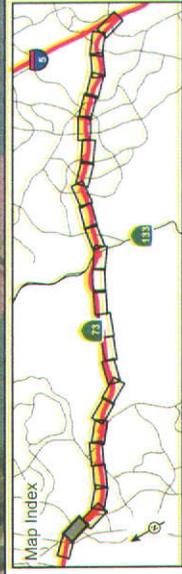
SR-73 Basin Sedimentation Project
 Jurisdictional Delineation Map



- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



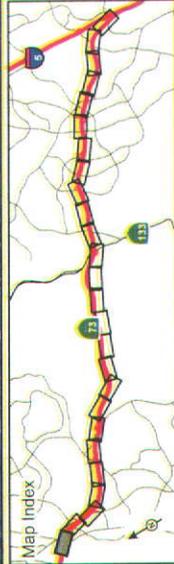
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- Legend
- Stormwater Basin (Non-jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



SOURCE: Air Photo USA (2008).
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- Legend
- Stormwater Basin (Non-Jurisdictional)
 - Stormwater Basin (Potential Corps & CDFG Jurisdiction)
 - Soil Pit



SOURCE: Air Photo USA (2008).
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APPENDIX B
COPIES OF WETLAND DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: JR-T3 BASIN # 1194 City/County: IRVINE, ORANGE Sampling Date: 11/05/2008
 Applicant/Owner: CALTRANS State: CA Sampling Point: 1
 Investigator(s): SIMOND Section, Township, Range: S18, T 6S, R 9W TUSTIN 7.5-MINUTE
 Landform (hillslope, terrace, etc.): BASIN Local relief (concave, convex, none): CONCAVE Slope (%): 3%
 Subregion (LRR): _____ Lat: 33°39'11.837" N Long: 117°51'42.366" W Datum: _____
 Soil Map Unit Name: MUFORD NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.5</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sepling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. <u>Baccharis salicifolia</u>	<u>35%</u>	<u>40%</u>	<u>FW</u>	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species <u>35</u>	x 2 = <u>70</u>
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover <u>35%</u>				UPL species <u>5</u>	x 5 = <u>25</u>
Herb Stratum (Plot size: _____)				Column Totals:	<u>40</u> (A) <u>95</u> (B)
1. <u>Hazardia squarrosa</u>	<u>5%</u>	_____	<u>UPL</u>	Prevalence Index = B/A = <u>0.42</u>	
2. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
3. _____	_____	_____	_____	___ Dominance Test is >50%	
4. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	___	
8. _____	_____	_____	_____	___	
= Total Cover _____				^1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover _____					
% Bare Ground in Herb Stratum <u>60%</u>		% Cover of Biotic Crust <u>60%</u>			
Remarks:					

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
15"	7.5 YR	4/3					sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:
 Surface Water Present? Yes X No _____ Depth (inches): 1"
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes X No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: MUCH OF BASIN BOTTOM IS LINED WITH CONCRETE THEREBY CREATING AN IMPERMEABLE SURFACE

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SR-73 Basin # 1187 City/County: IRVINE, ORANGE Sampling Date: 11/05/2008
 Applicant/Owner: CAATRANS State: CA Sampling Point: 2
 Investigator(s): SIMONE DUON Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 5%
 Subregion (LRR): _____ Lat: 33°39'1.559" N Long: 117°51'43.75" W Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>MUCH OF THE BASIN IS SHADDED BY FREEWAY 608-705</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.33</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Seedling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. <u>Baccharis salicifolia</u>	<u>20%</u>	_____	<u>FW</u>	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species <u>35</u> x 2 = <u>70</u>
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
<u>20%</u> = Total Cover				UPL species <u>40</u> x 5 = <u>200</u>
				Column Totals: <u>75</u> (A) <u>270</u> (B)
				Prevalence Index = B/A = <u>0.28</u>
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Salsola tragus</u>	<u>20%</u>	_____	<u>UPL</u>	___ Dominance Test is >50%
2. <u>Bromus sp</u>	<u>20%</u>	_____	<u>UPL</u>	___ Prevalence Index is ≤3.0 ¹
3. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>40%</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40%</u>		% Cover of Biotic Crust _____		
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

Remarks: MULCH IS THE ONLY POTENTIAL HYDROPHIC PASTURE

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10"	10YR 4/2						Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: RAIN DAY BEFORE SURVEY DURING - BASIN BOTTOM CONCRETE LINES

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SR-73 BASIN # 1180 City/County: IRVINE, ORANGE Sampling Date: 11/05/2008
 Applicant/Owner: CONTRAN State: CA Sampling Point: 3
 Investigator(s): SIMONE, QUON Section, Township, Range: S18, T6S, R9W TUSTIN 7.5-MINUTE
 Landform (hillslope, terrace, etc.): BASIN Local relief (concave, convex, none): CONCAVE Slope (%): 36
 Subregion (LRR): _____ Lat: 33° 38' 57.985" N Long: 117° 51' 36.748" W Datum: _____
 Soil Map Unit Name: MYFORD NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>6-12" OF SEDIMENT HAS COLLECTED ON TOP OF CONCRETE BOTTOM OF DETENTION BASIN. BASIN IS UPSTREAM OF SANTIAGO CREEK. IT DOES NOT APPEAR TO HYDROLOGICALLY CONNECT TO ISOLATED</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>SALIX lasiolepis</u>	<u>10%</u>	<u>FACW</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Baccharis californica</u>	<u>15%</u>	<u>FACW</u>	<u>FACW</u>	OBL species <u>10</u> x 1 = <u>10</u>
3. <u>COTULA coronopifolia</u>	<u>10%</u>	<u>OBL</u>	<u>OBL</u>	FACW species <u>30</u> x 2 = <u>60</u>
4. <u>RUMEX crispus</u>	<u>5%</u>	<u>FACW</u>	<u>FACW</u>	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
<u>46%</u> = Total Cover				UPL species <u>40</u> x 5 = <u>200</u>
				Column Totals: <u>80</u> (A) <u>270</u> (B)
				Prevalence Index = B/A = <u>3.4</u>
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>FESCUE sp</u>	<u>40%</u>	<u>UPL</u>	<u>UPL</u>	<input type="checkbox"/> Dominance Test is >50%
2. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Footnote:
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
<u>80%</u> = Total Cover				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

Remarks: _____

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
8"	10YR 4/2						Sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Vernal Pools (F9)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: CONCRETE LINED BOTTOM

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>X</u> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<u>X</u> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<u>X</u> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<u>X</u> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 2-4"

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: BASIN IS 150x700 FEET SANTIAGO EARTH SOUTH END OF BASIN HAS CONCRETE BOTTOM COVERED WITH 6-12" OF SEDIMENTS. AT INLET NEAR CENTER OF BASIN STANDING WATER & HYDROPHITIC VEGETATION IS PRESENT BUT HYDRAIC SOILS ARE NOT FROM DRY BEFORE MOST LIKELY REASON FOR IN UR DRAIN

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: SR 73 Basin #1156 City/County: Orange County Sampling Date: 11/5/08
 Applicant/Owner: CALTRANS State: CA Sampling Point: 4
 Investigator(s): IQ, US, AR Section, Township, Range: S18, T6S, R9W TUSTIN 7.5-14 MINUTE T6P0
 Landform (hillslope, terrace, etc.): BASIN Local relief (concave, convex, none): CONCAVE Slope (%): 3%
 Subregion (LRR): _____ Lat: 33° 28' 33.506" N Long: 117° 51' 32.680" W Datum: _____
 Soil Map Unit Name: MYFORD NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>WETLAND CONDITIONS EXIST, BUT BASIN IS ISOLATED WATERS AND HAVE NO HYDROLOGIC CONNECTION TO ANY UNSATURATED WATERS</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____				
<u>0</u> = Total Cover				
Sepling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species <u>31</u> x 1 = <u>31</u>
3. _____				FACW species <u>12</u> x 2 = <u>24</u>
4. _____				FAC species <u>3</u> x 3 = _____
5. _____				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species <u>2</u> x 5 = <u>10</u>
				Column Totals: <u>48</u> (A) <u>65</u> (B)
				Prevalence Index = B/A = <u>1.3</u>
Herb Stratum (Plot size: <u>50ft²</u>)				Hydrophytic Vegetation Indicators:
1. <u>COTULA coronopifolia</u>	<u>20%</u>	<u>yes</u>	<u>OBL</u>	<input checked="" type="checkbox"/> Dominance Test is >50%
2. <u>Chenopodium album</u>	<u>2%</u>		<u>FAC</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>TYPHA sp</u>	<u>30%</u>	<u>yes</u>	<u>OBL</u>	____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Heterotheca grandiflora</u>	<u>2%</u>		<u>UPL</u>	____ Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Conyza canadensis</u>	<u>1%</u>		<u>FAC</u>	
6. <u>Polygonum monseeliensis</u>	<u>10%</u>		<u>FACW</u>	
7. <u>APium graveolens</u>	<u>2%</u>		<u>FACW</u>	
8. <u>Heliotropium curassavicum</u>	<u>1%</u>		<u>OBL</u>	
<u>68%</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

Remarks:

- Check F2 -

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y 4/3	100%	none				sandy clay loam	Saturated
3-8	N 2.5/black	90%					Sandy clay loam	Saturated
3-8	10Y 3/1	10%					Sandy clay loam	Saturated
8+	2.5Y 4/2	100%					Sandy loam	Saturated

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Pit is located w/in ^{SILT} ~~THAT~~ channel. Outside channel soils are dry + no hydric indicators, therefore add'l data sheet not required

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input checked="" type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes No _____ Depth (inches): 2"
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes No _____ Depth (inches): 0-8+
 (includes capillary fringe)

Wetland Hydrology Present? Yes No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ISOLATION NO CONNECTION TO ANY JURISDICTIONAL WATERS.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: SR-73 BASIN # 7651 City/County: ALISO VIEJO / CA Sampling Date: 11-18-2008
 Applicant/Owner: CALTRANS State: CA Sampling Point: 5
 Investigator(s): L. SIMON, I. QUON Section, Township, Range: S6T7SR8W LAGUNA BEACH
 Landform (hillslope, terrace, etc.): BASIN Local relief (concave, convex, none): CONCAVE Slope (%): 5%
 Subregion (LRR): _____ Lat: 33°35'24.355"N Long: 117°45'13.314"W Datum: _____
 Soil Map Unit Name: ALO-BUSANKO NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>TYPHA</u>	<u>100</u>	<u>ODL</u>	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>100</u> x 1 = <u>100%</u> FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = <u>1</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
1 1/2"	627	2.5/109				SANDY CLAY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> 1 cm Muck (A9) (LRR D)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input checked="" type="checkbox"/> Loamy Mucky Mineral (F1)	
<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Vernal Pools (F9)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): 2"

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: ACROSS EL TONO ROAD FROM CROOK? CONFIRM

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: SR-73 BASIN # 757 City/County: ALBUQUERQUE Sampling Date: 11-18-2008
 Applicant/Owner: CALTRANS State: CA Sampling Point: 6
 Investigator(s): L. SIMONE, L. QUAN Section, Township, Range: S6 T7S R8W LAGUNA BEACH
 Landform (hillslope, terrace, etc.): BASIN Local relief (concave, convex, none): CONCAVE Slope (%): 5%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: A10-BOSANKO NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology YES significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>ARTIFICIALLY CONSTRUCTED BASIN DOES NOT HAVE HYDROLOGIC CONNECTION TO NEARBY LAGUNA CANAL. WATER ACCUMULATED IN BASIN MOST LIKELY FROM NEARBY FLOWS</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>TYLOPH</u>	<u>90</u>		<u>OBL</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Salix</u>	<u>10</u>		<u>FACW</u>	OBL species <u>90</u> x 1 = <u>90</u>
3. _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
<u>100</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: <u>100</u> (A) <u>110</u> (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	<input type="checkbox"/> Dominance Test is >50%
2. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Footnote:
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

Remarks: _____

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
6"	Grey	2.5/104					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: UNABLE TO DIG PIT DUE TO PLACEMENT OF ROCK PIPE-PILE IN BOTTOM OF BASIN. SOIL INUNDATED TO SURFACE

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine) | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input checked="" type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input checked="" type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes No Depth (inches): 1"
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: ACROSS FROM ELTON ROAD FROM LAGUNA CREEK BASIN CONSTRUCTED ON DRY LAND. DOES NOT APPEAR TO HAVE HYDROLOGIC CONNECTION TO NEAR BY TO BUT ONLY BECAUSE OF SIGNIFICANT ELEVATION DIFFERENCE. MOST LIKELY PROXIMATE HYDROLOGIC CONNECTION

APPENDIX C

POTENTIAL ACOE, CDFG, AND RWQCB JURISDICTIONAL AREAS

Table A: Potential ACOE, CDFG, and RWQCB Jurisdictional Areas

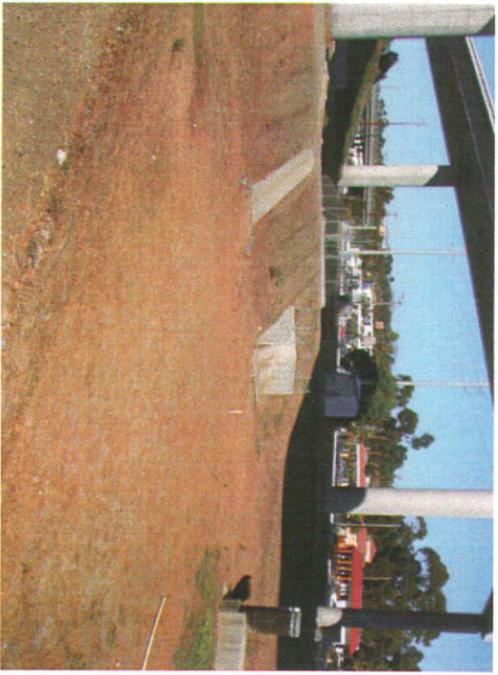
Basin Number	Latitude (North)	Longitude (West)	Acreage	California Quadrangle	Hydrologic Regime	Likely ACOE Jurisdictional Status	Potential ACOE Nonwetland Waters (acres)	Potential ACOE Wetlands (acres)	CDFG (acres)	RWQCB (acres)	Connection to Jurisdictional Waters	Concrete-Lined	Biological Characteristics
457L	33 32'46.181"	117 40'30.032"	0.637	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal
506R	33 33'28.697"	117 40'54.657"	0.423	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal
535L	33 33'33.073"	117 41'29.414"	0.247	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal
583L	33 34'6.855"	117 42'4.09"	0.673	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal
604R	33 34'26.66"	117 42'18.727"	0.706	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/Freshwater Marsh
613L	33 34'25.812"	117 42'30.046"	0.423	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal/Freshwater Marsh
630L	33 34'32.011"	117 42'45.655"	0.221	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Unvegetated
635L	33 34'32.475"	117 42'55.286"	0.875	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal/Ornamental
654R	33 34'50.649"	117 43'10.533"	0.996	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/Ornamental
659L	33 34'48.671"	117 43'20.518"	1.049	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal
696R	33 35'16.511"	117 43'54.722"	1.221	San Juan Capistrano	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal
757L	33 35'24.75"	117 45'3.135"	0.565	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	No	Riparian/Ruderal
765L	33 35'24.355"	117 45'13.314"	1.324	Laguna Beach	Basin	Jurisdictional	0	1.324	1.324	1.324	Direct	No	Riparian
780R	33 35'33.668"	117 45'30.094"	0.402	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal/Scattered mulefat
785L	33 35'26.547"	117 45'35.613"	0.183	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal
789L	33 35'33.053"	117 45'40.684"	0.019	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/CSS
808R	33 35'46.411"	117 45'51.722"	2.054	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal/nonnative grassland
859L	33 36'2.305"	117 46'51.812"	0.602	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/Nonnative Grassland
878R	33 36'11.516"	117 47'11.947"	1.073	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Mostly Nonnative Grassland
883L	33 36'7.216"	117 47'18.318"	0.42	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Nonnative Grassland
893L	33 36'9.819"	117 47'29.974"	0.319	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Nonnative Grassland
922R	33 36'27.663"	117 47'56.471"	1.752	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Nonnative Grassland
930L	33 36'26.053"	117 48'9.972"	0.471	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Nonnative Grassland
1032L	33 37'21.25"	117 49'41.967"	0.416	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal
1032R	33 37'26.812"	117 49'39.263"	1.225	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Nonnative Grassland
1075L	33 37'45.646"	117 50'19.155"	0.698	Laguna Beach	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/Scattered Mulefat
1081L	33 37'48.329"	117 50'27.381"	0.927	Trustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal/Scattered Mulefat
1085L	33 37'49.803"	117 50'32.338"	0.627	Trustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal
1076R	33 37'50.823"	117 50'22.307"	0.278	Trustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Ruderal/Scattered Mulefat
1080R	33 37'53.003"	117 50'25.971"	0.467	Trustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Mostly Absent/Isolated Freshwater Marsh
1133L	33 38'13.019"	117 51'22.225"	1.227	Trustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Nonnative Grassland

Table A: Potential ACOE, CDFG, and RWQCB Jurisdictional Areas

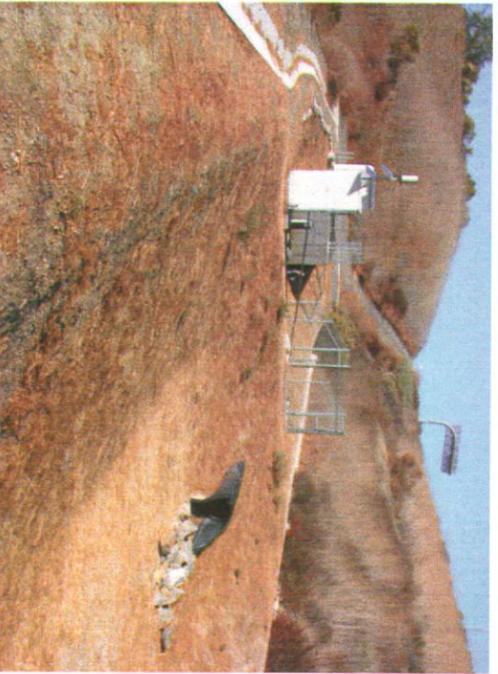
Basin Number	Latitude (North)	Longitude (West)	Acreage	California Quadrangle	Hydrologic Regime	Likely ACOE Jurisdictional Status	Potential ACOE Nonwetland Waters (acres)	Potential ACOE Wetlands (acres)	CDFG (acres)	RWQCB (acres)	Connection to Jurisdictional Waters	Concrete-Lined	Biological Characteristics
1137L	33 38'16.382"	117 51'26.634"	0.22	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Mostly Nonnative Grassland
1143L	33 38'22.188"	117 51'31.105	0.17	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/Nonnative Grassland
1151L	33 38'27.182"	117 51'34.994"	0.47	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal
1156R	33 38'33.506"	117 51'32.688"	0.67	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Riparian/Ruderal
1149L	33 38'25.04"	117 51'40.59"	0.522	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Unknown	Nonnative Grassland
1180R	33 38'57.985"	117 51'36.748"	1.306	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Riparian/Ruderal
1183L	33 39'1.559"	117 51'43.756"	0.23	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/Isolated Mulefat
1194R	33 39'11.837"	117 51'42.366"	1.876	Tustin	Ephemeral	Nonjurisdictional	0	0	0	0	Indirect	Yes	Ruderal/Mulefat Scrub

ACOE = United States Army Corps of Engineers
 CDFG = California Department of Fish and Game
 RWQCB = Regional Water Quality Control Board

APPENDIX D
BASIN SITE PHOTOS



Basin 457L



Basin 535L



Basin 604R



Basin 630L



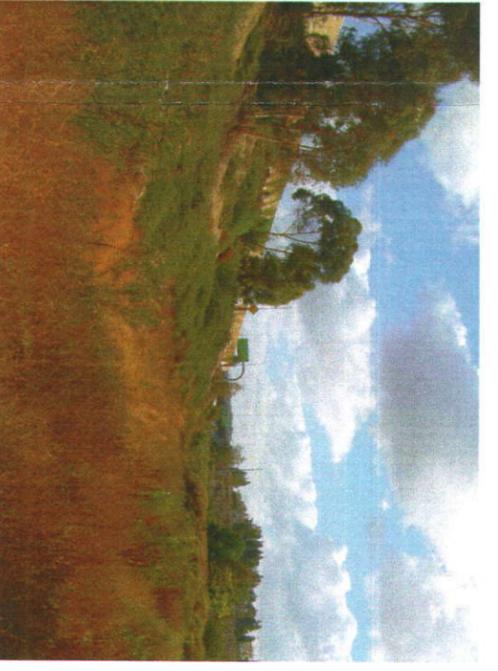
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Basin 583L



Basin 613L

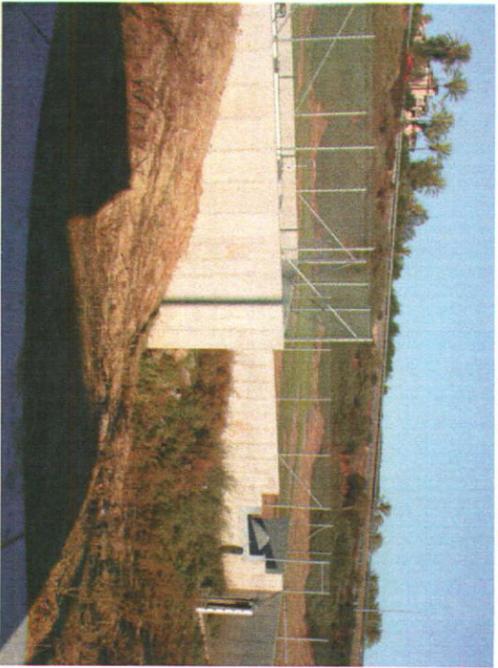


Basin 635L

APPENDIX D
SHEET 1 OF 5

SR-73 Basin Sedimentation Project
Representative Site Photos

12-ORA-73-Pm
EA No. 0H4400



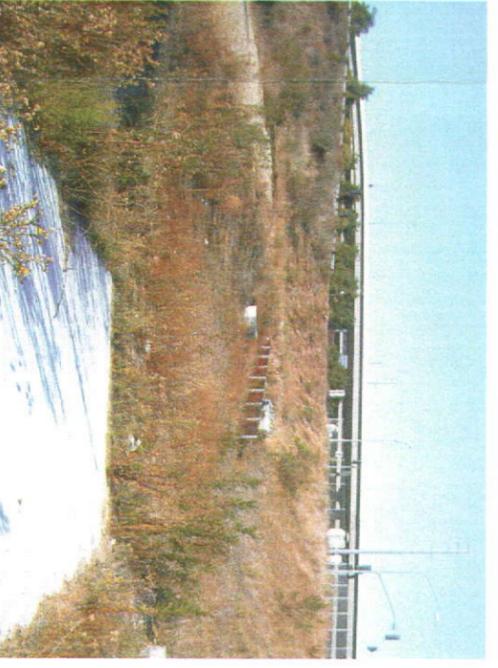
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Basin 696R



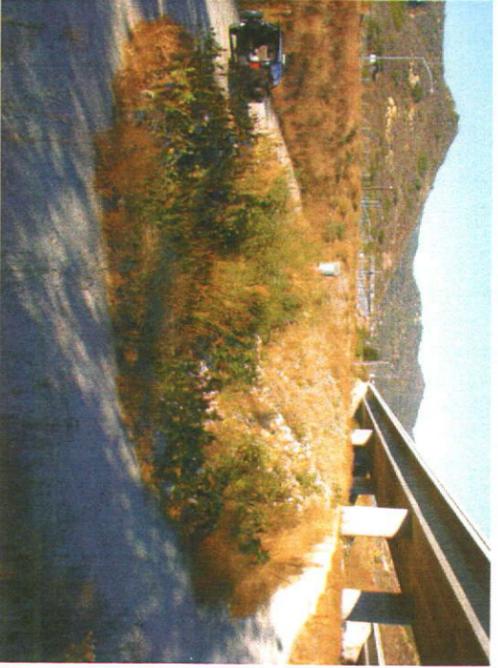
Basin 765L



Basin 785L



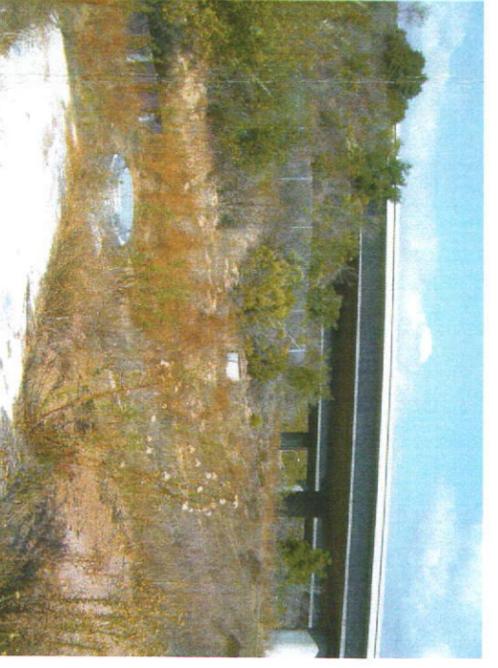
Basin 659L



Basin 757



Basin 780R

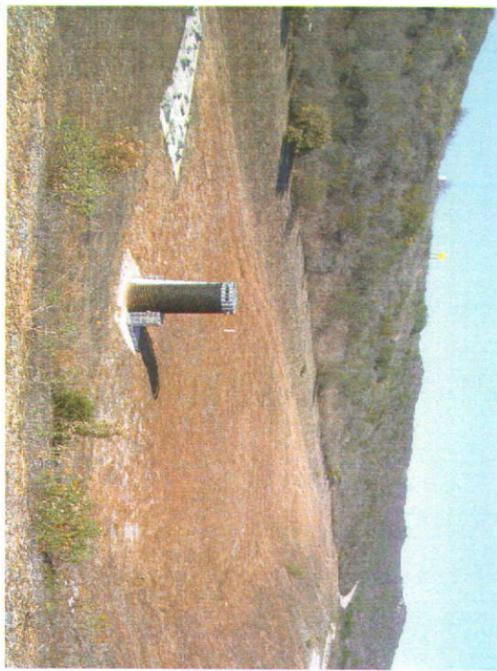


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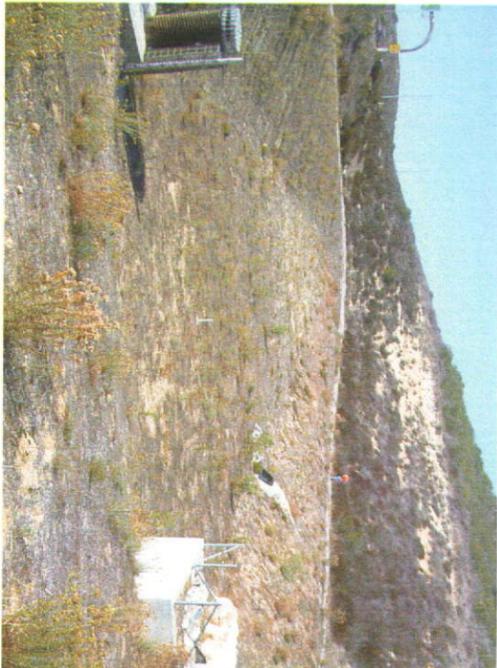
APPENDIX D
SHEET 2 OF 5

SR - 73 Basin Sedimentation Project
Representative Site Photos

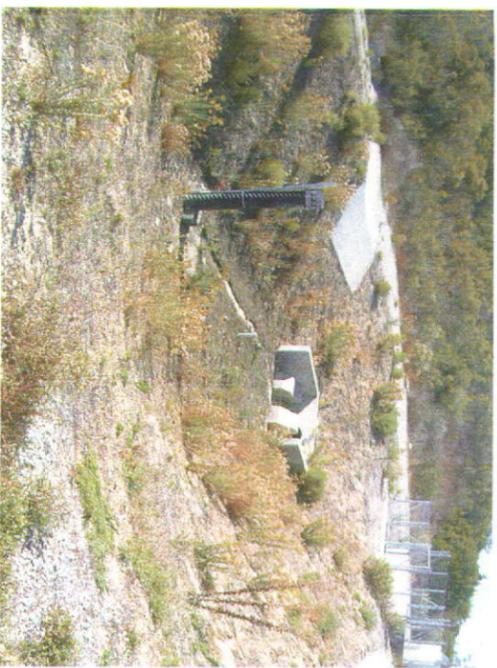
12-ORA-73-Pm
EA No. 0H4400



Basin 808R



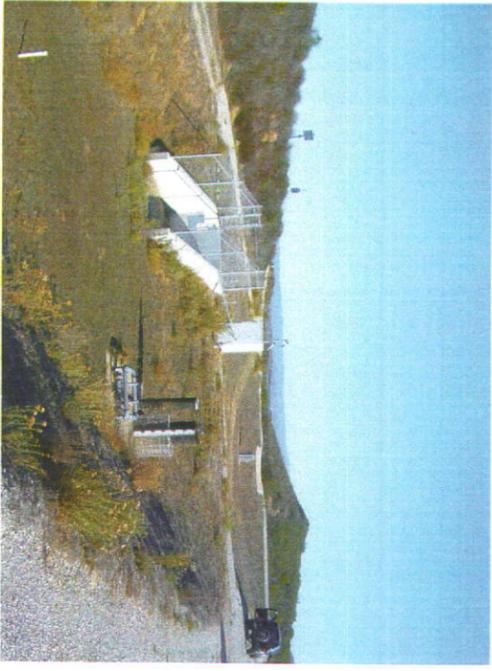
Basin 878R



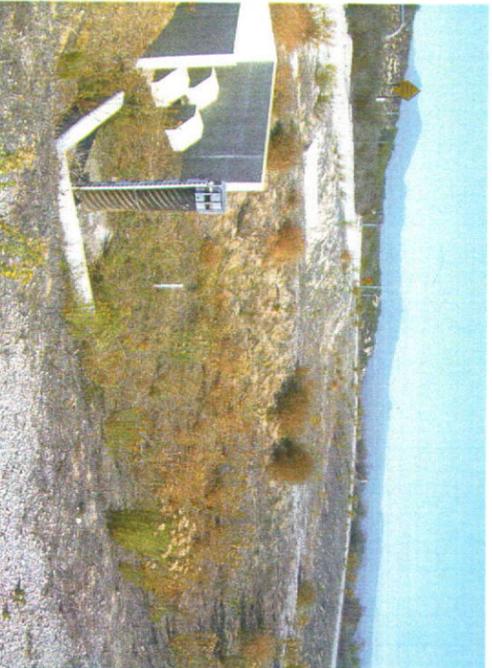
Basin 893L



Basin 930L



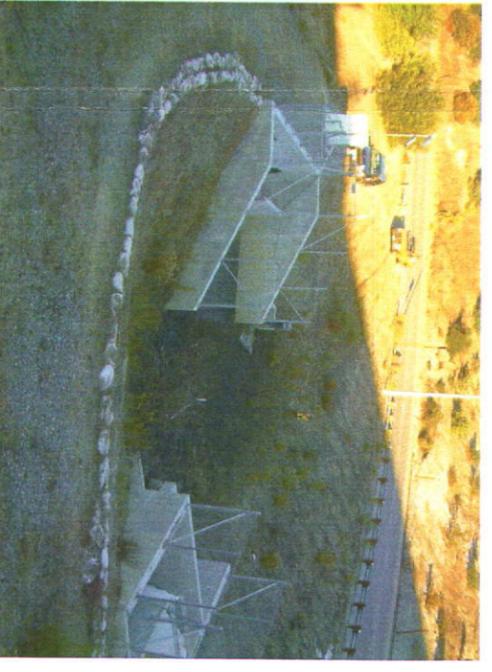
Basin 859L



Basin 883L



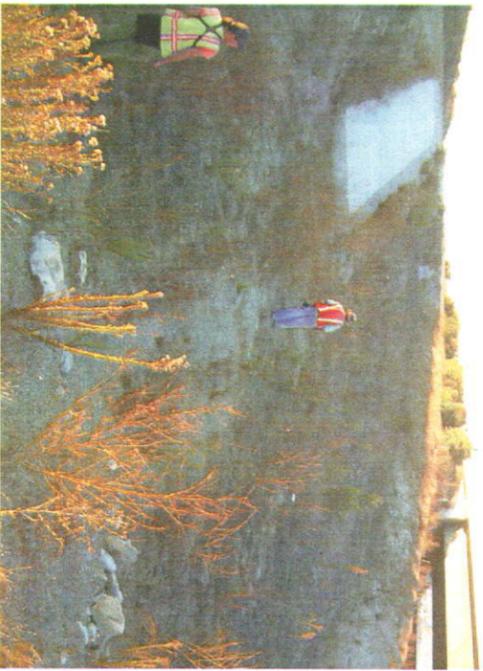
Basin 922R



Basin 1032L

APPENDIX D
SHEET 3 OF 5

SR-73 Basin Sedimentation Project
Representative Site Photos
12-ORA-73-Pm
EA No. 0H4400



Basin 1032R



Basin 1076R



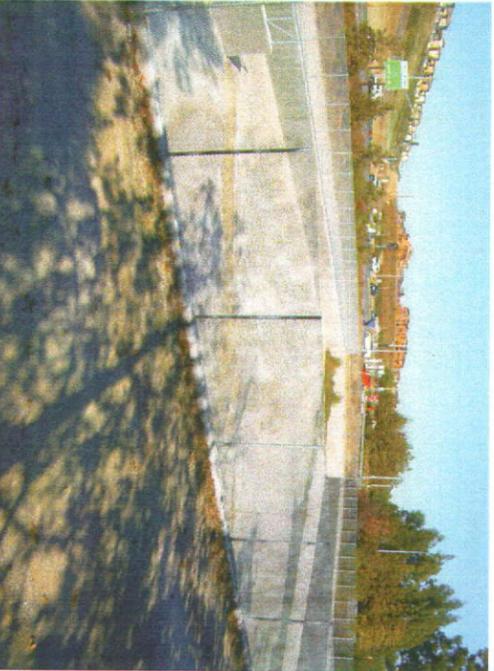
Basin 1081L



Basin 1133L



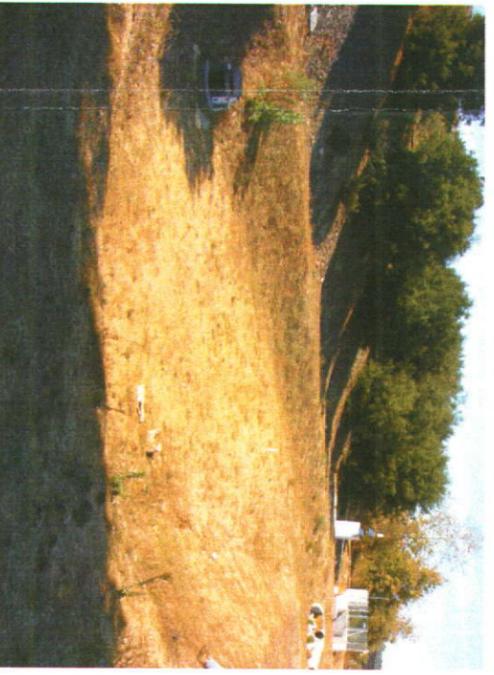
Basin 1075L



Basin 1080R



Basin 1085L

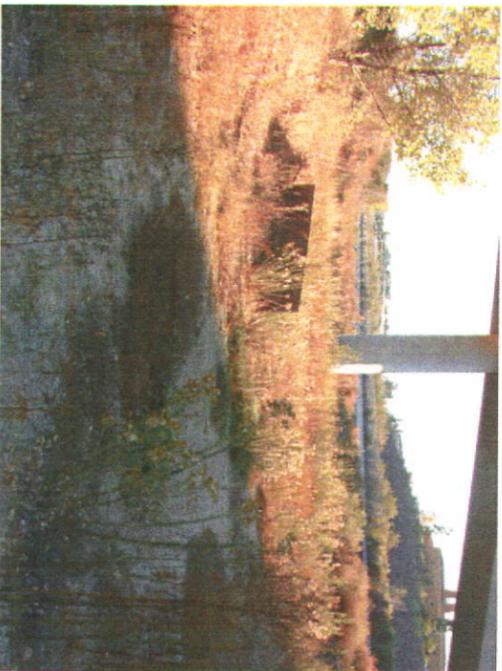


Basin 1137L

APPENDIX D
SHEET 4 OF 5



Basin 1143L



Basin 1151L



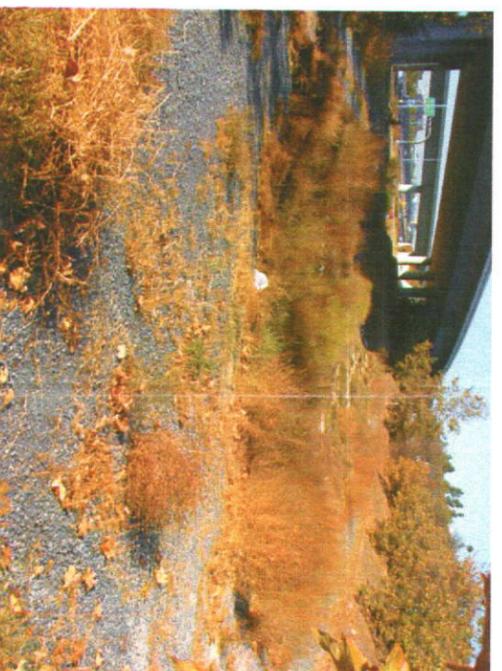
Basin 1180R



Basin 1194R



Basin 1149L



Basin 1156R



Basin 1183L

