
**SAN DIEGO GAS & ELECTRIC COMPANY
EAST COUNTY SUBSTATION PROJECT
NOXIOUS WEEDS AND INVASIVE SPECIES CONTROL PLAN**

SEPTEMBER 30, 2013

PREPARED BY:



PREPARED FOR:



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1 – INTRODUCTION

This Noxious Weeds and Invasive Species Control Plan (Plan) describes the measures that will be implemented by San Diego Gas & Electric Company (SDG&E) and its contractors to ensure that noxious and invasive plant species control measures are implemented to avoid and minimize the establishment and spread of noxious and invasive plant species during construction of the East County (ECO) Substation Project (Project). For the purpose of this document, noxious weeds and invasive plant species, collectively referred to as weeds, are invasive, non-native plant species that have been identified by the California Invasive Plant Council (Cal-IPC) in 2009.

The Project involves the construction of a new 500/230/138 kilovolt (kV) ECO Substation; rebuild of the existing Boulevard Substation in a new location; and construction of an approximately 14-mile-long 138 kV transmission line, consisting of overhead and underground segments, to connect the two substations. Approximately 0.8 mile of the Project crosses BLM Lands. The Plan was prepared in accordance with Mitigation Measure (MM) BIO-3a of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the Project.

2 – OBJECTIVES

The purpose of this Plan is to prescribe weed-control techniques for all work areas. The Plan provides specific information for implementing MM BIO-3a. The management practices and activities in this Plan are intended to accomplish the following objectives:

- Identify weed populations that have the potential to establish and spread throughout the Project area
- Describe weed-control techniques to be employed during construction
- Minimize the establishment and spread of weed species from within the Project area to areas where they do not currently occur
- Prevent the introduction of new invasive species to the Project area that are not currently known to occur

3 – MITIGATION MEASURE

MM BIO-3a states “A Noxious Weeds and Invasive Species Control Plan shall be prepared and reviewed by the California Public Utilities Commission (CPUC)/Bureau of Land Management (BLM) and applicable permitting agencies. On BLM lands, the plan shall be consistent with an Integrated Pest Management approach per the Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report (2007). The plan shall be implemented during all phases of project construction and operation. The plan shall include best management practices to avoid and minimize the direct or indirect effect of the establishment and spread of invasive plant species during construction. Implementation of specific protective measures shall be required during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil/material, restricted vegetation removal and requiring topsoil storage. Development and implementation of weed management procedures shall be used to monitor and control the spread of weed populations along the construction

access and transmission line right-of-ways (ROWs). Vehicles used in transmission line construction shall be cleaned prior to operation off of maintained roads. Existing vegetation shall be cleared only from areas scheduled for immediate construction work and only for the width needed for active construction activities. Noxious weed management shall be conducted annually to prevent the establishment and spread of invasive plant species. This shall include weed abatement efforts, targeted at plants listed as invasive exotics by the California Exotic Plant Pest Council in their most recent ‘A’ or ‘Red Alert’ list. Only herbicides approved by BLM in California will be used on BLM lands. Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP). Pesticide use should be limited to non-persistent pesticides and should only be applied in accordance with label and application permit directions and restrictions for terrestrial and aquatic applications.”

Please note the California Exotic Plant Pest Council has changed its name to Cal-IPC and the ‘A’ or ‘RED Alert’ lists referenced in MM BIO-3a no longer exist. The Noxious Weeds and Invasive Species Control Plan utilized the most recent Cal-IPC California Invasive Plant Inventory to identify weed species.

4 – PLAN IMPLEMENTATION

SDG&E and its contractors will take all reasonable measures to control the spread of noxious and invasive plants during Project construction. SDG&E and its contractors will adhere to the requirements of the MMCRP, ensure that this Plan is available on site throughout construction, and implement all the measures within the Plan.

4.0 PRE-CONSTRUCTION DOCUMENTATION

Biologists conducted pre-construction weed surveys, in conjunction with rare plant surveys, in April and May 2012. The biologists identified and mapped weed populations within the Project limits during the surveys. Attachment A: Project Plant Species List contains a list of all plant species identified in the Project area during field surveys to date.

During the surveys, 22 non-native species were observed, 15 of the non-native species have been rated¹ on the most recent Cal-IPC California Invasive Plant Inventory. Of the 15 species listed, three have a rating of “High,” six have a rating of “Moderate,” and six have a rating of “Limited.” Attachment B: Invasive Species List provides a table of non-native species observed during the 2012 botanical surveys of the Project area, ecological communities the species invade, Cal-IPC, and general distribution within the Project Area.

¹ Cal-IPC Rating:

- High: These species have severe ecological impacts on plant and animal communities. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment.
- Moderate: These species have substantial—but generally not severe—ecological impacts on plant and animal communities. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance.
- Limited: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness.

The entire Project area—including the ECO and Boulevard substations, Southwest Powerlink (SWPL) loop-in, and the 138 kV transmission line—contains large populations of redstem filaree and numerous non-native grasses, including all the *Avena*, *Bromus*, *Hordeum*, *Poa*, *Schismus*, and *Vulpia* species listed in Attachment A: Project Plant Species List. These species are pervasive, both within the Project limits and surrounding habitats within the Project vicinity. This Plan primarily focuses on controlling the Cal-IPC High, Moderate, or Limited Rated species that are not pervasive or not yet widespread throughout the Project area. These species are Saharan mustard (*Brassica tournefortii*), Mediterranean hoary mustard (*Hirshfeldia incana*), Russian thistle (*Salsola tragus*), tall tumbledustard (*Sisymbrium altissimum*), and London rocket (*Sisymbrium irio*). Attachment C: Noxious and Invasive Plant Control Areas Map provides the collective locations of the populations of these five species within the Project area. This Plan also focuses on the prevention of the introduction of weed species that do not currently occur within the Project area.

4.1 FLAGGING AND SIGNAGE

Prior to conducting any ground-disturbing activities, survey crews and/or construction personnel will mark approved work limits. In order to minimize disturbance and the potential to spread weed species, all work areas that contain localized populations of the five previously described weed species will be identified in the field. Prior to construction, SDG&E's designated representatives will use lath, signage, ribbon, and/or fencing to delineate avoidance and treatment areas.

4.2 CLEARING AND GRADING

There are five distinct work areas associated with the Project as follows:

- ECO Substation/SWPL loop-in,
- the Old Highway 80 underground portion of the 138 kV transmission line,
- the overhead segment of the 138 kV transmission line,
- the north-south underground portion of the 138 kV transmission line, and
- the Boulevard Substation rebuild site.

Three of those work areas—ECO Substation, the Old Highway 80 underground portion of the 138 kV transmission line, and the Boulevard Substation rebuild site—support populations of weed species that are not yet established throughout the entire Project area, namely Saharan mustard, Mediterranean hoary mustard, Russian thistle, tall tumbledustard, and/or London rocket. Additionally, and as shown in Attachment C: Noxious and Invasive Plant Control Areas Map, there are three distinct areas along the north-south underground portion of the 138 kV transmission line and three locations along the overhead portion of the 138 kV transmission line that have localized areas of infestation with one or more of the five weed species previously identified.

Clearing and grading activities will be limited to the staked work limits. In areas along the north-south underground portion of the 138 kV transmission line and the overhead portion of the 138 kV transmission line that are infested with Saharan mustard, Mediterranean hoary mustard, Russian thistle, tall tumbledustard and/or London rocket, all cleared vegetation and the top two

to four inches of soil, as described previously, will be stockpiled adjacent to the area from which it was removed to reduce the transport of soil that may contain noxious weed seeds, roots, rhizomes or other propagules. If the spoils are to be hauled off site, the beds of the haul trucks will be covered to prevent seed dispersal during transport to approved disposal facilities.

4.3 CONTROL MEASURES

Equipment Cleaning

In order to control the introduction of new weed and non-native species, all construction equipment and vehicles will be clean and free of all dirt and vegetative material prior to mobilizing to the ROW, staging areas, and/or access roads on the Project. Prior to entering the Project area, equipment will be inspected by SDG&E to verify they are free of dirt, mud, or vegetative materials. A log book will be maintained by the on-site environmental monitor or biological monitor to document that all heavy equipment arriving on site was power washed or otherwise clean and free of vegetative material.

In order to reduce the threat of spreading these five species, all heavy equipment used for clearing or grading at the ECO Substation, the Old Highway 80 underground portion of the 138 kV transmission line, and the Boulevard Substation rebuild site will be cleaned prior to moving to the work areas associated with the overhead or the north-south portions of the 138 kV transmission line. SDG&E or its designated representative will ensure that this equipment is cleaned prior to moving to un-infested areas.

All equipment utilized during the clearing and grading within noxious and invasive control areas will be cleaned prior to moving to un-infested areas of the Project. Cleaning methods may include the use of wash stations located within Project staging yards; hand removal of all dirt, debris, and vegetative material; and/or removal of the equipment to an off-site equipment washing facility. Once a noxious and invasive plant control area along the north-south underground portion and the overhead portion of the 138 kV transmission line has been cleared, and the topsoil has been stockpiled or removed from site, subsequent work and travel within the area can be conducted without cleaning.

Weed-Free Products

All imported soil and material will be clean and weed-free. The Construction Contractor will ensure that straw wattles, gravel, mulch, and soil are free of weeds.² SDG&E or its designated representative will collect documentation from the Construction Contractor that confirms that the material is weed-free prior to using the imported materials.

Noxious Weed Management

Disturbed areas will be surveyed annually during the life of the Project to detect new populations of the five named species or any Cal-IPC species with a rating of High, Moderate, or Limited. If new populations are detected, they will be removed as soon as practicable using hand tools or

² Wattles must be certified weed-free by the manufacturer.

using other accepted management techniques. On BLM-managed land, this Plan will be consistent with an Integrated Pest Management approach per the Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report.

Operations and Maintenance

The mitigation measure requires that this plan be implemented during all phases of project construction and operation. Once the ECO project components become energized, operations and maintenance activities will be conducted in accordance with SDG&E's Natural Community Conservation Plan (NCCP). The applicable sections of the NCCP have been included in Attachment D: Applicable Sections of SDG&E's NCCP³. SDG&E conducts routine vegetation control on access roads and permanent work areas to minimize weed species. Control consists of manual removal or herbicide spraying if not impactive to sensitive species. In addition, Operational Protocols have been developed within the NCCP and are implemented on operations and maintenance projects. Some of these protocols include the following:

- Environmental review for any ground disturbing activities within natural vegetation communities
- Agency review and oversight
- Delineation of work space to minimize disturbance
- Minimizing off-road vehicle activities
- Utilizing existing cleared work areas or access roads during patrols and inspection activities

SDG&E's NCCP also includes an Enhancement Program to increase the value of biological resources in an impacted area through restoration and reclamation techniques. The plan includes the following elements that would reduce potential weed infestation in temporarily disturbed areas due to operation and maintenance activities:

- Habitat Restoration contractor to manage the program
- Vegetation restoration through hydroseeding, hand-seeding, imprinting, and soil and plant salvage
- Habitat Reclamation which includes the elimination of exiting exotic vegetation if needed
- Annual monitoring and reporting

Therefore, this ECO Plan only details the methods and monitoring requirements to be implemented during construction and the restoration of disturbed areas to control the spread of noxious and invasive plants.

³ Within the attached Section 2 of the NCCP, refer to Section 2.1.3.9 for specific vegetation control techniques that will be utilized during operation and maintenance activities. The attached sections 7.1 and 7.2 described the operational protocols and habitat enhancement measures to be implemented during operations and maintenance.

5 – MONITORING

Post-construction monitoring of all restored temporary work areas associated Project construction activities will be performed by SDG&E, as prescribed by the approved Habitat Restoration Plan, to ensure that the spread and establishment of invasive species has been minimized. Monitoring of noxious weeds and invasive species control associated with operations and maintenance activities will be conducted pursuant to the NCCP field protocols, as described under the Operations and Maintenance heading within Section 4.3 Control Measures of this Plan. The applicable sections of the NCCP have been included in Attachment D: Applicable Sections of SDG&E's NCCP.

The following subsections describe the monitoring methods, success criteria, and reporting for the post-construction monitoring of restored areas, as described in the Habitat Restoration Plan.

5.0 MONITORING, SUCCESS CRITERIA, AND REMEDIAL MEASURES

After construction and initial restoration has been completed, SDG&E will designate a Habitat Restoration Specialist (HRS) to monitor the restoration and weed-control efforts. The HRS will also be responsible for assessing the success of control methods implemented to prevent the spread of weed species and to ensure that the restoration of temporarily impacted areas is successful, as described in the Project's Habitat Restoration Plan. The HRS will collect pertinent information regarding restoration success and weed-control methods through direct observation during annual site visits, including data on germination success, plant density, survivorship, and diversity. Specific monitoring activities will include the following:

- Documenting the percent cover of native vegetation within the disturbed areas
- Comparing restoration sites to surrounding undisturbed reference sites⁴
- Documenting all plant species within the restoration areas
- Conducting photographic documentation of restoration areas and surrounding undisturbed sites

Restoration and weed-control will be considered successful if the following conditions are met:

- At least 60 percent of total vegetation cover will be achieved for each plant community, relative to the adjacent reference site with similar vegetation
- The percent of weed species remain at or below the populations within the adjacent reference sites

If the success criteria for the seeded areas have not been met after three years, SDG&E will consult with the CPUC, BLM, and the California Department of Fish and Game (CDFG) to develop additional restoration measures. In general, an adaptive management approach should be taken to identify additional restoration and weed-control measures. This approach will focus

⁴ Prior to construction, reference sites will be identified within SDG&E's ROW and adjacent to each area to be restored that contains similar vegetation, percent native plant composition, and percent cover as the work sites.

on gathering information during the monitoring period, and adjusting management practices and remedial measures according to assessments made while monitoring. If a site fails to meet the established success criteria, SDG&E and the HRS will modify and/or add restoration and/or weed-control measures in coordination with the CPUC, BLM, and CDFG. Examples of modified or additional restoration or weed-control measures include the following:

- re-seeding a site that experienced significant seed loss during a major rain event
- implementing a watering program during a prolonged drought
- recontouring and reapplying hydromulch to a site damaged by unauthorized off-road vehicle use
- utilizing mechanical weed abatement methods, or the selective use of herbicides

If chemical or mechanical weed-abatement methods are determined to be required, the application of these methods will be conducted in a manner that minimizes potential impacts to sensitive plant and wildlife species, such as the timing of implementation, application rate for chemical controls, and utilization of site-specific measures.

If within two years after the additional restoration and/or weed-control measures are implemented (total of five years), the CPUC and BLM determine that the additional measures are not sufficient and restoration in certain areas is not feasible, the impacts in these areas will be considered permanent.

5.1 REPORTING

SDG&E will submit a Restoration Monitoring Report, which will include an assessment of the success of control methods implemented to prevent the spread of weeds, to the CPUC and BLM by July of each of the five years following the completion of construction. This report will include the following:

- Introduction
- Monitoring methods summary
- Monitoring results
- Discussion
- Conclusion and recommendations

Monitoring and reporting of restoration and weed-control progress will be conducted for up to five years. If the restoration success criteria have been met before year five, monitoring and reporting will cease at that time.

6 – REFERENCES

Bureau of Land Management. 2007. *Programmatic Environmental Impact Statement Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States*. Online. http://www.blm.gov/wo/st/en/prog/more/veg_eis.html. Site visited in June 2012.

California Department of Food and Agriculture. 2010. *Encycloweedia: Data Sheets*. Online. http://www.cdfa.ca.gov/plant/ipc/weedinfo/winfo_list-pestrating.htm. Site visited on April 17, 2012.

Cal-IPC. 2010. *California Invasive Plant Council. Berkeley, California*. Plant Profiles. Online. <http://www.cal-ipc.org>. Site visited on April 17, 2012.

San Diego Gas & Electric. 1995. *Subregional Natural Community Conservation Plan*.

United States Department of Agriculture. 2010. *Federal Noxious Weed List*. Online. <http://plants.usda.gov/java/noxious?rptType=Federal>. Site visited on April 17, 2012.

United States Department of Agriculture. 2010. *Animal and Plant Health Inspection Service*. Online. <http://www.aphis.usda.gov/>. Site visited on April 17, 2012.

ATTACHMENT A: PROJECT PLANT SPECIES LIST

Attachment A: Project Plant Species List

Species		Native	Non-Native
Scientific Name	Common Name		
Ferns and Fern Allies			
Dryopteridaceae Family			
<i>Dryopteris arguta</i>	coastal wood fern	•	
Pteridaceae Family			
<i>Cheilanthes covillei</i>	Coville's lipfern	•	
<i>Notholaena californica</i>	California cloak fern	•	
<i>Pellaea mucronata</i> var. <i>mucronata</i>	bird's foot fern	•	
<i>Pentagramma triangularis</i>	gold back fern	•	
Cone-Bearing Plants (Gymnospermae)			
Cupressaceae Family			
<i>Juniperus californica</i>	California juniper	•	
Ephedraceae Family			
<i>Ephedra californica</i>	California jointfir	•	
<i>Ephedra nevadensis</i>	Nevada jointfir	•	
<i>Ephedra viridis</i>	mormon tea	•	
Pinaceae Family			
<i>Pinus quadrifolia</i>	four-leaf pinyon pine	•	
Flowering Plants (Angiospermae Dicotyledoneae)			
Adoxaceae Family			
<i>Sambucus mexicana</i>	blue elderberry	•	
Alliaceae Family			
<i>Allium fimbriatum</i> var. <i>fimbriatum</i>	desert onion	•	
Anacardiaceae Family			
<i>Rhus ovata</i>	sugar bush	•	
<i>Rhus trilobata</i>	skunkbrush	•	
Apiaceae Family			
<i>Bowlesia incana</i>	hoary bowlesia	•	
<i>Lomatium mohavense</i>	Mojave wild parsely	•	

Attachment A: Project Plant Species List

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Tauschia arguta</i>	southern umbrellawort	•	
<i>Lomatium</i> sp.	lomatium	•	
<i>Yabea microcarpa</i>	California hedge parsley	•	
Apocynaceae Family			
<i>Asclepias californica</i>	California milkweed	•	
Asteraceae Family			
<i>Acourtia microcephala</i>	sacapellote	•	
<i>Adenophyllum porophylloides</i>	San Felipe dogweed	•	
<i>Ambrosia acanthicarpa</i>	annual bursage	•	
<i>Ambrosia confertiflora</i>	weak-leaf bur-sage	•	
<i>Ambrosia dumosa</i>	burro weed	•	
<i>Ambrosia psilostachya</i>	western ragweed	•	
<i>Ambrosia salsola</i>	burrobrush	•	
<i>Anisocoma acaulis</i>	scale bud	•	
<i>Artemisia dracunculus</i>	wild tarragon	•	
<i>Artemisia tridentata</i> ssp. <i>tridentata</i>	big sagebrush	•	
<i>Baccharis brachyphylla</i>	short-leaf baccharis	•	
<i>Baccharis salicifolia</i>	mule fat	•	
<i>Baccharis sergiloides</i>	waterweed	•	
<i>Bahiopsis parishii</i>	parish goldeneye	•	
<i>Brickellia desertorum</i>	desert brickellia	•	
<i>Chaenactis fremontii</i>	Fremont pincushion	•	
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	common yellow pincushion	•	
<i>Cirsium coccidentale</i> var. <i>californicum</i>	California thistle	•	
<i>Coreopsis californica</i> var. <i>californica</i>	California tickseed	•	
<i>Corethrogyne filaginifolia</i> var. <i>filaginifolia</i>	common sandaster	•	
<i>Deinandra floribunda</i>	Tecate tarplant	•	
<i>Encelia actoni</i>	Acton's encelia	•	
<i>Encelia farinosa</i>	brittlebush	•	

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Ericameria brachylepis</i>	boundary goldenbush	•	
<i>Ericameria cuneata</i> var. <i>spathulata</i>	cliff goldenbush	•	
<i>Ericameria linearifolia</i>	linear leaved goldenbush	•	
<i>Erigeron</i> sp.	fleabane	•	
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	golden yarrow	•	
<i>Eriophyllum wallacei</i>	Wallace's woolly daisy	•	
<i>Filago californica</i>	California cottonrose	•	
<i>Geraea canescens</i>	desert sunflower	•	
<i>Geraea viscida</i>	sticky geraea	•	
<i>Gnaphalium stramineum</i>	everlasting cudweed	•	
<i>Gutierrezia californica</i>	California matchweed	•	
<i>Isocoma acradenia</i> var. <i>eremophila</i>	desert alkali goldenbush	•	
<i>Lasthenia gracilis</i>	needle goldfields	•	
<i>Layia glandulosa</i>	yellow rayed layia	•	
<i>Layia platyglossa</i>	common tidy tips	•	
<i>Malacothrix californica</i>	California dandelion	•	
<i>Malacothrix glabrata</i>	desert dandelion	•	
<i>Malacothrix stebbinsii</i>	Stebbin's malacothrix	•	
<i>Porophyllum gracile</i>	odora	•	
<i>Pseudognaphalium canescens</i>	everlasting cudweed	•	
<i>Rafinesquia californica</i>	California chicory	•	
<i>Rafinesquia neomexicana</i>	New Mexico plumseed	•	
<i>Senecio californicus</i>	California ragwort	•	
<i>Senecio vulgaris</i>	common groundsel		•
<i>Sonchus asper</i>	spiny sowthistle		•
<i>Stebbinsoseris heterocarpa</i>	grassland stebbinsoseris	•	
<i>Stephanomeria pauciflora</i>	few-flowered wreathplant	•	
<i>Stylocline psilocarphoides</i>	baretwig neststraw	•	
<i>Tetradymia canescens</i>	spineless horsebrush	•	
<i>Uropappus lindleyi</i>	silver puffs	•	

Attachment A: Project Plant Species List

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Xanthium strumarium</i>	cocklebur	•	
Bignoniaceae Family			
<i>Chilopsis linearis</i>	desert willow	•	
Boraginaceae Family			
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	common fiddleneck	•	
<i>Amsinckia tessellata</i>	bristly fiddleneck	•	
<i>Cryptantha angustifolia</i>	Narrow-leaved forget me not	•	
<i>Cryptantha decipiens</i>	gravel cryptantha	•	
<i>Cryptantha intermedia</i>	clearwater cryptantha	•	
<i>Cryptantha microstachys</i>	popcorn flower	•	
<i>Cryptantha nevadensis</i>	Nevada cryptantha	•	
<i>Cryptantha pterocarya</i> var. <i>pterocarya</i>	wing nut forget me not	•	
<i>Cryptantha simulans</i>	pine cryptantha	•	
<i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i>	common eucrptta	•	
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	•	
<i>Pectocarya linearis</i> ssp. <i>ferocula</i>	slender pectocarya	•	
<i>Pectocarya penicillata</i>	sleeping combseed	•	
<i>Pectocarya recurvata</i>	curvenut combseed	•	
<i>Pectocarya setosa</i>	moth combseed	•	
<i>Plagiobothrys arizonicus</i>	Arizona popcorn flower	•	
<i>Plagiobothrys tenellus</i>	slender popcorn flower	•	
Brassicaceae Family			
<i>Arabis</i> sp.	Rock cress	•	
<i>Athysanus pusillus</i>	common sandweed	•	
<i>Brassica tournefortii</i>	Saharan mustard		•
<i>Caulanthus heterophyllus</i> var. <i>heterophyllus</i>	San Diego jewelflower	•	
<i>Descurainia pinnata</i> ssp. <i>halictorum</i>	western tansymustard	•	
<i>Descurainia sophia</i>	flix weed		•

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Guillenia lasiophylla</i>	California mustard	•	
<i>Hirschfeldia incana</i>	Mediterranean hoary mustard		•
<i>Lepidium nitidum var nitidum</i>	shining peppergrass	•	
<i>Nasturtium officinale</i>	watercress	•	
<i>Sisymbrium altissimum</i>	tall tumbledustard		•
<i>Sisymbrium irio</i>	London rocket		•
<i>Sisymbrium orientale</i>	Indian hedge mustard	•	
<i>Thysanocarpus curvipes</i>	hairy lacepod	•	
Cactaceae Family			
<i>Cylindropuntia californica var. parkeri</i>	brownspeined pricklypear	•	
<i>Cylindropuntia ganderi var. ganderi</i>	Gander's buckhorn cholla	•	
<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	•	
<i>Ferocactus cylindraceus var. lecontei</i>	barrel cactus	•	
<i>Mammillaria dioica</i>	fish hook cactus	•	
<i>Opuntia chlorotica</i>	pancake prickly pear	•	
<i>Opuntia phaeacantha</i>	tulip pricklypear	•	
Chenopodiaceae Family			
<i>Atriplex canescens var. canescens</i>	desert four-winged saltbush	•	
<i>Chenopodium californicum</i>	California goosefoot	•	
<i>Salsola sp.</i>	Russian thistle		•
Crassulaceae Family			
<i>Crassula connata</i>	pygmy weed	•	
<i>Dudleya pulverulenta</i>	chalk dudleya	•	
<i>Dudleya sp.</i>	liveforever	•	
Cucurbitaceae Family			
<i>Marah macrocarpus var. macrocarpus</i>	southern wild cucumber	•	
Cuscutaceae Family			
<i>Cuscuta sp.</i>	dodder	•	

Species		Native	Non-Native
Scientific Name	Common Name		
Ericaceae Family			
<i>Arctostaphylos glauca</i>	big-berry manzanita	•	
<i>Arctostaphylos parryana</i> ssp. <i>desertica</i>	Parry manzanita	•	
<i>Arctostaphylos pungens</i>	point-leaf manzanita	•	
Euphorbiaceae Family			
<i>Chamaesyce albomarginata</i>	rattlesnake weed	•	
<i>Chamaesyce melanadenia</i>	sandmat	•	
<i>Stillingia linearifolia</i>	Narrow leaved stillingia	•	
Fabaceae Family			
<i>Acacia greggii</i>	catclaw acacia	•	
<i>Acmispon argophyllus</i> var. <i>argophyllus</i>	southern California silver lotus	•	
<i>Acmispon glaber</i> var. <i>brevialatus</i>	western bird's foot trefoil	•	
<i>Acmispon procumbens</i> var. <i>procumbens</i>	silky California broom	•	
<i>Acmispon strigosus</i>	hairy lotus	•	
<i>Lotus wrangelianus</i>	Chilean bird's foot trefoil	•	
<i>Astragalus coccineus</i>	scarlet milk-vetch	•	
<i>Astragalus didymocarpus</i> var. <i>dispermus</i>	dwarf white milk-vetch	•	
<i>Astragalus didymocarpus</i> var. <i>obispoensis</i>	San Luis Obispo milk-vetch	•	
<i>Astragalus douglasii</i> var. <i>perstrictus</i>	Jacumba milk-vetch	•	
<i>Astragalus nuttallianus</i> var. <i>imperfectus</i>	turkey peas	•	
<i>Astragalus palmeri</i>	Palmer's milk-vetch	•	
<i>Lathyrus splendens</i>	Campo pea	•	
<i>Lupinus andersonii</i>	Anderson's lupine	•	
<i>Lupinus bicolor</i>	miniature lupine	•	
<i>Lupinus concinnus</i>	scarlet lupine	•	
<i>Lupinus formosus</i> var. <i>formosus</i>	summer lupine	•	
<i>Lupinus truncates</i>	collar lupine	•	
<i>Melilotus indicus</i>	Indian sweetclover		•

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Pediomelum californicum</i>	California Indian breadroot	•	
<i>Prosopis glandulosa</i> var. <i>torreyana</i>	honey mesquite	•	
<i>Trifolium albopurpureum</i> var. <i>albopurpureum</i>	rancheria clover	•	
<i>Trifolium gracilentum</i> var. <i>gracilentum</i>	pinpoint clover	•	
<i>Trifolium willdenovii</i>	valley clover	•	
Fagaceae Family			
<i>Quercus</i> × <i>acutidens</i>	Torrey's hybrid oak	•	
<i>Quercus agrifolia</i> var. <i>oxyadenia</i>	coast live oak	•	
<i>Quercus cornelius-mulleri</i>	desert scrub oak	•	
Garryaceae Family			
<i>Garrya veatchii</i>	canyon silktassel	•	
Geraniaceae Family			
<i>Erodium cicutarium</i>	redstem filaree		•
Grossulariaceae Family			
<i>Ribes quercetorum</i>	rock gooseberry	•	
Hydrophyllaceae Family			
<i>Emmenanthe penduliflora</i> var. <i>penduliflora</i>	whispering bells	•	
<i>Eriodictyon trichocalyx</i> var. <i>lanatum</i>	hairy yerba santa	•	
<i>Nama</i> sp.	purplemat	•	
<i>Nemophila spatulata</i>	Sierra nemophila	•	
<i>Phacelia cicutaria</i> var. <i>hispida</i>	caterpillar phacelia	•	
<i>Phacelia distans</i>	wild heliotrope	•	
<i>Phacelia minor</i>	California bluebell	•	
<i>Phacelia vallis-mortae</i>	Death Valley phacelia	•	
<i>Pholistoma membranaceum</i>	white fiesta flower	•	
Lamiaceae Family			
<i>Salvia apiana</i>	white sage	•	
<i>Salvia carduacea</i>	thistle sage	•	
<i>Salvia columbariae</i>	chia sage	•	

Attachment A: Project Plant Species List

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Trichostema parishii</i>	Parish's bluecurls	•	
Loasaceae Family			
<i>Mentzelia montana</i>	montane mentzelia	•	
Malvaceae Family			
<i>Sphaeralcea ambigua</i> var. <i>ambigua</i>	mountain apricot mallow	•	
<i>Sphaeralcea ambigua</i> var. <i>rosacea</i>	rose mallow	•	
<i>Sphaeralcea ambigua</i> var. <i>rugosa</i>	apricot mallow	•	
Montiaceae Family			
<i>Claytonia exigua</i>	little spring beauty	•	
<i>Claytonia parviflora</i> ssp. <i>parviflora</i>	Utah miner's lettuce	•	
<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	miner's lettuce	•	
Nyctaginaceae Family			
<i>Mirabilis laevis</i> var. <i>crassifolia</i>	California four o'clock	•	
<i>Mirabilis laevis</i> var. <i>retrorsa</i>	wishbone bush	•	
<i>Mirabilis laevis</i> var. <i>villosa</i>	hairy wishbone	•	
Oleaceae Family			
<i>Menodora scabra</i> var. <i>glabrescens</i>	rough menodora	•	
Onagraceae Family			
<i>Camissonia californica</i>	California primrose	•	
<i>Camissonia pallida</i> ssp. <i>pallida</i>	pale sun cup	•	
<i>Camissonia strigulosa</i>	strigose sun cup	•	
<i>Epilobium canum</i>	California fuchsia	•	
<i>Oenothera californica</i> ssp. <i>californica</i>	California evening primrose	•	
Orobanchaceae Family			
<i>Castilleja exserta</i> ssp. <i>exserta</i>	purple owl's clover	•	
<i>Castilleja foliolosa</i>	Texas paintbrush	•	
<i>Castilleja subinclusa</i> ssp. <i>subinclusa</i>	longleaf Indian paintbrush	•	
<i>Orobanche californica</i> ssp. <i>feudgei</i>	sagebrush broomrape	•	

Species		Native	Non-Native
Scientific Name	Common Name		
Paeoniaceae Family			
<i>Paeonia californica</i>	California peony	•	
Papaveraceae			
<i>Argemone munita</i>	prickly poppy	•	
<i>Dendromecon rigida</i>	bush poppy	•	
<i>Eschscholzia californica</i>	California poppy	•	
<i>Eschscholzia minutiflora</i>	pygmy poppy	•	
<i>Eschscholzia parishii</i>	Parish's poppy	•	
<i>Platystemon californicus</i>	cream cups	•	
Phrymaceae Family			
<i>Mimulus aridus</i>	Jacumba monkeyflower	•	
<i>Mimulus guttatus</i>	seep monkeyflower	•	
<i>Mimulus pilosus</i>	downy monkeyflower	•	
Plantaginaceae Family			
<i>Antirrhinum nuttallianum</i> ssp. <i>nuttallianum</i>	Nuttall's snapdragon	•	
<i>Collinsia concolor</i>	Chinese houses	•	
<i>Keckiella antirrhinoides</i> var. <i>antirrhinoides</i>	chaparral beard tongue	•	
<i>Keckiella ternata</i> var. <i>ternata</i>	summer bush penstemon	•	
<i>Penstemon centranthifolius</i>	scarlet bugler	•	
<i>Penstemon clevelandii</i> var. <i>clevelandii</i>	Cleveland's beardtongue	•	
<i>Penstemon spectabilis</i> var. <i>spectabilis</i>	showy penstemon	•	
<i>Plantago erecta</i>	dotseed plantain	•	
Polemoniaceae Family			
<i>Eriastrum densifolium</i> ssp. <i>elongatum</i>	giant eriastrum	•	
<i>Eriastrum eremicum</i>	desert woolly star	•	
<i>Eriastrum sapphirinum</i>	sapphire eriastrum	•	
<i>Gilia angelensis</i>	chaparral gilia	•	
<i>Gilia breccarium</i>	small gilia	•	
<i>Gilia clokeyi</i>	Clokey's gilia	•	

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Gilia diegensis</i>	San Diego gilia	•	
<i>Ipomopsis tenuifolia</i>	slender-leaved ipomopsis	•	
<i>Leptosiphon lemmonii</i>	Lemmon's linanthus	•	
<i>Linanthus bellus</i>	desert beauty	•	
<i>Linanthus jonesii</i>	Jone's linanthus	•	
<i>Loeseliastrum schottii</i>	Schott's calico	•	
<i>Microsteris gracilis</i>	slender phlox	•	
<i>Navarretia capillaris</i>	miniature gilia	•	
<i>Saltugilia australis</i>	southern gilia	•	
Polygonaceae Family			
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	brittle spineflower	•	
<i>Chorizanthe fimbriata</i> var. <i>fimbriata</i>	fringed spineflower	•	
<i>Chorizanthe fimbriata</i> var. <i>laciniata</i>	lace fringed spineflower	•	
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	•	
<i>Eriogonum elongatum</i> var. <i>elongatum</i>	long stemmed buckwheat	•	
<i>Eriogonum fasciculatum</i> var. <i>foliolsum</i>	California buckwheat	•	
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	California buckwheat	•	
<i>Eriogonum gracile</i>	slender woolly buckwheat	•	
<i>Eriogonum inflatum</i>	desert trumpet	•	
<i>Eriogonum wrightii</i> var. <i>membranaceum</i>	Wright's buckwheat	•	
<i>Pterostegia drymarioides</i>	fairy mist	•	
<i>Sidothea trilobata</i>	three-lobed starry puncturebract	•	
Portulacaceae Family			
<i>Calandrinia ciliata</i>	red maids	•	
<i>Calyptridium monandrum</i>	pussy paws	•	
Ranunculaceae Family			
<i>Anemone tuberosa</i>	tuber anemone	•	
<i>Clematis pauciflora</i>	small leaved clematis	•	
<i>Delphinium parishii</i> ssp. <i>subglobosum</i>	oceanblue larkspur	•	

Species		Native	Non-Native
Scientific Name	Common Name		
Rhamnaceae Family			
<i>Ceanothus greggii</i> var. <i>perplexans</i>	desert ceanothus	•	
<i>Ceanothus leucodermis</i>	chaparral whitethorn	•	
<i>Rhamnus ilicifolia</i>	holly-leaf redberry	•	
<i>Ziziphus parryi</i> var. <i>parryi</i>	Parry's jujube	•	
Rosaceae Family			
<i>Adenostoma fasciculatum</i>	chamise	•	
<i>Adenostoma sparsifolium</i>	red shank	•	
<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birch leaf mountain mahogany	•	
<i>Prunus fremontii</i>	desert apricot	•	
<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	hollyleaf cherry	•	
<i>Purshia tridentata</i> var. <i>glandulosa</i>	desert bitterbrush	•	
Rubiaceae Family			
<i>Galium andrewsii</i> ssp. <i>andrewsii</i>	Andrew's bedstraw	•	
<i>Galium aparine</i>	common bedstraw	•	
Rutaceae Family			
<i>Thamnosma montana</i>	turpentine broom	•	
Salicaceae Family			
<i>Salix laevigata</i>	red willow	•	
<i>Salix lasiolepis</i>	arroyo willow	•	
Simmondsiaceae			
<i>Simmondsia chinensis</i>	jojoba	•	
Solanaceae			
<i>Datura wrightii</i>	jimsonweed	•	
<i>Lycium andersonii</i>	Anderson's desert thorn	•	
<i>Nicotiana obtusifolia</i>	desert tobacco	•	
<i>Physalis crassifolia</i>	Greene's ground-cherry	•	
<i>Solanum parishii</i>	Parish's nightshade	•	
<i>Solanum umbelliferum</i>	bluewitch nightshade	•	

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Solanum xanti</i>	purple nightshade	•	
Urticaceae Family			
<i>Parietaria hespera</i>	western pellitory	•	
<i>Urtica dioica</i> ssp. <i>holosericea</i>	giant creek nettle	•	
Violaceae Family			
<i>Viola purpurea</i> ssp. <i>quercetorum</i>	goosefoot yellow violet	•	
Viscaceae Family			
<i>Phoradendron californicum</i>	desert mistletoe	•	
<i>Phoradendron densum</i>	dense mistletoe	•	
<i>Phoradendron villosum</i>	Pacific mistletoe	•	
Zygophyllaceae Family			
<i>Larrea tridentata</i>	creosote bush	•	
Flowering Plants (Angiospermae Monocotyledoneae)			
Agavaceae Family			
<i>Agave deserti</i>	desert agave	•	
<i>Yucca schidigera</i>	Mojave yucca	•	
<i>Yucca whipplei</i>	chaparral yucca	•	
Juncaceae Family			
<i>Juncus balticus</i>	wire rush	•	
<i>Juncus bufonius</i>	toad rush	•	
Liliaceae Family			
<i>Calochortus splendens</i>	splendid mariposa lily	•	
Poaceae Family			
<i>Avena barbata</i>	slender wild oats		•
<i>Avena fatua</i>	wild oats		•
<i>Bromus diandrus</i>	ripgut brome		•
<i>Bromus hordeaceus</i>	soft chess		•
<i>Bromus madritensis</i> ssp. <i>rubens</i>	foxtail grass		•
<i>Bromus tectorum</i>	downy brome		•
<i>Distichlis spicata</i>	salt grass	•	

Species		Native	Non-Native
Scientific Name	Common Name		
<i>Festuca octoflora</i> var. <i>hirtella</i>	sixweeks grass	•	
<i>Hordeum murinum</i> ssp. <i>glaucum</i>	glaucous barley		•
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	foxtail barley		•
<i>Melica frutescens</i>	tall melic	•	
<i>Melica imperfecta</i>	small flowered melica	•	
<i>Poa pratensis</i>	Kentucky bluegrass		•
<i>Poa secunda</i> ssp. <i>secunda</i>	Sandberg's bluegrass	•	
<i>Schismus barbatus</i>	common Mediterranean grass		•
<i>Stipa coronatum</i>	giant stipa	•	
<i>Stipa speciosum</i>	desert needlegrass	•	
<i>Vulpia bromoides</i>	European foxtail fescue		•
<i>Vulpia microstachys</i> var. <i>pauciflora</i>	Pacific fescue	•	
<i>Vulpia myuros</i> var. <i>myuros</i>	rattail fescue		•
Themidaceae Family			
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	wild hyacinth	•	
<i>Dichelostemma capitatum</i> ssp. <i>pauciflorum</i>	few flowered blue dicks	•	

ATTACHMENT B: INVASIVE SPECIES LIST

Attachment B: Non-Native Species List and Invasiveness Ratings

Species Name	Observed	Ecological Communities Invaded	Cal-IPC Rating ¹	Cal-IPC Impacts Rating ²	Cal-IPC Invasive Rating	Cal-IPC Distribution Rating	Federal Noxious Weed Rating	CDFA Rank ³
<i>Avena barbata</i> (slender wild oat)	Yes	Coastal scrub, grasslands, oak woodland, forest	Moderate	B	B	A	No	NR
<i>Avena fatua</i> (wild oat)	Yes	Coastal scrub, chaparral, grasslands, woodland, forest	Moderate	B	B	A	No	NR
<i>Brassica tournefortii</i> (Saharan mustard)	Yes	Desert dunes, desert and coastal scrub	High	A	A	B	No	NR
<i>Bromus diandrus</i> (ripgut brome)	Yes	Dunes, scrub, grassland, woodland, forest	Moderate	B	B	A	No	NR
<i>Bromus hordeaceus</i> (Soft chess brome)	Yes	Grasslands, sagebrush, serpentine soils	Limited	B	C	A	No	NR

¹ Cal-IPC Rating:

- High: These species have severe ecological impacts on plant and animal communities. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment.
- Moderate: These species have substantial—but generally not severe—ecological impacts on plant and animal communities. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance.
- Limited: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness.

² Cal-IPC Impact, Invasive, and Distribution Rating: Cal-IPC evaluates the ecological impacts, invasive potential, and ecological distribution of invasive weed species and assign a score of A (severe) to D (no impact).³ CDFA Rating:

- A: Species are subject to state-enforced action involving eradication, quarantine regulation, containment, and rejection.
- B: Species are at the discretion of the county commissioner subject to eradication, containment, suppression, and control.
- C: Species are subject to regulations designed retard spread or to suppress at the discretion of the county commissioner.
- NR: Not rated.

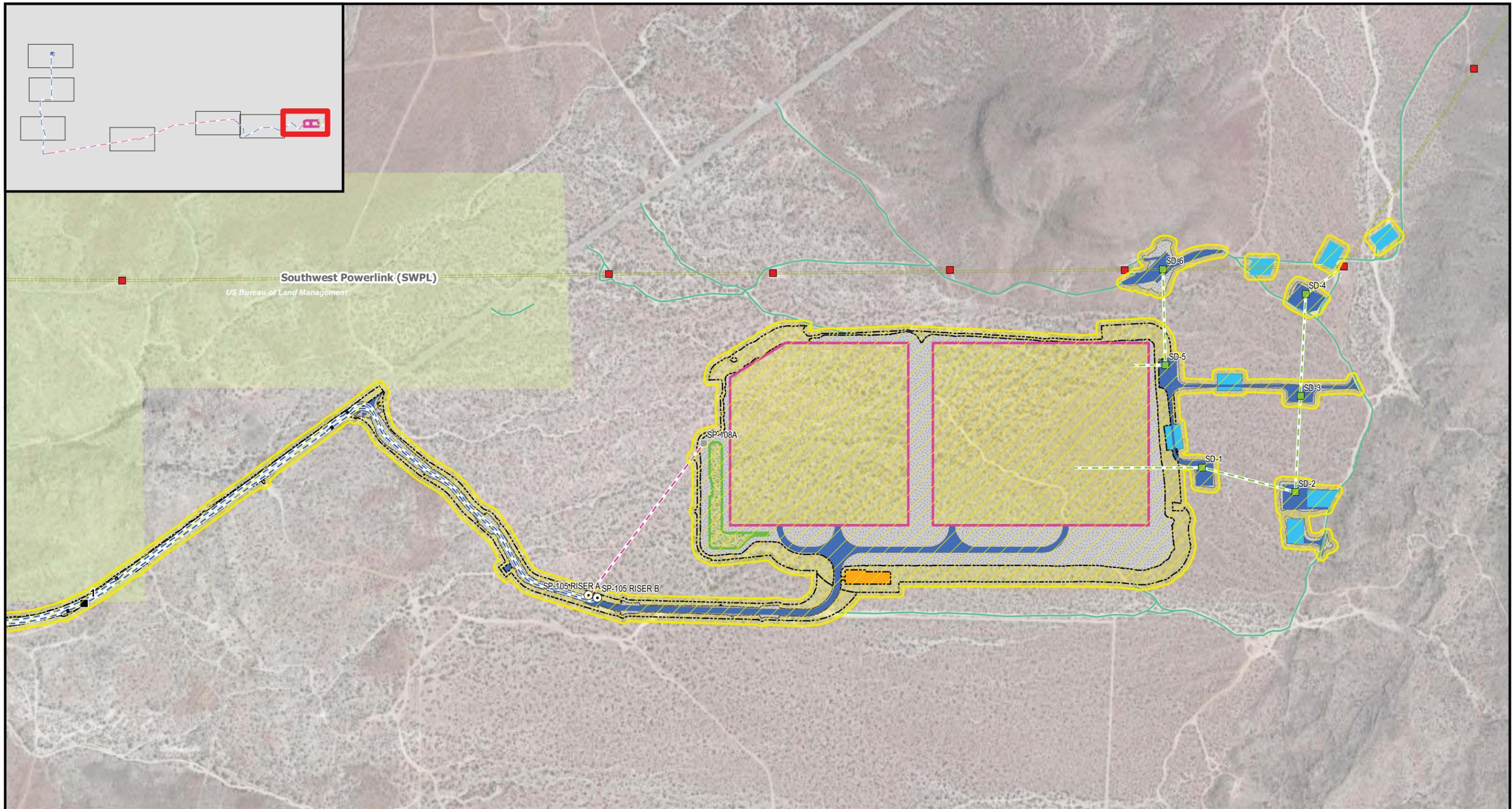
Attachment B: Non-Native Species List and Invasiveness Ratings

Species Name	Observed	Ecological Communities Invaded	Cal-IPC Rating ¹	Cal-IPC Impacts Rating ²	Cal-IPC Invasive Rating	Cal-IPC Distribution Rating	Federal Noxious Weed Rating	CDFG Rank ³
<i>Bromus madritensis</i> ssp. <i>rubens</i> (foxtail grass)	Yes	Scrub, grassland, desert washes, woodlands	High	A	B	A	No	NR
<i>Bromus tectorum</i> (downy brome)	Yes	Interior scrub, woodlands, grasslands, pinon/Joshua tree woodland, chaparral	High	A	B	A	No	NR
<i>Descurainia sophia</i> (flixweed)	Yes	Scrub, grassland, woodland	Limited	C	B	B	No	NR
<i>Erodium cicutarium</i> (redstem filaree)	Yes	Widespread	Limited	C	C	A	No	NR
<i>Hirshfeldia incana</i> (Mediterranean hoary mustard)	Yes	Scrub, grasslands, riparian areas	Moderate	B	B	A	No	NR
<i>Hordeum murinum</i> ssp. <i>glaucum</i> (glaucous barley)	Yes	Grasslands	Not Listed	NA	NA	NA	No	NR
<i>Hordeum murinum</i> ssp. <i>leporinum</i> (foxtail barley)	Yes	Grasslands	Not Listed	NA	NA	NA	No	NR
<i>Melilotus indicus</i> (Indian sweetclover)	Yes	Grasslands	Not Listed	NA	NA	NA	No	NR
<i>Poa pratensis</i> (Kentucky bluegrass)	Yes	Grasslands	Limited	C	B	B	No	NR
<i>Salsola tragus</i> (Russian thistle)	Yes	Desert dunes and scrub, alkali playa	Limited	C	B	B	No	C

Species Name	Observed	Ecological Communities Invaded	Cal-IPC Rating ¹	Cal-IPC Impacts Rating ²	Cal-IPC Invasive Rating	Cal-IPC Distribution Rating	Federal Noxious Weed Rating	CDFR Rank ³
<i>Schismus bartabus</i> (Common Mediterranean grass)	Yes	Scrub, thorn woodland	Limited	B	C	A	No	NR
<i>Senecio vulgaris</i> (common groundsel)	Yes	Grasslands, chaparral	Not Listed	NA	NA	NA	NA	NR
<i>Sisymbrium altissimum</i> (tall tumbled mustard) ⁴	Yes	Sagebrush	Not Listed	NA	NA	NA	No	NR
<i>Sisymbrium irio</i> (London rocket)	Yes	Scrub, grasslands	Moderate	B	B	A	No	NR
<i>Sonchus asper</i> (spiny sowthistle)	Yes	Scree, slide areas, agricultural land	Not Listed	D	B	B	No	NR
<i>Vulpia bromides</i> (European foxtail fescue)	Yes	Grasslands	Not Listed	D	C	B	No	NR
<i>Vulpia myuros</i> var <i>myuros</i> (rattail fescue)	Yes	Coastal sage scrub, chaparral	Moderate	B	B	A	No	NR

⁴ While this species is not yet listed as a noxious weed in California, it is a non-native species that has potential to become problematic in the future. The Cal-IPC states that additional research is needed on this species.

ATTACHMENT C: NOXIOUS AND INVASIVE PLANT CONTROL AREAS MAP

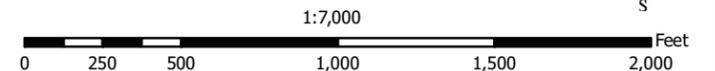


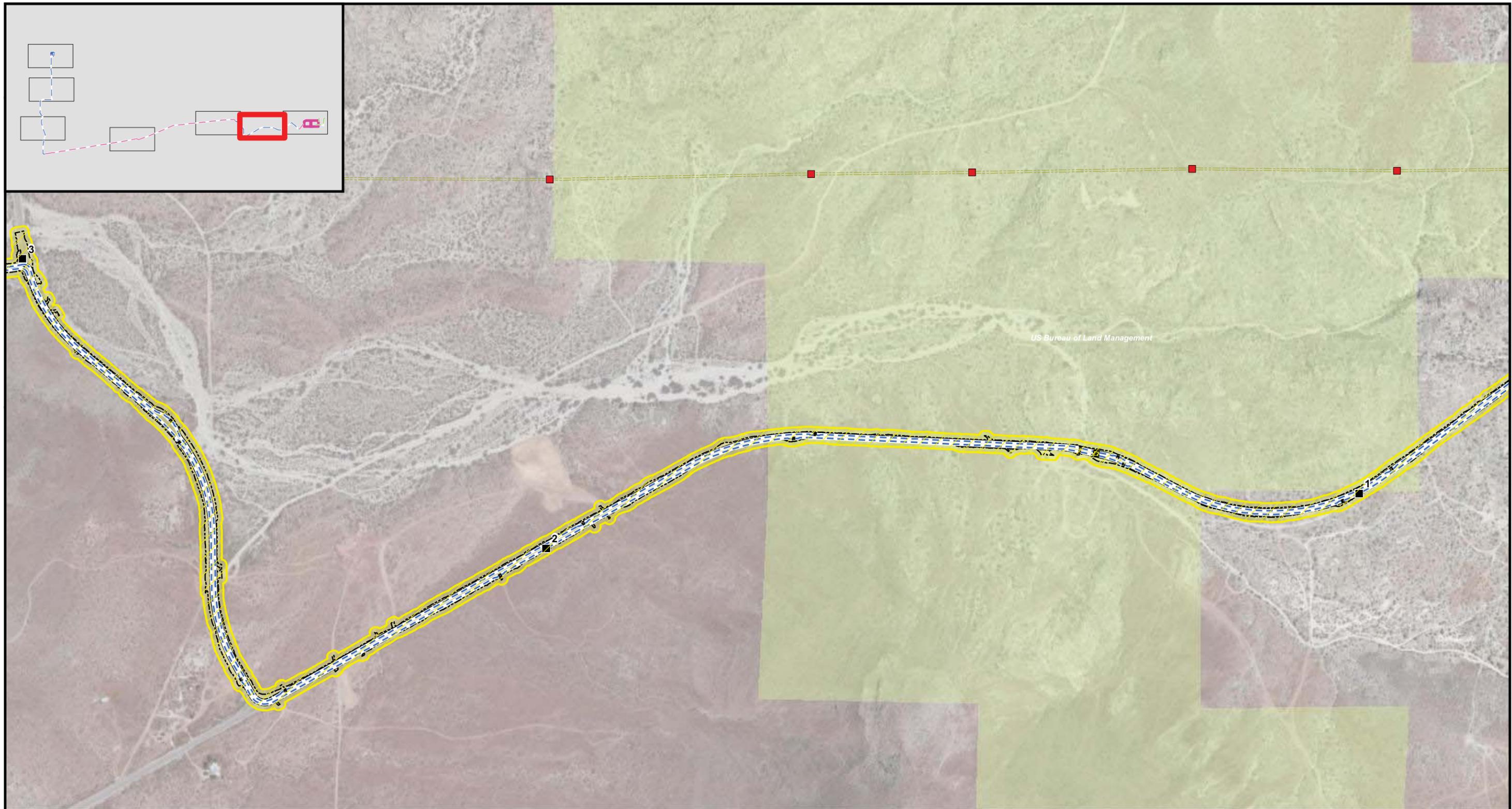
Attachment C: Noxious and Invasive Plant Control Areas Map 1 of 7

East County Substation Project

- | | | | | | |
|---|---------------------------|-----------------------------|-----------------------------|-------------------------|--------------------------------|
| Noxious and Invasive Plant Control Areas* | Access Road Modifications | Fly Yard | Retention Basin | 138 kV Pole | Existing Access Road |
| 138 kV Overhead | Boring Pit | Grading | Staging Area | Riser Pole | Interstate |
| 138 kV Underground | Boulevard Substation | Guard Structure Site/Access | Temporary Access Road | Existing SWPL Structure | Highway |
| SWPL Loop-In | Concrete Channel/Culvert | Pole Work Area/Access Road | Temporary Construction Area | SWPL Loop-In Structure | Railroad |
| Existing Transmission Line | ECO Substation Pad | Pull Site/Vault Pad | Vault | Milepost | Bureau of Land Management Land |
| | | | Water Tank | | |

* Areas of noxious weed and invasive plant control will be limited to the ground disturbed within the shaded area.





Attachment C: Noxious and Invasive Plant Control Areas Map 2 of 7

East County Substation Project

Noxious and Invasive Plant Control Areas*	Access Road Modifications	Fly Yard	Retention Basin	138 kV Pole	Existing Access Road
138 kV Overhead	Boring Pit	Grading	Staging Area	Riser Pole	Interstate
138 kV Underground	Boulevard Substation	Guard Structure Site/Access	Temporary Access Road	Existing SWPL Structure	Highway
SWPL Loop-In	Concrete Channel/Culvert	Pole Work Area/Access Road	Temporary Construction Area	SWPL Loop-In Structure	Railroad
Existing Transmission Line	ECO Substation Pad	Pull Site/Vault Pad	Vault	Bureau of Land Management Land	
			Water Tank	Milepost	

* Areas of noxious weed and invasive plant control will be limited to the ground disturbed within the shaded area.

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Attachment C: Noxious and Invasive Plant Control Areas Map 3 of 7

East County Substation Project

Noxious and Invasive Plant Control Areas*	Access Road Modifications	Fly Yard	Retention Basin	138 kV Pole	Existing Access Road
138 kV Overhead	Boring Pit	Grading	Staging Area	Riser Pole	Interstate
138 kV Underground	Boulevard Substation	Guard Structure Site/Access	Temporary Access Road	Existing SWPL Structure	Highway
SWPL Loop-In	Concrete Channel/Culvert	Pole Work Area/Access Road	Temporary Construction Area	SWPL Loop-In Structure	Railroad
Existing Transmission Line	ECO Substation Pad	Pull Site/Vault Pad	Vault	Milepost	Bureau of Land Management Land
			Water Tank		

* Areas of noxious weed and invasive plant control will be limited to the ground disturbed within the shaded area.



Attachment C: Noxious and Invasive Plant Control Areas Map 4 of 7

East County Substation Project

Noxious and Invasive Plant Control Areas*	Access Road Modifications	Fly Yard	Retention Basin	138 kV Pole	Existing Access Road
138 kV Overhead	Boring Pit	Grading	Staging Area	Riser Pole	Interstate
138 kV Underground	Boulevard Substation	Guard Structure Site/Access	Temporary Access Road	Existing SWPL Structure	Highway
SWPL Loop-In	Concrete Channel/Culvert	Pole Work Area/Access Road	Temporary Construction Area	SWPL Loop-In Structure	Railroad
Existing Transmission Line	ECO Substation Pad	Pull Site/Vault Pad	Vault	Milepost	Bureau of Land Management Land
			Water Tank		

* Areas of noxious weed and invasive plant control will be limited to the ground disturbed within the shaded area.

Scale: 1:7,000



Attachment C: Noxious and Invasive Plant Control Areas Map 5 of 7

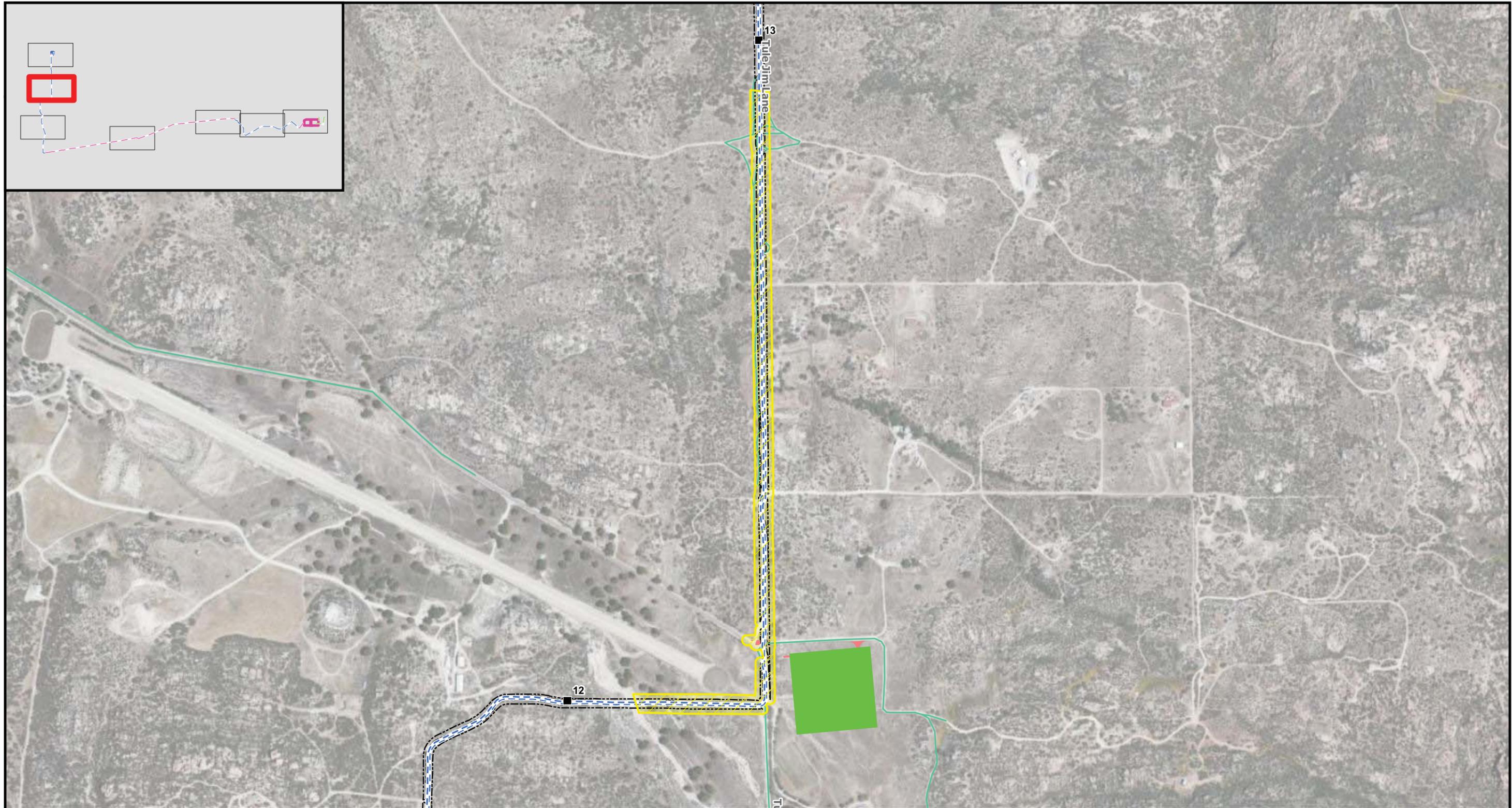
East County Substation Project

Noxious and Invasive Plant Control Areas*	Access Road Modifications	Fly Yard	Retention Basin	138 kV Pole	Existing Access Road
138 kV Overhead	Boring Pit	Grading	Staging Area	Riser Pole	Interstate
138 kV Underground	Boulevard Substation	Guard Structure Site/Access	Temporary Access Road	Existing SWPL Structure	Highway
SWPL Loop-In	Concrete Channel/Culvert	Pole Work Area/Access Road	Temporary Construction Area	SWPL Loop-In Structure	Railroad
Existing Transmission Line	ECO Substation Pad	Pull Site/Vault Pad	Vault	Milepost	Bureau of Land Management Land
			Water Tank		

* Areas of noxious weed and invasive plant control will be limited to the ground disturbed within the shaded area.

Scale: 0 250 500 1,000 1,500 2,000 Feet

Scale: 1:7,000

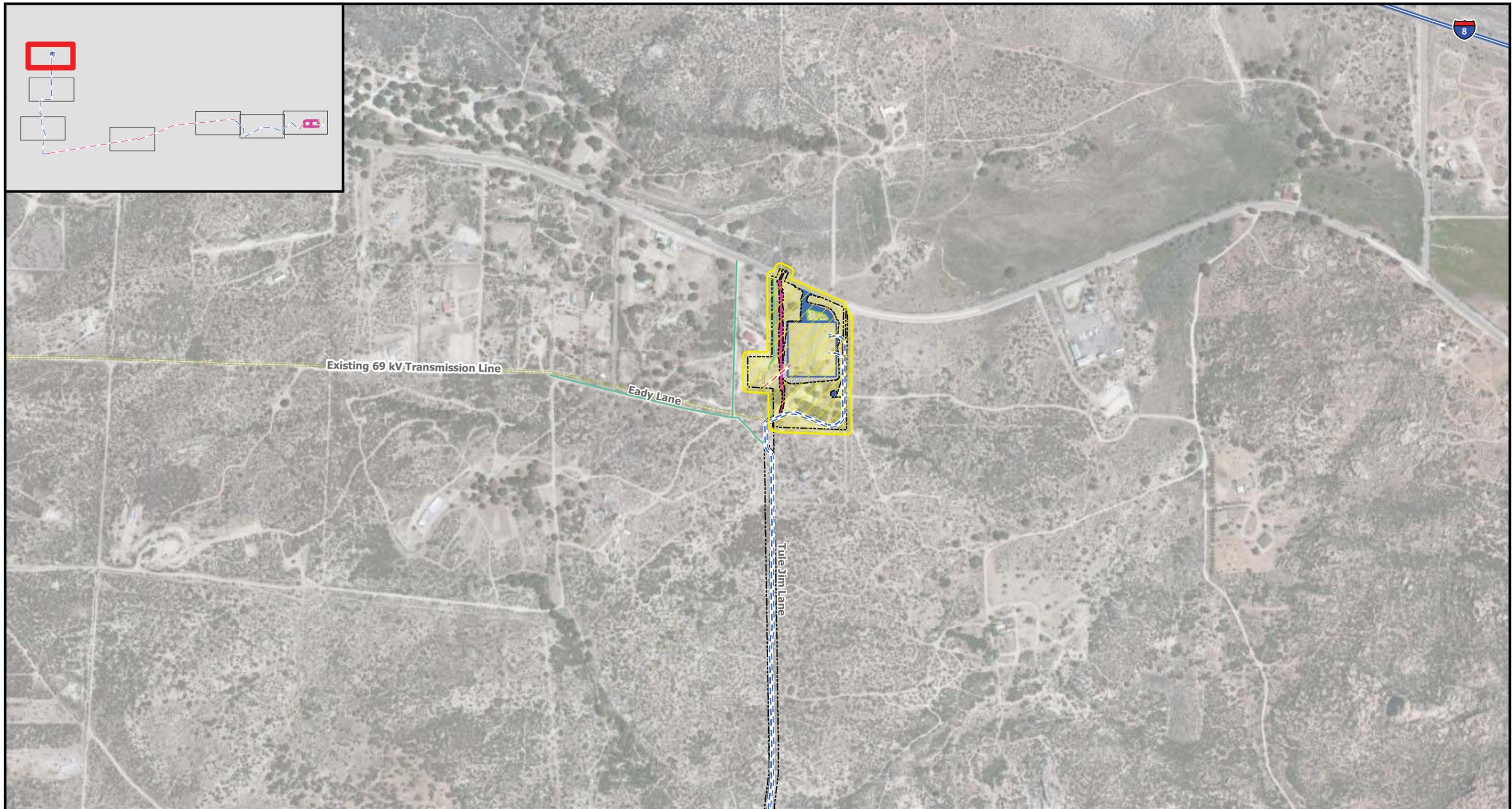


Attachment C: Noxious and Invasive Plant Control Areas Map 6 of 7

East County Substation Project

Noxious and Invasive Plant Control Areas*	Access Road Modifications	Fly Yard	Retention Basin	138 kV Pole	Existing Access Road
138 kV Overhead	Boring Pit	Grading	Staging Area	Riser Pole	Interstate
138 kV Underground	Boulevard Substation	Guard Structure Site/Access	Temporary Access Road	Existing SWPL Structure	Highway
SWPL Loop-In	Concrete Channel/Culvert	Pole Work Area/Access Road	Temporary Construction Area	SWPL Loop-In Structure	Railroad
Existing Transmission Line	ECO Substation Pad	Pull Site/Vault Pad	Vault	Milepost	Bureau of Land Management Land
			Water Tank		

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Attachment C: Noxious and Invasive Plant Control Areas Map 7 of 7

East County Substation Project

Noxious and Invasive Plant Control Areas*	Access Road Modifications	Fly Yard	Retention Basin	138 kV Pole	Existing Access Road
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SWPL Loop-In	Concrete Channel/Culvert	Pole Work Area/Access Road	Temporary Construction Area	SWPL Loop-In Structure	Railroad
Existing Transmission Line	ECO Substation Pad	Pull Site/Vault Pad	Vault	Milepost	Bureau of Land Management Land
			Water Tank		

* Areas of noxious weed and invasive plant control will be limited to the ground disturbed within the shaded area.

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

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0 250 500 1,000 1,500 2,000 Feet

ATTACHMENT D: APPLICABLE SECTIONS OF SDG&E'S NCCP

2 Proposed Actions

2.1 Maintenance and Construction Activities

SDG&E constructs new utility infrastructure on an ongoing basis to maintain uniform, adequate, safe, and reliable electric and gas service. SDG&E also conducts maintenance and repair activities on existing Facilities. Typical construction, maintenance and repair activities for each type of Facility are described in this section. Operational Protocols to be used by SDG&E field personnel to avoid and minimize the potential impacts of installation, maintenance and repairs for each type of facility are contained in Section 7.1²

2.1.1 Overhead Facilities

Overhead Facilities are utilized in the transmission and distribution of electricity. Generally, overhead conductors (wires) are supported by wood or steel poles, or by steel lattice towers.

2.1.1.1 *New Overhead Facility Alignment*

New overhead facilities will, to the extent possible, be designed to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. This will be accomplished by avoiding siting of Facilities in habitat and by utilizing dead-end/spur roads rather than linking facilities tangentially, to the extent possible³. When

² Extensions of SDG&E gas and electric transmission and distribution facilities provided to serve a particular customer constitute a project of that customer and are not subject to this Subregional Plan, the Implementing Agreement, or the Permits.

³ "to the extent possible" means without violating CPUC standards or jeopardizing the structural and operational integrity of the facility

facilities must be sited in undisturbed or habitat areas, they will, to the extent possible, be sited in lower quality habitat (See Figure 4).

2.1.1.2 Placement of Structures

Steel lattice towers are installed using concrete foundations. Wood poles are installed using direct burial or concrete foundations. Maintenance will be performed and repairs may be required to restore structural integrity or inadequacies in a foundation or transmission structure caused by erosion or other occurrences.

2.1.1.3 Placement of Electrical Equipment on Structures

Towers and poles support a variety of electrical equipment including insulators and conductors. Insulators are attached directly to poles, or to arms mounted on the structures. The insulators are installed by workers who climb the structure or access the structure in bucket trucks. Once the insulators are installed, a helicopter is often used to install a small rope. The small rope is used to pull in a bigger rope or cable which is then used to pull in the conductor.

2.1.1.4 Insetting Poles

“Pole insetting” places poles in-line between existing structures. The new poles provide additional strength to support new or heavier conductors. The new poles are also used to achieve necessary wire clearances. Insetting is an effective method of fully utilizing existing electric line structures and alignments which often defers the need for new structures, lines and alignments.

2.1.1.5 Equipment Repair and Replacement

Poles or towers may support a variety of equipment such as conductors, insulators, switches, transformers, lightning arresters, line junctions, and other electrical equipment. This type of equipment may need to be added, repaired, or replaced in order to maintain uniform, adequate, safe, and reliable service. Due to damage, changes in conductor size, or the like, an existing transmission structure will be removed and replaced with a larger/stronger structure at the same or nearby location.

2.1.1.6 Pole Anchors and Stubs

Anchors, guy wires, and stubs are used to support poles. Generally one end of a guy wire attaches to the upper portion of a wood pole. The other end attaches to the top of a stub or to an anchor buried in the ground. These anchors

can be in or out of alignment with the pole line. In order to maintain pole stability, new anchors or stubs, replacement anchors or stubs may be needed. Stubs can either be made of wood or steel and sometimes require concrete foundations.

2.1.1.7 Insulator Washing

In some areas prone to atmospheric moisture, condensation combines with dust on porcelain insulators can create an electrical discharge. This discharge, known as "arcing", poses a significant risk of service outages. This risk can be substantially reduced by periodic washing of the insulators. The process of washing insulators involves driving a water truck to within 60 feet of the facility. A high pressure hose is used to spray water at the insulator.

2.1.1.8 Tree Trimming

Tree trimming plays a critical role in maintaining reliable electrical power. Tree limb contact with electrical lines is a potential cause of power outages and is also a source of possible ignition and as such a potential fire hazard. Constant vigilance in tree trimming practices, regardless of habitat type, is necessary to maintain proper line clearances.

2.1.1.9 Use of Helicopters

Helicopters are used in the visual inspection of overhead facilities. Each electric transmission line is inspected several times a year via helicopter. Helicopters are also occasionally used to deliver equipment, position poles and towers, string lines and position aerial markers as required by Federal Aviation Administration regulations.

2.1.2 Underground Facilities

Underground Facilities are primarily utilized in the transmission and distribution of natural gas. Conduit containing electrical conductor may also be placed underground. New electric distribution lines are almost always placed underground in public streets.

2.1.2.1 New Underground Facility Alignment

New underground facilities will be designed to minimize habitat fragmentation and disruption of wildlife movement and breeding areas by avoiding siting facilities in habitat and by utilizing dead-end/spur roads to the extent possible. When facilities must be sited in undisturbed areas, they will, to the extent possible, be sited in lower quality habitat.

2.1.2.2 Underground Facility Access

Underground Facilities are regularly inspected visually and mechanically for any conditions which can potentially impair their function. Inspections involve driving along the top of/or parallel to the underground Facility. Access roads from public streets are utilized to reach the underground alignment. Access road maintenance is therefore a key component in installing, maintaining and inspecting underground Facilities.

2.1.2.3 Protection of Underground Facilities in Waterways

Underground infrastructure may cross a variety of shallow waterways ranging from blue-line streams designated on United States Geological Service maps to agricultural irrigation ditches. When the integrity of the Facility is threatened due to scouring, measures to protect the Facility and to minimize future erosion must be taken. Typical maintenance activities utilized to protect the underground Facilities include grading, addition of fill material to repair erosion damage, repair of adjacent slopes with placement of rip-rap or concrete, compaction of soil, vegetation control of species with invasive root structures, and other activities as necessary. These measures may be accomplished by hand or by equipment or machinery. Vegetation is allowed to grow over the underground Facility where it will reduce erosion by wind and water, and stabilize the soil.

2.1.2.4 Trenching

Trenching is required in order to install, replace, reposition, or repair underground Facilities. The width of the trench is dependent on the depth of the underground Facility and the stability of the side slopes. Underground Facilities are typically buried 3' to 5' deep. Facilities which are buried over 5' deep require side slopes of 1:1 or the use of shoring.

2.1.2.5 Line Markers

Underground infrastructure installed on private property or out of the public right-of-way is marked above the ground through a variety of methods, including "Transmission Line Markers" (paddle-shaped markers attached at eye level to steel posts). In addition to marking the location of the underground facilities, the markers contain safety warning messages for digging contractors and the general public. Underground alignment occasionally runs perpendicular to a waterway or other terrain which prevents walking or driving along the alignment for inspection purposes. In these instances, a line-of-site free from vegetation from marker to marker must be maintained for visual inspections at a distance.

2.1.2.6 Use of Helicopters and/or Fixed Wing Aircraft for Visual Inspection

Gas transmission lines are inspected by ground patrol or from the air.

2.1.3 Other Ground Disturbance

Many types of ground disturbance are necessary in order to install, protect, maintain and repair Facilities. These types of disturbances generally occur in, but are not limited to, the utility rights-of-way and existing access roads.

2.1.3.1 Access Roads

Access roads comprise part of SDG&E's Facilities. Cost-effective and efficient installation, maintenance, and repair of its Facilities depend upon the availability of adequate access roads. Most gas and electric transmission facilities, and some distribution facilities, require access roads. New access roads will, to the extent possible, be designed to minimize habitat fragmentation and disruption of wildlife movement and breeding areas through the utilization of dead-end/spur roads rather than linking facilities tangentially. When new access roads must be sited in undisturbed areas, they will, to the extent possible, be sited in lower quality habitat (See Figure 5).

2.1.3.2 Access Roads Crossing Waterways

Access roads may cross a variety of shallow water ways ranging from blue-line streams designated on United States Geological Service maps to agricultural irrigation ditches. Culverts may be added when utilization of an unculverted access road would alter the natural flow of a waterway. When the integrity of the access road is threatened, the culverts will be kept clear of vegetation, sediment, and debris to protect the access road. Sediment deposited in the area will be removed by hand or through the use of earth moving equipment. Other construction and activities include bank stabilization and repair of subsidence damage. These activities may be accomplished through the placement of rip-rap and through the use of earth moving equipment within the access road area.

NOTE: A Streambed Alteration Agreement is still required from CDF&G, however, no additional biological mitigation other than what is defined by this Plan shall be required for Covered Species. Refer to Implementing Agreement and clearance by ACOE/404 permit.

2.1.3.3 Slopes

Cut and fill slopes are constructed to create pads/foundations for utility structures or access roads. Slopes may require erosion repair.

2.1.3.4 Staging & Other Work Areas

Staging areas are for the temporary storage of large construction equipment and materials used in construction, maintenance, and repair activities. They can also serve as equipment turn-around areas, wire pulling sites, equipment parking areas, component assembly areas, equipment laydown areas, equipment and material storage sites, and temporary soil stockpile sites.

2.1.3.5 Geotechnical Remediation

Geotechnical remediation is necessary when geotechnical failure which may threaten the integrity of a Facility such as an electrical structure or a pipeline is imminent or has occurred.

2.1.3.6 Geotechnical Testing

Geotechnical tests are conducted to determine soil stability, depth of water table, engineering design values, and for the presence of hazardous waste. Testing may involve sample drilling, monitoring wells, excavation pits, or trenches.

Access roads are required for this equipment over existing or potential project sites.

2.1.3.7 Pest Control

Pest control at electric and gas facilities is necessary to ensure system integrity. Facilities requiring pest control are electric substations, gas regulator stations, gas valve boxes, and utility equipment yards (pest control is not necessary within electric transmission rights-of-way). Non-native rats, mice, and other rodents have been known to cause electrical shorts within substation transformers, eat through gas metering equipment, and eliminate the effectiveness of gas valve boxes. Fortunately, SDG&E facilities are not normally attractive to these pests. Therefore, a limited program of pest control is able to keep the rodent population down. Pest control is more common to facilities located adjacent to urbanized areas where food is more plentiful. When necessary, pest control measures will be used in accordance with the written recommendation of a licensed, registered Pest Control Advisor. Pesticides will only be applied by a licensed applicator in accordance with label precautions and applicable law in a manner that does not harm native plants or animals.

2.1.3.8 Fire Control Areas

A clearing of 10 feet in any direction, measured horizontally, from the outer circumference of any pole or tower is needed for construction and is required by law to be maintained for fire protection after construction. This clearing forms an imaginary cylindrical space surrounding each pole or tower. At ground level, all flammable materials that will propagate fire are removed. Within such 10' radius and to height of to 8' from the ground, dead or dying trees or foliage, or the dead, diseased, or dying limbs or foliage are removed. Where such trimming results in the removal of more than 50% of any such tree or foliage to meet fire safety requirements, such tree or foliage is entirely removed. These fire control measures can aid in the prevention of fire caused by arcing and can protect the Facilities from failure due to a fire in a surrounding area. Areas cleared of vegetation are also required around gas line valve complexes and cathodic test stations for fire protection.

2.1.3.9 Vegetation Control

Vegetation must be controlled on access roads, road shoulders, drainage structures, around transformers,

buildings, fuel tanks, switch and transformer yards, substations, regulator stations, and other Facilities. Vegetation is controlled to facilitate the construction and use of roads, to allow inspection and maintenance of infrastructure and Facilities, to expose hazards such as ruts to drivers, eliminate noxious weeds, prevent fires, and to provide safe working areas.

2.1.3.9.1 *Mechanical Removal*

The simplest method of removing vegetation is by hand, such as the removal of isolated large shrubs or trees growing in areas where the roots could damage Facilities or where vegetation size restricts visual inspection. Raking is a means of removal usually used only to gather debris in preparation for disposal. Mowing will be used to control vegetation where low vegetation is desirable for erosion control. Clearing an area of vegetation by grading will also be used where no other means are appropriate.

2.1.3.9.2 *Herbicide Spraying*

Herbicide spraying, although not commonly employed by SDG&E, may be used around buildings and where bare ground is required for fire control. Herbicide spraying will not be conducted where it will damage known populations of Covered Species of plants. The typical regimen for herbicide use includes the application of pre-emergent herbicides during the fall and winter and spot application of contact herbicides during the growing season. All herbicides will be applied by a registered applicator in accordance with label precautions and applicable law.

2.1.4 Substations and Regulator Stations

Electric Substations connect the electrical transmission system to the electric distribution system, and reduce the electrical voltage to the distribution system in order to maintain safe reliable electric service. Substations are designed and operated to meet the safety standards required in the CPUC General Order 131-D for electrical systems. Regulator stations connect the natural gas transmission system to the natural gas distribution system, and regulate the

supply of gas to that distribution system in order to maintain safe, reliable natural gas service. Regulator stations are designed and operated to meet the safety standards required in the CPUC General Order 112-D for natural gas systems. This Plan mitigates up to 20 acres of habitat impacts associated with new substations and regulator stations.

2.1.4.1 Substation and Regulator Siting

To the extent possible, new substations and regulator stations will be sited to avoid natural areas in order to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. When natural areas must be disturbed, facilities will, to the extent possible, be sited in lowest quality habitat. When facilities must be sited in a preserve area they will, to the extent possible, be sited at the outer boundary of the preserve rather than in the center (See Figure 6).

2.1.4.2 Staging and Other Work Areas

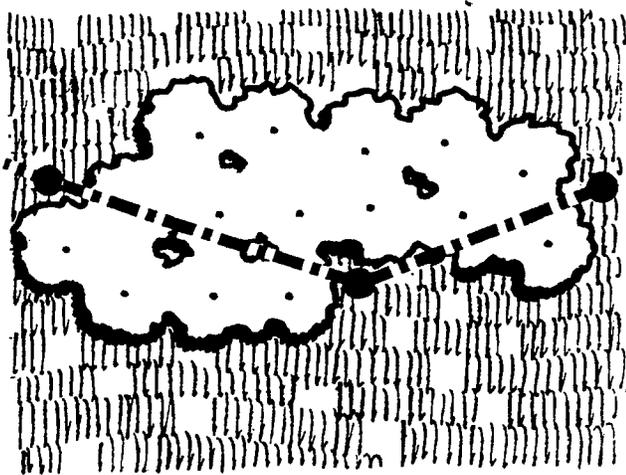
The disturbed areas within the property line of a substation or regulator station may be used as a staging area for the temporary storage of large construction equipment used in construction and maintenance activities. This property may also serve as equipment turn-around areas, wire pulling sites, equipment parking, assembly, and storage sites. Staging areas are used for equipment lay-down areas and pads for equipment positioning during construction. This utilization is intended to be temporary.

2.1.4.3 Fire Control Areas

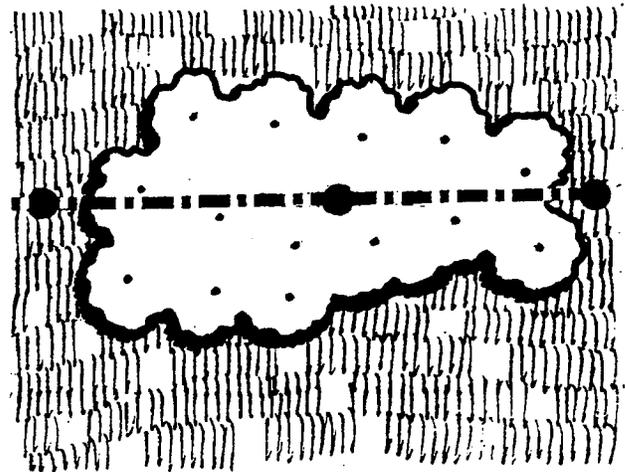
Brush management around substations and regulator stations consisting of a 30'-wide fire break free from natural vegetation is desirable. Fire-control clearances are maintained on a yearly basis.

2.1.4.4 Geotechnical Failure Protection and Remediation

Geotechnical remediation is necessary when geotechnical failure is eminent or has occurred, and threatens the integrity of a Facility such as a substation or a regulator station. Preventative maintenance includes slope reconstruction and the repair or addition of drainage structures and retaining walls. Access is needed to various sites proposed for electrical substations and gas regulator stations for the purpose of obtaining engineering design information on the soils.

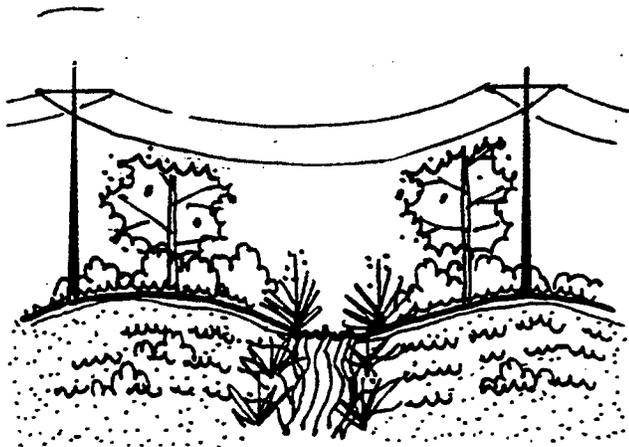


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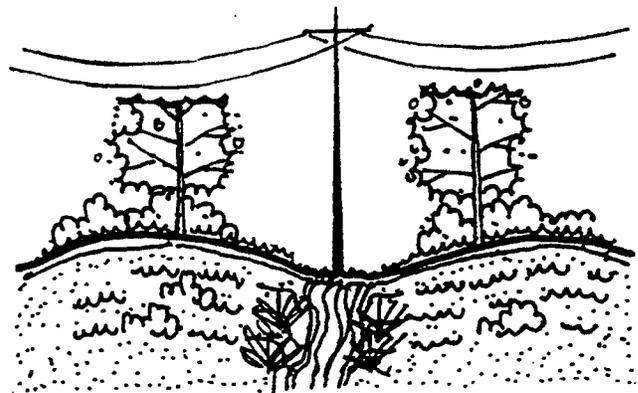


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PLACEMENT OF OVERHEAD POLES SHOULD AVOID HABITAT AREAS



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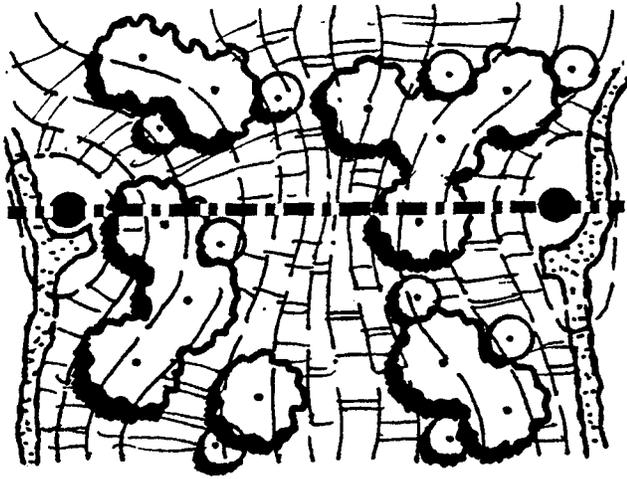
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OVERHEAD POLES SHOULD NOT BE PLACED IN RIVERS, STREAMS, OR CREEKS

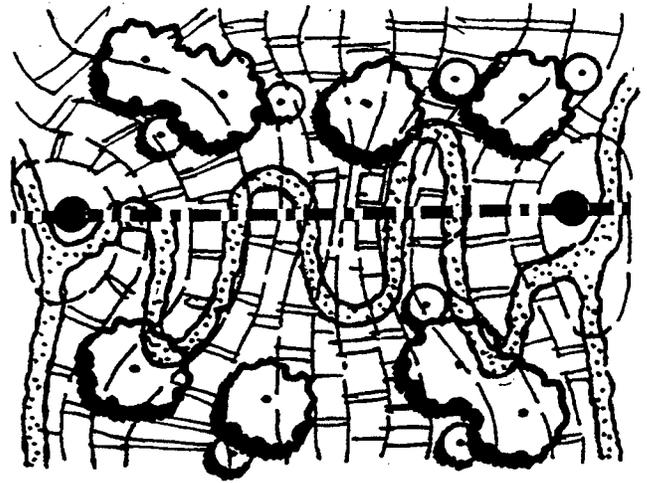
Operational Protocol Diagrams

FIGURE

4

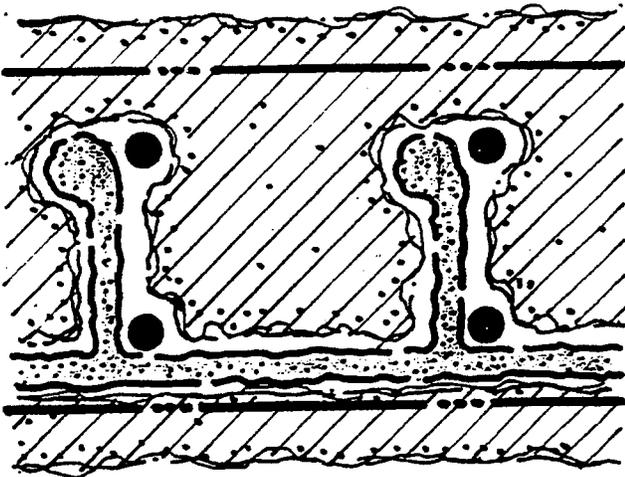


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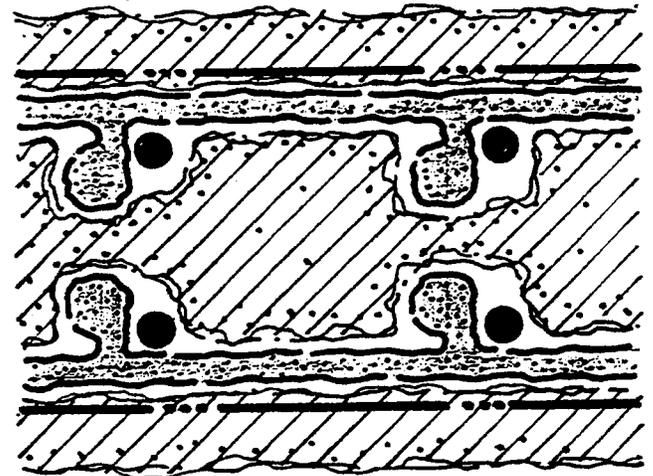


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NEW ACCESS ROADS SHOULD AVOID SENSITIVE AND CANYON AREAS



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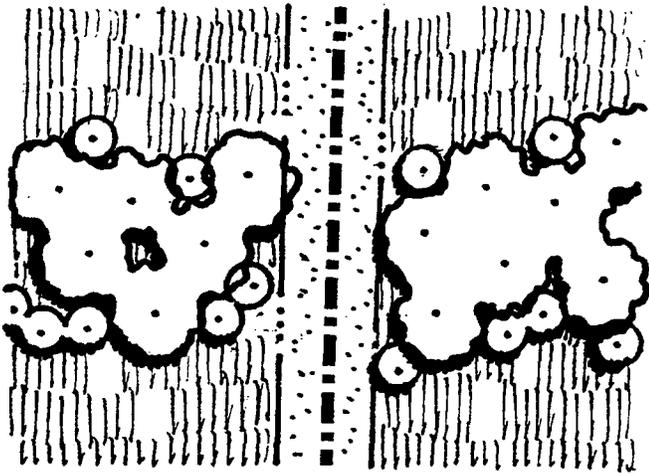
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STUBS FROM EXISTING ACCESS ROADS SHOULD BE USED TO REACH NEW LINES

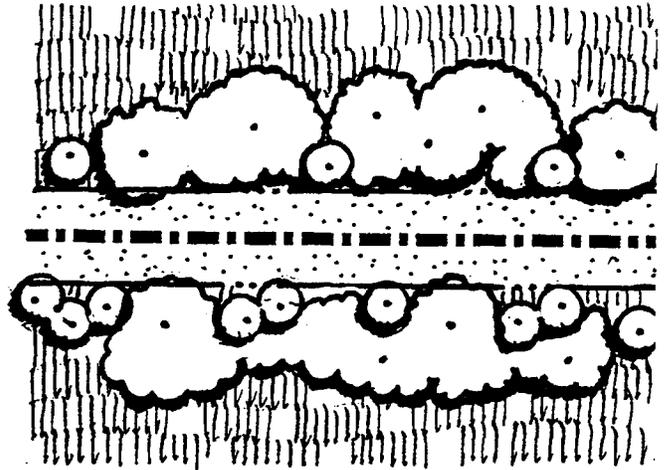
FIGURE

Operational Protocol Diagrams

5

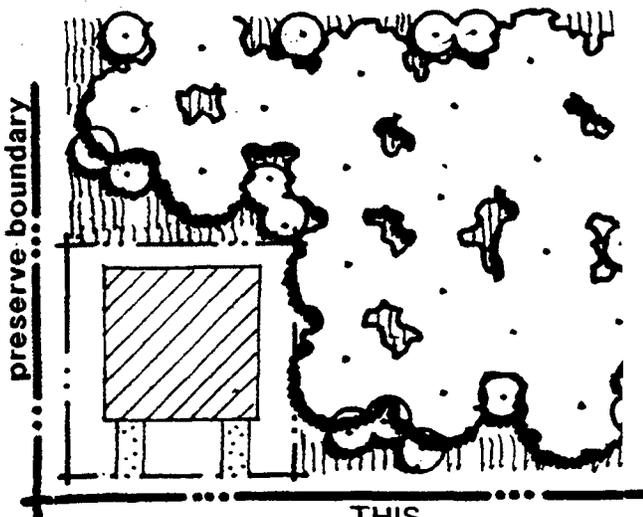


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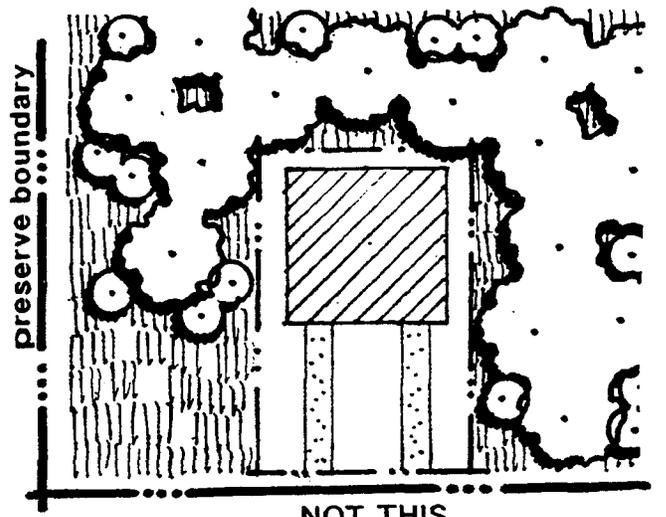


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UTILITY LINES SHOULD MAKE PERPENDICULAR CROSSINGS THROUGH HABITAT AREAS



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SUBSTATIONS SHOULD BE SITED AT THE EDGES OF HABITAT PRESERVES

FIGURE

Operational Protocol Diagrams

6

2.2 Emergencies

As a result of natural disaster, stochastic factors or vandalism, emergency repairs to Facilities may be warranted. Emergency repairs may also be required to prevent the occurrence of a Facility failure. Conditions in this category are those that potentially or immediately threaten the integrity of the SDG&E system including: broken/leaking pipes, downed lines/poles, slumps, slides, surface fault ruptures, erosion, major subsidence, or other natural disaster. Emergency repairs will be taken immediately as required. As a result, in considering potential impact to Covered Species or their habitat, adjustments for time of day or seasonal constraints may not be possible in the interest of system integrity and public health and safety.

Emergency work will be performed by SDG&E crews and/or contract crews under the direction of SDG&E and in accordance with the Operational Protocols and mitigation contained in Section 7.

7.1 Operational Protocols

Operational protocols represent an environmentally sensitive approach to traditional utility construction, maintenance and repair Activities recognizing that slight adjustments in construction techniques can yield major benefits for the environment. The appropriate Operational Protocols for each individual project will be determined and documented by the Environmental Surveyor. The information regarding the qualifications and responsibilities of the environmental surveyor is contained in Appendix B. The following mitigation measures shall be adhered to by SDG&E.

7.1.1 General Behavior for All Field Personnel

1. Vehicles must be kept on access roads. A 15 mile-per-hour speed limit shall be observed on dirt access roads to allow reptile species to disperse. Vehicles must be turned around in established or designated areas only.
2. No wildlife, including rattlesnakes, may be harmed, except to protect life and limb.
3. Firearms shall be prohibited on the rights-of-way except for those used by security personnel.
4. Feeding of wildlife is not allowed.
5. SDG&E personnel are not allowed to bring pets on the rights-of-way in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive domestic animal diseases to native wildlife populations.
6. Parking or driving underneath oak trees is not allowed in order to protect root structures except in established traffic areas.

7. Plant or wildlife species may not be collected for pets or any other reason.
8. Littering is not allowed. SDG&E shall not deposit or leave any food or waste on the rights-of-way or adjacent property.
9. Wild Fires shall be prevented or minimized by exercising care when driving and by not parking vehicles where catalytic converters can ignite dry vegetation. In times of high fire hazard, it may be necessary for trucks to carry water and shovels, or fire extinguishers in the field. The use of shields, protective mats, or other fire prevention methods shall be used during grinding and welding to prevent or minimize the potential for fire. Care should be exhibited when smoking in natural habitats.
10. Field crews shall refer environmental issues including wildlife relocation, dead or sick wildlife, hazardous waste, or questions about avoiding environmental impacts to the Environmental Surveyor. Biologists or experts in wildlife handling may need to be brought in by Environmental Surveyor for assistance with wildlife relocations.

7.1.2 Training

11. All SDG&E personnel working within the project area shall participate in an employee training program conducted by SDG&E, with annual updates. The program will consist of a brief discussion of endangered species biology and the legal protections afforded to Covered Species; a discussion of the biology of the Covered Species protected under this Subregional Plan; the habitat requirements of these Covered Species; their status under the Endangered Species Acts; measures being taken for the protection of Covered Species and their habitats under this Subregional Plan; and a review of the Operational Protocols. A fact sheet conveying this information will also be distributed to all employees working in the project area.
12. Designated SDG&E staff will conduct selected reviews of SDG&E operations. Any proposed modifications to Operational Protocols, procedures or conditions will be promptly provided to CDFG and USFWS for their review and input for required permit or Subregional Plan amendments.

7.1.3 Preactivity Studies

13. The Environmental Surveyor shall conduct preactivity studies for all activities occurring off of access roads in natural areas. The scope of these studies is included in Appendix A. The Environmental Surveyor will complete a preactivity study form contained in Appendix A, including recommendations for review by a biologist and construction monitoring as appropriate. Biologists should be called in when there is the potential for unavoidable impacts to Covered Species. The forms are for information only, and will not require CDFG or USFWS approval. These forms shall be faxed to CDFG and USFWS, along with phone notification, who will reply within 5 working days, indicating if they would like to review the project and/or suggest recommendations for post project monitoring. If a biologist is required, he/she will be contacted concurrent to notification to CDFG and USFWS. SDG&E's project may proceed during this time if necessary, in compliance with the recommendations of the biologist (For narrow endemic species see mitigation IV following Table 3.1). USFWS survey protocols performed by qualified biologists will be required for new projects which are defined as projects requiring CEQA review.

In those situations where the Environmental Surveyor cannot make a definitive species

identification, an on-call biologist will be brought in. When the biologist is called, he or she will be contacted concurrently with CDFG and USFWS. The biologist will make the determination of the species in question and recommend avoidance or mitigation approaches to the Environmental Surveyor and a decision will be made. In those situations where more than one visit may be necessary to identify a given species, such as certain birds, no more than three site visits shall be required. It is expected that the typical USFWS search protocols will not be utilized in most situations due to the Plan's avoidance priority. Background information necessary to complete the annual report shall be collected on the preactivity study form and used by SDG&E to prepare the annual report.

14. In order to ensure that habitats are not inadvertently impacted, the Environmental Surveyor shall determine the extent of habitat and flag boundaries of habitats which must be avoided. When necessary, the Environmental Surveyor should also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the Environmental Surveyor shall make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project specific basis.
15. SDG&E will maintain a library of rare plant locations known to SDG&E occurring within easements and fee owned properties. "Known" means a verified population, either extant or documented using record data. Information on known sites may come from a variety of record data sources including local agency Habitat Conservation Plans, pre-activity surveys, or biological surveys conducted for environmental compliance on a project site (e.g. initial study), but there is no requirement for development of original biological data. Plant inventories shall be consulted as part of pre-activity survey procedures.

7.1.4 Maintenance, Repair and Construction of Facilities

16. Maintenance, repair and construction Activities shall be designed and implemented to minimize new disturbance, erosion on manufactured and other slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs.
17. Routine maintenance of all Facilities includes visual inspections on a regular basis, conducted from vehicles driven on the access roads where possible. If it is necessary to inspect areas which cannot be seen from the roads, the inspection shall be done on foot, or from the air.
18. When the view of a gas transmission line marker becomes obscured by vegetation on a regular basis requiring repeated habitat removal, consideration shall be given to the replacement of markers with taller versions.
19. Erosion will be minimized on access roads and other locations primarily with water bars. The water bars are mounds of soil shaped to direct flow and prevent erosion.
20. Hydrologic impacts will be minimized through the use of state-of-the-art technical design and construction techniques to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water by use of Best Management Practices.

21. When siting new facilities, every effort will be made to cross the wetland habitat perpendicular to the watercourse, spanning the watercourse to minimize the amount of disturbance to riparian areas (See Figure 4).
22. Gas and other facilities cross streambeds and require maintenance and repair. During such times water may be temporarily diverted as long as after disturbance natural drainage patterns are restored to minimize the impact of the disturbance and help to reestablish or enhance the native habitat. Erosion control during construction in the form of intermittent check dams and culverts should also be considered to prevent alteration to natural drainage patterns and prevent siltation.
23. Impacts to wetlands shall be minimized by avoiding pushing soil or brush into washes or ravines.
24. During work on facilities, all trucks, tools, and equipment should be kept on existing access roads or cleared areas, to the extent possible.
25. Environmental Surveyor must approve of activity prior to working in sensitive areas where disturbance to habitat may be unavoidable.
26. Insulator washing is allowed from access roads if other applicable protocols are followed.
27. Brush clearing around facilities for fire protection shall not be conducted from March through August without prior approval by the Environmental Surveyor. The Environmental Surveyor will make sure that the habitat contains no active nests, burrows, or dens prior to clearing.
28. In the event SDG&E identifies a covered species of plant within a 10' radius around power poles, which is the area required to be cleared for fire protection purposes, SDG&E shall notify USFWS (for ESA listed plants), and CDFG (for CESA listed plants), in writing, of the plant's identity and location and of the proposed Activity, which will result in a Take of such plant. Notification will occur ten (10) working days prior to such Activity, during which time USFWS or CDFG may remove such plant(s). If neither USFWS or CDFG have removed such plant(s) within the ten (10) working days following the notice, SDG&E may proceed to complete its fire clearing and cause a Take of such plant(s).

When fire clearing is necessary in instances other than around power poles, and the potential for impacts to Covered Species exists, SDG&E will follow the preactivity study and notification procedures in Operational Protocol number 13.
29. Wire stringing is allowed year round in sensitive habitats if conductor is not allowed to drag on ground or in brush and vehicles remain on access roads.
30. Maintenance of cut and fill slopes shall consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.
31. Spoils created during maintenance operations shall be disposed of only on previously disturbed areas designated by the Environmental Surveyor or used immediately to fill eroded areas. Cleared vegetation shall be hauled off the rights-of-way to a permitted disposal location.

32. Within 6 months of Plan approval, environmentally sensitive tree trimming locations will be identified in the tree trim computer data base system utilized by tree trim contractors. (This data base also tracks the date of each tree trim, type of tree, where threatening dogs reside, etc.). The Environmental Surveyor should be contacted to perform a preactivity survey when trimming is planned in environmentally sensitive areas. Whenever possible, trees in environmentally sensitive areas (determined by CDFG and SDG&E) will be scheduled for trimming in the non-sensitive times.
33. No new Facilities and Activities shall be planned which disturb vernal pools, their watersheds, or impact their natural regeneration. Continued historic maintenance of existing infrastructure utilizing existing access roads is allowed to continue in areas containing vernal pool habitat. New construction of overhead infrastructure which spans vernal pool habitats is allowed as long as the placement of facilities or the associated construction activities in no way impact the vernal pools.
34. If any previously unidentified dens, burrows, or plants are located on any project site after the preactivity survey, the Environmental Surveyor shall be contacted. Environmental Surveyor will determine how to best avoid or minimize impacting the resource by considering such methods as project or work plan redevelopment, equipment placement or construction method modification, seasonal/time of day limitations, etc...
35. The Environmental Surveyor shall conduct monitoring as recommended in the preactivity survey report. At completion of work, the Environmental Surveyor shall check to verify compliance, including observing that flagged areas have been avoided and that reclamation has been properly implemented. Also at completion of work, the Environmental Surveyor is responsible for removing all habitat flagging from the construction site.
36. The Environmental Surveyor shall conduct checks on mowing procedures, to ensure that mowing is limited to a 12-foot wide area on straight portions of the road (slightly wider on radius turns), and that the mowing height is no less than 4 inches.
37. Supplies or equipment where wildlife could hide (e.g., pipes, culverts, pole holes) shall be inspected prior to moving or working on them to reduce the potential for injury to wildlife. Supplies or equipment that cannot be inspected or from which animals could not be removed shall be capped or otherwise covered at the end of each work day. Old piping or other supplies that have been left open, shall not be capped until inspected and any species found in it allowed to escape. Ramping shall be provided in open trenches when necessary. If an animal is found entrapped in supplies or equipment, such as a pipe section, the supplies or equipment shall be avoided and the animal(s) left to leave on its own accord, except as otherwise authorized by CDFG.
38. All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife are located in the trench or excavation, the Environmental Surveyor shall be called immediately to remove them if they cannot escape unimpeded.
39. Large amounts of fugitive dust could interfere with photosynthesis. Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities will be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 miles per hour.

40. Before using pesticides in areas where burrowing owls may be found, a pre-activity survey will be conducted.

7.1.5 Maintenance of access roads shall consist of:

41. Repair of erosion by grading, addition of fill, and compacting. In each case of repair, the total area of disturbance shall be minimized by careful access and use of appropriately sized equipment. Repairs shall be done after preactivity surveys conducted by the Environmental Surveyor and in accordance with the recommendations regarding construction monitoring and relevant protocols. Consideration should be given to source of erosion problem, when source is within control of SDG&E.
42. Vegetation control through grading should be used only where the vegetation obscures the inspection of facilities, access may be entirely lost, or the threat of Facility failure or fire hazard exists. The graded access road area should not exceed 12'-wide on straight portions (radius turns may be slightly wider) (See Figure 23).
43. Mowing habitat can be an effective method for protecting the vegetative understory while at the same time creating access to a work area. Mowing should be used when permanent access is not required since, with time, total revegetation is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing will be necessary to maintain permanent access.
44. Maintenance work on access roads should not expand the existing road bed (See Figure 23).
45. Material for filling in road ruts should never be obtained from the sides of the road which contain habitat without approval from Environmental Surveyor..

7.1.6 Construction of new access roads shall comply with the following:

46. SDG&E access roads will be designed and constructed according to the *SDG&E Guide for Encroachment on Transmission Rights-of-Way (4/91)*.
47. Access roads will be made available to managers of the regional preserve system subject to coordination with SDG&E.
48. New access roads shall be designed to be placed in previously disturbed areas and areas which require the least amount of grading in sensitive areas during construction whenever possible (See Figure 5). Preference shall be given to the use of stub roads rather than linking facilities tangentially.
49. SDG&E will consider providing access control on access roads leading into the regional preserve system where such control provides benefit to sensitive resources.
50. New access road construction is allowed year round. Every effort shall be made to avoid constructing roads during the nesting season. During the nesting season, the presence or absence of nesting species shall be determined by a biologist and appropriate avoidance and minimization recommendations followed.

7.1.7 Construction and Maintenance of Access Roads Through Streambeds

51. Construction of new access roads through streambeds requires a Streambed Alteration Agreement from CDFG and/or consultation with the Army Corps of Engineers.
52. Maintenance or construction vehicle access through shallow creeks or streams is allowed. However, no filling for access purposes in waterways is allowed without the installation of appropriately sized culverts. The use of geotextile matting should be considered when it would protect wetland species.
53. Staging/storage areas for equipment and materials shall be located outside of riparian areas. (See Figure 23).

7.1.8 Survey Work

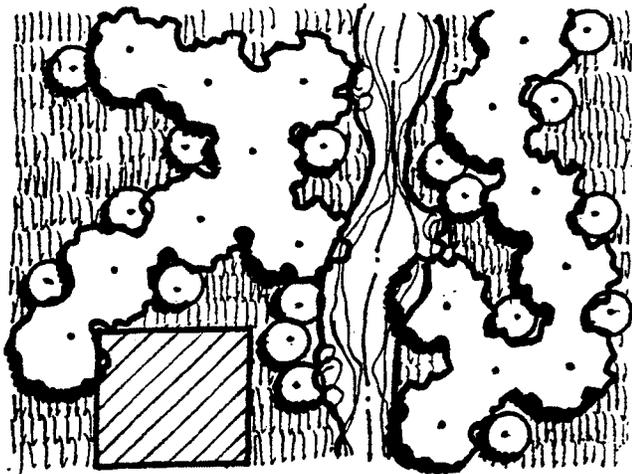
54. Brush clearing for foot paths or line-of-sight cutting is not allowed from March through August in sensitive habitats without prior approval from the Environmental Surveyor, who will ensure that activity does not adversely affect a sensitive species.
55. SDG&E survey personnel must keep vehicles on existing access roads. No clearing of brush for panel point placement is allowed from March through August without prior approval from the Environmental Surveyor.
56. Hiking off roads or paths for survey data collection is allowed year round so long as other protocols are met.

7.1.9 Emergency Repairs

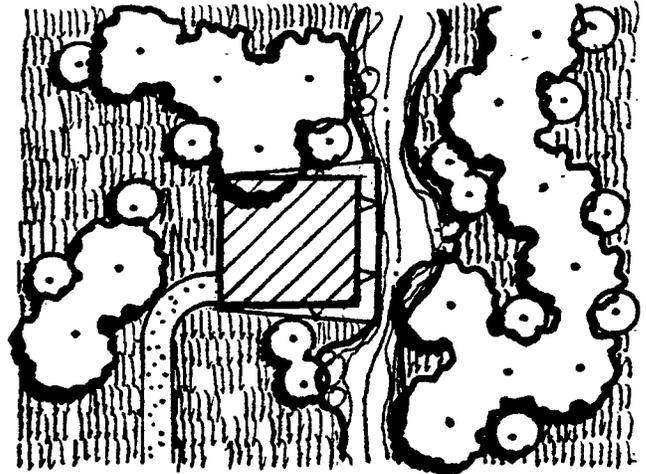
57. During a system emergency, unnecessary carelessness which results in environmental damage is prohibited.
58. Emergency repair of facilities is required in situations which potentially or immediately threaten the integrity of the SDG&E system, such as pipe leaks, or downed lines, slumps, slides, major subsidence, etc. During emergency repairs the Operational Protocols contained in this Subregional Plan shall continued to be followed to fullest extent possible.
59. Once the emergency has stabilized, any unavoidable environmental damage will be reported to the Environmental Surveyor by the foreman. The Environmental Surveyor will develop a mitigation plan and ensure its implementation is consistent with this Subregional Plan.

7.1.10 Activities of Underlying Fee Owners

60. Most SDG&E rights-of-way are held in easement only. The activities of underlying fee owners cannot be controlled by SDG&E and are not covered by this Subregional Plan.
61. When sensitive habitat exists on either side of a utility right-of-way, SDG&E will not oppose underlying fee owners dedicating said property to conservation purposes. Underlying fee owners are expected to comply with applicable federal, state, and local regulations.

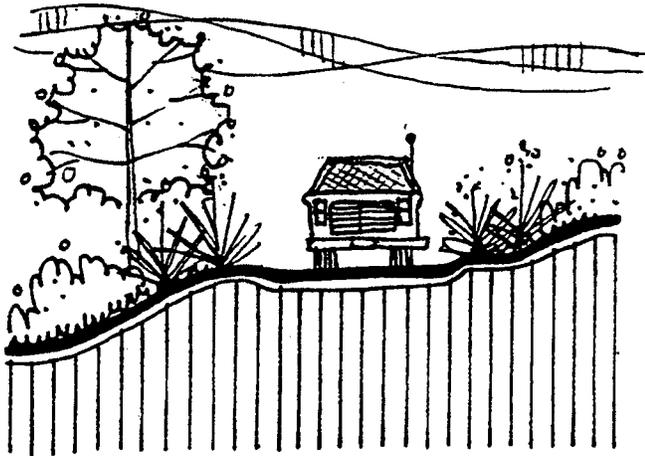


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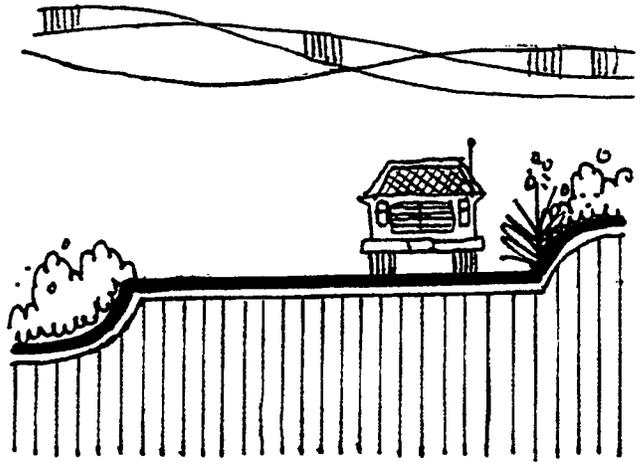


NOT THIS

CONSTRUCTION STAGING/STORAGE AREAS SHOULD BE LOCATED OUTSIDE OF STREAMS



THIS



NOT THIS

ACCESS ROAD MAINTENANCE SHOULD NOT EXPAND THE EXISTING ROAD BED

FIGURE

23

Operational Protocol Diagrams

7.2 Habitat Enhancement Measures

The purpose of this section is to describe the techniques and permit the substitution of habitat enhancement measures when it is more beneficial than the use of mitigation credits. Habitat enhancement increases the value of biological resources in an impacted area, thereby improving the value of that habitat for Covered Species. Habitat enhancement activities shall occur under the direction of a Habitat Restoration Specialist. All disturbed areas, whether inside or outside of preserves, and which do not need to be maintained in a cleared state, shall be enhanced, either through vegetation restoration, habitat reclamation, or a combination of the two. Vegetation restoration entails a range of techniques.

For SDG&E Activities occurring within the Preserve, and for SDG&E Activities affecting riparian/wetland areas, the particular enhancement methodology will be proposed by SDG&E, with USFWS and CDFG concurring prior to implementation. For all other areas outside of the Preserve, SDG&E has discretion over the enhancement method selected, although it is expected that a standard coastal sage scrub seed mix will be used for reseeding many disturbed areas. For impacts both within and outside Preserve, if habitat enhancement is not selected, or is not successful according to the criteria specified in the mitigation flow chart (Figure 24), then a deduction from the SDG&E Mitigation Credits shall be made in accordance with ratios contained in Section 7.4. For all temporary impacts greater than 500 square feet, acreage not meeting success criteria shall be deducted from SDG&E mitigation credits at a 1:1 ratio. For areas of less than 500 square feet, success criteria will not be required to be met. In such areas, refer to erosion control measures contained in Section 7.1.

7.2.1 Vegetation Restoration

The Habitat Restoration Specialist has a range of vegetation restoration techniques from which to choose:

Hydroseeding

Vegetation restoration will typically be done using a native seed mix obtained from a commercial seed provider and shall be applied by hydroseeding. For hydroseeding inside the Preserve areas, seed will be obtained from the local gene-pool and similar composition to the reference site.

Vegetation restoration shall be conducted from mid-November through mid-January to take advantage of rainy season precipitation, and should not be artificially irrigated.

Seed mix specifications and application techniques shall be provided by the Habitat Restoration Specialist, who will be an acknowledged specialist in native habitat restoration or a plant ecologist with experience developing native restoration plans in Southern California. The Habitat Restoration Specialist will be responsible for restoration plans within the Preserve.

If restoration lands contain areas used for temporary roads, staging areas, or other intensive activities, the soil may become so compacted that revegetation is difficult. In cases such as this, disking and plowing the compacted soil will loosen it and improve the success of hydroseed revegetation. Disking may also foster weed growth and should only be used where an influx of weeds would not adversely affect adjacent native plant communities.

Consideration shall be given to supplemental planting of species of concern in areas where it is desirable to expand existing colonies. For example, supplemental planting may be highly desirable in areas containing chollas or prickly pear cactus. Supplemental planting and plant relocation should only be done in disturbed areas that are thought to be suitable. Habitat conversion and impacts to extant native vegetation should be avoided.

Hand-Seeding

Seed may be applied by hand and raked into the top inch of soil. This method is best suited for small areas and areas that are inaccessible to a hydroseed truck.

Imprinting

Imprinting is the mechanical formation of smooth-walled V-shaped furrows in the soil surface, application of seed and injection of beneficial mycorrhizal fungi into the soil surface. This method is best suited for areas that are accessible by bulldozer and where there is a potential problem with weeds.

Soil and Plant Salvage

Native vegetation from the area to be impacted should be removed, mulched and stockpiled separately. Top soil should also be removed and stockpiled separately. Following construction activities, the top soil should be replaced and covered with the mulch. The top soil and mulch both have native propagules and the mulch reduces the erosion potential. This method is well suited for temporary roads, staging areas, or other intensive activities.

Quality Assurance

Monitoring, involving visual inspection, shall be conducted on restoration sites after one year. A second application may be made. If, after one more year, restoration is deemed unsuccessful, the wildlife agencies, in cooperation with SDG&E, will determine whether the remaining loss shall be mitigated through a deduction from the SDG&E Mitigation Credits, or a third application would better achieve the intended purpose.

Coverage standards will be based on comparisons with established stands of the target vegetation, or another reference area. The means of determining success should be based on estimates of cover by native species, cover of exotic species, and diversity of native species. The cover of native species should increase and the cover of weed species should decrease, eventually approximating the reference area. The reference areas should be a nearby stand of vegetation that the restoration is attempting to emulate. It should have a similar aspect, slope, and soil type.

Cover for the restoration and references areas should be estimated using repeatable cover classes. One tested system is as follows:

Cover Class	1	2	3	4	5	6
% Cover	0-5	5-25	25-50	50-75	75-95	95-100
Mean Cover	2.5	15	37.5	62.5	85	97.5

SUCCESS CRITERIA MILESTONES

<u>Criteria*</u>	<u>Year 1</u>	<u>Year 2</u>
Cover by Exotic Species**	140%	130%
Cover by Native Species (trees shrubs and herbaceous species)	60%	70%

*Values are relative to reference area
**Percent total cover

7.2.2 Habitat Reclamation

Habitat reclamation techniques should be considered when re-seeding would be an ineffective habitat enhancement due to the presence of stronger and more prolific exotic vegetation in the proximity.

Habitat reclamation involves the elimination of existing exotic vegetation (weed abatement) to facilitate the natural re-colonization of a native habitat. An example of where habitat reclamation would be appropriate is in wetland areas containing tamarisk or giant reed.

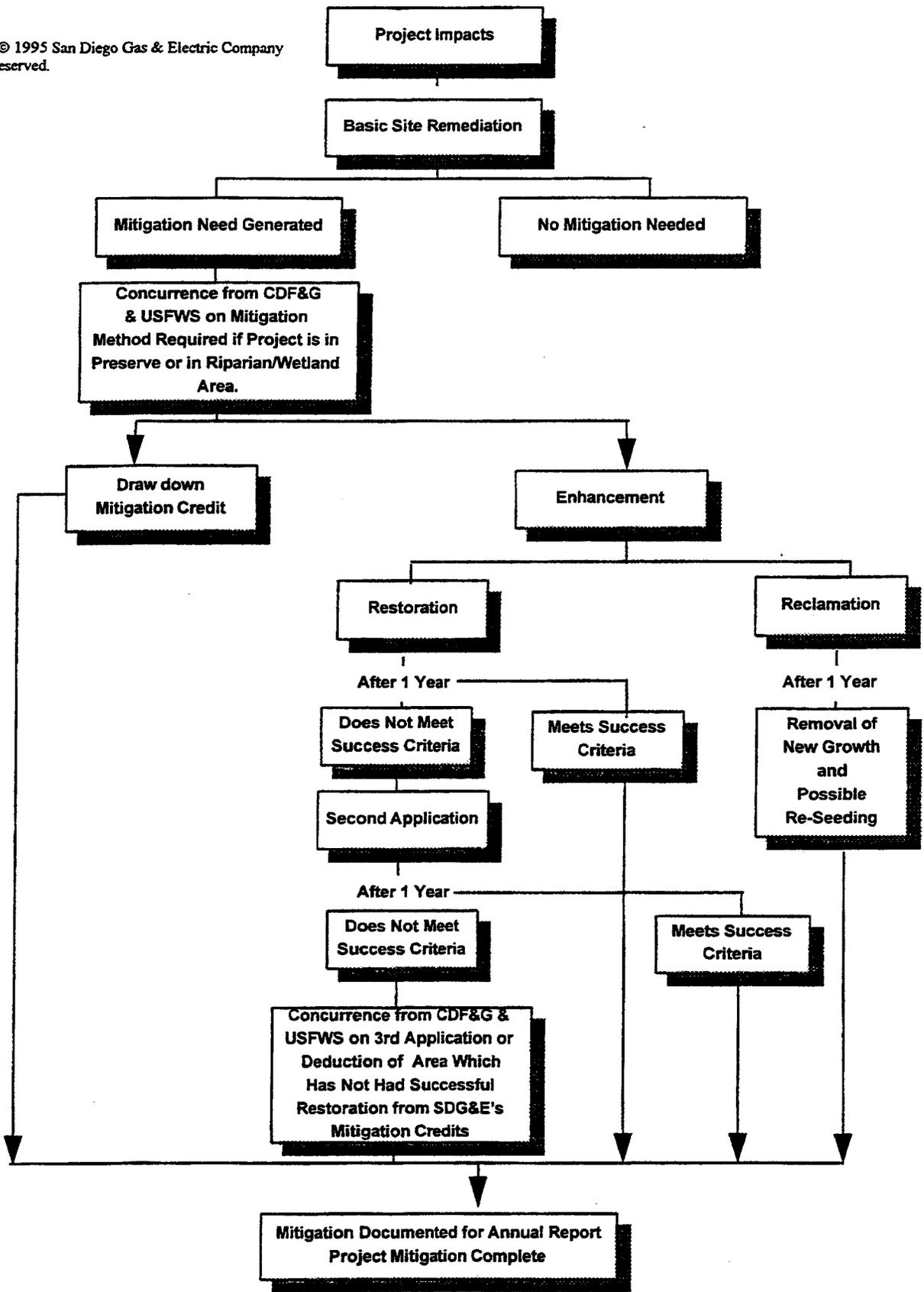
In order to avoid net loss of wetland and riparian habitat, exotic species should be removed at a 2:1 ratio. Exotics should be removed from the site and disposed of off-site. Soil should be prepared for new native growth to occur. In areas larger than 500 square feet, reseedling will supplement the recovery of native vegetation

Reclamation shall be limited to initial removal and one-time removal of new growth within one year if necessary. In certain cases, such as with *Arundo* removal, it may be necessary to clear invasive vegetation a third time. Once weeds are controlled, if extensive reclamation is undertaken, supplemental planting may be necessary to keep weeds out.

The habitat reclamation shall be done under the direction of the Habitat Restoration Specialist who will determine the abatement technique to be used and the area in the vicinity of the project site on which abatement would be most effective in facilitating reclamation on the project site.

7.2.3 Procedure

(Refer to Figure 24).Figure 24 -- Mitigation Flow Diagram



**SDG&E Mitigation Flow Diagram
(For Temporary Disturbances)**

FIGURE

24

