SAN DIEGO GAS & ELECTRIC COMPANY

CLEVELAND NATIONAL FOREST POWER LINE REPLACEMENT PROJECTS SPECIAL-STATUS PLANT SPECIES SALVAGE AND RELOCATION PLAN

AUGUST 2016

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A Sempra Energy utility℠

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1 – INTRODUCTION

This Special-Status Plant Species Salvage and Relocation Plan (Plan) describes the measures that will be taken by San Diego Gas & Electric Company (SDG&E) and its contractors to ensure that impacts to special-status plant species located in temporary work areas used during construction of the Cleveland National Forest Power Line Replacement Projects (Project) are maximally avoided and/or that sensitive plant species and seed banks are salvaged and relocated. Figure 1: Project Overview Map provides an overview of the Project and depicts the location of each transmission line and distribution circuit. The Project includes the following components:

- replacement of approximately 1,400 existing wood poles with fire-resistant, weathered steel poles;
- undergrounding of approximately 26 miles of existing 12-kilovolt (kV) distribution lines;
- removal of approximately 30 miles of existing 12-kV and 19 miles of existing 69-kV overhead facilities; and
- closure of approximately 24 miles of access roads.

This Plan was prepared in accordance with Section 7.2 Habitat Enhancement Measures, of SDG&E's Subregional Natural Community Conservation Plan (NCCP) (SDG&E 1995) and serves to satisfy the requirements of Mitigation Measure (MM) BIO-15 from the Project's Final Environmental Impact Report/Environmental Impact Statement's (EIR/EIS's) Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) (Dudek 2015) and the United States (U.S.) Forest Service (USFS) Record of Decision (ROD) (USFS 2016a).

This Plan applies to all special-status plant species[1] documented during rare plant surveys conducted in 2010, 2015, and 2016 (Chambers 2012a, 2015, 2016) in support of the Project's Final EIR/EIS, as well as any additional special-status plant species that may be documented during Project pre-construction and special-status plant surveys.

2 – OBJECTIVES

The purpose of this Plan is to describe avoidance techniques for special-status plant species occurring within temporary work areas, describe the salvage and relocation approach, provide salvage and transplantation techniques for target special-status plants that cannot be avoided, and identify SDG&E's responsibilities in this process. This Plan provides specific information for implementing MM BIO-15, as well as the means of monitoring the effectiveness of special-status plant salvage and/or transplantation through established success criteria. Details regarding special-status plant salvage are included in this plan and will be provided in pre-construction documentation (described in Section 6.1 Reporting), should additional species be identified for salvage. Seeding and transplantation activities will be provided in special-status plant site-specific restoration plans (SRPs), which will be submitted for agency review and approval for each tie-line, within 90 days after energization (additional details on these reports are included in

[1] Special-status plant species include any California Rare Plant Rank (CRPR) species, all federally and state-listed plant species, and all special-status plant species included on the 2013 Region 5 Regional Forester's Sensitive Plant Species List.

Section 6.1 Reporting). Additionally, the management practices and activities in this Plan are intended to work in conjunction with the Project Habitat Restoration Plan (HRP) to accomplish the following objectives:

- describe avoidance techniques for special-status plant species;
- identify special-status plant species with high priority for restoration and describe a targeted approach, per guidance from USFS and CPUC;
- describe salvage, transplantation, and/or seeding techniques for special-status plant species that cannot be avoided;
- document where special-status plant species salvage and relocation activities are feasible and biologically preferred; ensure that MM BIO-15 (as described in the Project's MMCRP and ROD) and other applicable resource protection permits are implemented through a comprehensive restoration approach;
- allow the Habitat Restoration Specialist(s) (HRS) flexibility in prescribing and/or modifying salvage and transplantation measures within the context of agency-approved mitigation requirements and based on site-specific conditions at the time of construction; and
- establish success criteria and monitoring requirements and methodologies that are consistent with SDG&E's Subregional NCCP for salvaged and/or transplanted special-status plants.

This Plan and the avoidance and salvage/transplant methods herein do not pertain to the decommissioning of access roads. Per MM HYD-3 of the MMCRP and ROD, an Access Road Decommissioning Plan will be prepared for review and approval by the California Public Utilities Commission (CPUC) and USFS within 1 year of Project approval or permit issuance. As described in MM HYD-3, access road decommissioning activities will complement restoration goals and objectives identified in the Project HRP.

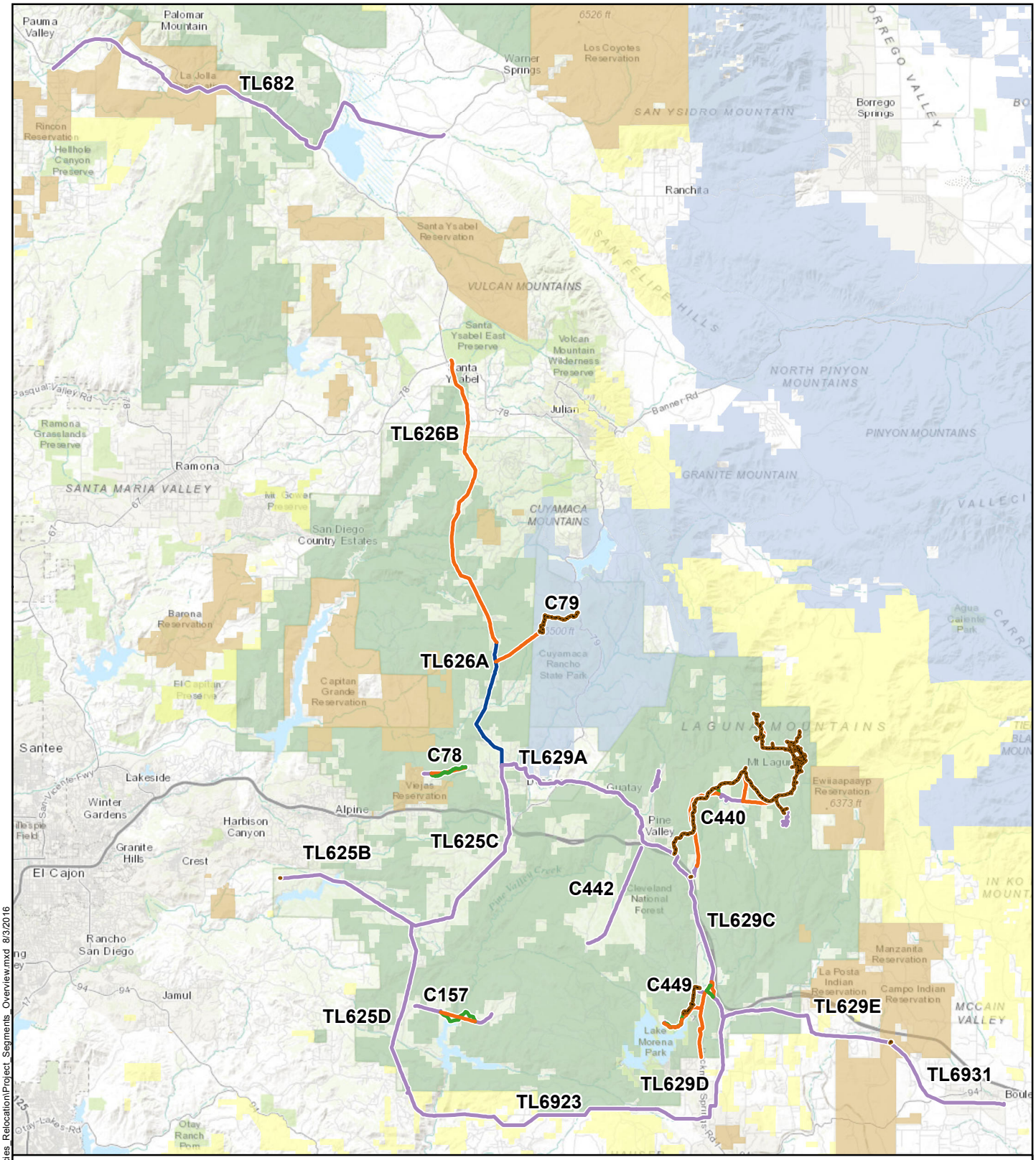

Figure 1: Project Overview Map
Special-Status Plant Species Salvage and Relocation Plan

Cleveland National Forest
Power Line Replacement Projects

- New Steel
- Removal
- Undergrounding
- Wood-to-Steel 12 kV
- Wood-to-Steel Replacement

- California Department of Parks and Recreation
- U.S. Bureau of Land Management
- U.S. Forest Service
- Bureau of Indian Affairs Land

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3 – MITIGATION MEASURES AND NCCP REQUIREMENTS

MM BIO-15 of the MMCRP and ROD for the Project and the Subregional NCCP requirements that pertain to the implementation of this Plan are listed in the following subsections.

3.0 MM BIO-15

MM BIO-15 of the MMCRP and ROD pertains to compensation for unavoidable impacts to special-status plant species, as described in Section 4.2 Special-Status Plant Species Salvage and Recovery Methods of this Plan. MM BIO-15 states the following:

> "Impacts to special-status plant species shall be maximally avoided. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through off-site land preservation and/or plant salvage and relocation. Where off-site land preservation is biologically preferred, the land shall contain comparable special-status plant resources as the impacted lands and shall include long-term management and legal protection assurances to the satisfaction of the Forest Service. Land preservation must be completed within 36 months of initiation of construction. Where salvage and relocation is demonstrated to be feasible and biologically preferred, it shall be conducted pursuant to an agency-approved plan that details the methods for salvage, stockpiling, and replanting, as well as the characteristics of the receiver sites. Any salvage and relocation plans shall be approved by the permitting agencies prior to project construction. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. Success criteria and monitoring shall also be included in the plan. If salvage and relocation is not possible to the satisfaction of the Forest Service, off-site land preservation shall be required. Forest Service requirements will only apply to National Forest System lands."

3.1 NCCP REQUIREMENTS

Habitat Enhancement Measures from Section 7.2 Habitat Enhancement Measures, of SDG&E's Subregional NCCP pertaining to habitat-level impacts are discussed in the existing Project HRP. NCCP measures applicable to soil and plant salvage will be implemented during construction of the Project. Section 7.2.1 Vegetation Restoration of the Subregional NCCP states:

> "…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…"

The Subregional NCCP also discusses take of certain narrow endemic species.[2] The Project has documented the presence of one narrow endemic species—San Diego thornmint (*Acanthomintha ilicifolia*)—along Circuit 78. Impacts to this species, and any other narrow endemic species

[2] Narrow endemic species, as defined in SDG&E's Subregional Natural Community Conservation Plan, include some but not all CRPR special-status plant species documented in the California Native Plant Society Inventory.

documented during Project pre-construction surveys or in coordination with USFS, will be avoided to the extent feasible. If impacts are unavoidable, then state-of-the-art conservation practices will be utilized to determine the best mitigation method consistent with the Subregional NCCP's Operational Protocols. These conservation practices are described in Section 4 – Plan Implementation.

Section 7.2.1 Vegetation Restoration of the Subregional NCCP also states:

> "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."

In accordance with these requirements, the HRS will, to the extent feasible:

- prioritize transplantation of special-status plant species into areas where the same species is already present, or where the species has been present in the past but has been extirpated;
- ensure that transplantation will be done within suitable habitat areas, including areas that have been degraded in the past;
- ensure that no habitat conversion (e.g., from a grassland community to a shrubland community) will occur; and
- ensure that minimal impacts to other native vegetation occurs during transplantation, as described in more detail in Section 4.2.2 Transplanting.

4 – PLAN IMPLEMENTATION

SDG&E and its contractors will take all reasonable measures to ensure that special-status plant species that cannot be avoided are salvaged or relocated, and that they are satisfactorily reestablished. This Plan has been prepared to incorporate performance-based best management practices and assigns an HRS, approved by CPUC and USFS, to oversee the salvage and relocation effort. The HRS has the ability to modify procedures within the context of this Plan if the changes accomplish the following:

- provide better protection of special-status plant species in the Project area;
- are consistent with the requirements of the MMCRP, ROD, and SDG&E's Subregional NCCP; and
- facilitate the successful long-term establishment of special-status plant species.

SDG&E has designated two HRSs to prepare and administer the Project HRP and evaluate the proposed methods for restoration. SDG&E has designated the same HRS to administer this Plan and evaluate the proposed methods for salvage and relocation of special-status plant species. The following HRSs have been approved by CPUC and USFS and can be contacted at the following address and phone numbers:

Jeffry Coward Insignia Environmental 904 Second Street Encinitas, CA 92024 Office: (XXX) XXX-XXXX Mobile: (XXX) XXX-XXXX	Cecilia Meyer Lovell AECOM Technical Services, Inc. 401 W A Street, Suite 1200 San Diego, CA 91001 Office: (XXX) XXX-XXXX Mobile: (XXX) XXX-XXXX

The HRSs will be on-call and available to assist SDG&E and its contractors at all times during construction and special-status plant salvage and relocation activities. CPUC and USFS will review and authorize any implementation methods that are not addressed by this Plan. Any modifications to this Plan will be reviewed and approved by CPUC and USFS. SDG&E will review and authorize any modifications to the implementation methods as long as the changes comply with this Plan and are approved by an HRS.

4.0 TARGET SPECIES FOR RESTORATION

During previous focused surveys for special-status plants and review of Forest Service data, 47species were identified as present within the Project right-of-way (ROW), and an additional 21 species were identified as having a moderate to high potential to occur within construction areas (USDA Forest Service 2010, 2016, Chambers 2012b); these species are listed in Attachment A: Special-Status Plant Species. Per guidance from USFS and CPUC, 63 of these species have been assigned restoration tiers that reflect their priority for restoration and monitoring.

- Tier 1 species are highest priority for restoration. If impacted, these species will be subject to a targeted restoration approach, regular monitoring, and established success criteria.

- Tier 2 species, if impacted, will be seeded back in the restoration area(s) where impacts occurred or, for bulbiferous or cormose species, soil containing bulbs or corms will be salvaged from the impact area and transplanted to an appropriate location nearby (e.g., soil block salvage). These species will be monitored for presence, but do not have success criteria.

- Tier 3 species, if impacted, do not require restoration, as these species are considered to be locally abundant, of low sensitivity rating, and/or are anticipated to recover naturally following construction.

Five of the special-status plant species in Attachment A have not been assigned a restoration tier as they will be avoided during construction. USFS and the HRS collaborated to assign tiers to the each of the special-status plant species. The restoration tier assigned for each species is included in Attachment A: Special-Status Plant Species. Table 1: Summary of Special-Status Plant Species by Restoration Tier summarizes the total number special-status plant species in each tier, including the number of species that are currently planned for potential impact based on the current Project design and the number of target species identified. Target species include 1) all Tier 1 species and 2) any Tier 2 species that are planned for potential impact based on

current Project design. Should additional Tier 2 species be identified for potential impact in the future, they would be considered target species as well.

Table 2: Special-Status Plant Target Species includes the full list of special-status plant target species (15 species total) and whether they will potentially be impacted.

Potential impacts to special-status species based on current construction design are summarized in Attachment B: Restoration Approach for Target Special-Status Plant Species, and Tier 1 species that are planned for impact are depicted in Figures B-1 through B-6 in Attachment B: Restoration Approach for Target Special-Status Plant Species. Detailed maps of special-status plant locations within the impact areas for each component will be submitted prior to construction of each segment in accordance with the requirements for MM BIO-1 and MM BIO-14 of the Project MMCRP and ROD. These maps will also depict final work areas and special-status plants that have been fenced/flagged for avoidance during construction.

Table 1: Summary of Special-Status Plant Species by Restoration Tier

Tier	Approach	Total # of Species by Tier[1]	Total # of Species Planned for Potential Impact[2]	# of Target Species[3]
Tier 1	Focused restoration with success criteria	9	6	9
Tier 2	Seed back in restoration areas or soil bulk salvage (depending on species)	13	6	6
Tier 3	No action required	41	11	0
Total		**63**	**23**	**15**

[1] A total of 63 special-status plant species with potential to occur have been assigned restoration tiers; 5 of the special-status plant species will be avoided during construction and therefore have not been assigned a tier.

[2] Potential impacts are based on an intersection of the current Project design and special-status plant survey data from 2010, 2015, and 2016 (Chambers 2012a, 2015, 2016), as well as USFS data (USFS 2016b). Potential impacts may change based on a constructability review of the design for each segment, data provided by USFS, and/or subsequent focused plant surveys conducted for the Project. The list of species planned for impact will be updated per Section 4.1 Pre-Construction Surveys, Flagging, and Fencing, as needed.

[3] Target species are defined as all Tier 1 species and any Tier 2 species that are planned for potential impact based on current Project design.

Table 2: Special-Status Plant Target Species

Species Name	Planned for Potential Impacts[1]
Tier 1	
Acanthomintha ilicifolia	Yes, critical habitat and USFS occurrences
Brodiaea orcuttii	Yes, USFS occurrences
Calochortus dunnii	Yes, individuals and USFS occurrences
Eriogonum evanidum	No
Galium angustifolium ssp. *jacinticum*	No
Limnanthes alba [gracilis] ssp. *parishii*	Yes, individuals and USFS occurrences
Orcuttia californica	No
Packera ganderi	Yes, USFS occurrences
Sibaropsis hammittii	Yes, USFS occurrences
Tier 2	
Astragalus deanei	Yes, USFS occurrences
Caulanthus simulans	Yes, USFS occurrences
Deinandra floribunda	Yes
Dieteria [Machaeranthera] asteroides var. *lagunensis*	Yes, individuals and USFS occurrences
Linanthus orcuttii	Yes, USFS occurrences
Streptanthus campestris	Yes

[1] The Project is being constructed as design build, which provides the opportunity to locate work areas to avoid impacts to sensitive resources, including special-status plants.

4.1 PRE-CONSTRUCTION SURVEYS, FLAGGING, AND FENCING

Focused surveys for special-status plant species within construction areas will be completed by qualified biologists prior to construction. These surveys will build on existing special-status plant data collected for the Project, as well as geographic information system data provided by USFS, with the primary purpose of locating special-status plant individuals in relation to planned construction areas. All pre-construction occurrences will be recorded using a Global Positioning System (GPS) (with submeter accuracy, when possible) and occurrences that can be avoided during construction will be identified.

Prior to construction, impacts to special-status plant species that cannot be avoided will be quantified during the appropriate timeframe[3] to accurately estimate the population size at that point in time for that particular location. For large populations (more than 1,000 individuals), an appropriate sampling method (e.g., quadrats) will be used. For example, direct counts or direct counts within multiple quadrats will be averaged and multiplied by the size of the population (e.g., square feet) to extrapolate the number of individuals for the population. For smaller populations (less than 1,000 individuals), direct counts will be made. All available mapping and population count data, including Project pre-construction surveys and focused rare plant surveys, as well as USFS provided data, will be used to identify special-status plant locations. With extended drought, populations of special-status plant species may be depressed; therefore, as described above, the Project will rely on all available data (historic and current) to estimate special-status plant population size. Due to the small size of the impact areas associated with this Project, it is anticipated that biologists will directly count most special-status plant individuals within a population during pre-construction surveys. The HRS will determine the appropriate sampling method for each population/occurrence.

Prior to construction, fencing, flagging, or another appropriate method of delineating a site (e.g., t-posts and brightly colored rope) will be installed around special-status plant populations and/or their habitat that are identified to be avoided. Special-status plants will be identified for avoidance based on the cumulative data set (2010 surveys [Chambers 2012a], data provided by USFS (USFS 2016b), and ongoing pre-construction surveys. Flagging and fencing will be installed prior to the start of construction for each Project component. The boundaries of all occurrences of special-status plant species populations will be clearly marked and will be maintained throughout the duration of Project activities at each component. Detailed maps of special-status plant locations and the impact areas for each Project segment will be submitted prior to construction of each segment in accordance with BIO MM-1 and BIO MM-14 (see Section 6.1.1 for more details).

[3] The appropriate timeframe for estimating annual species and some perennial species is typically during a plant's blooming and/or fruiting period. For these species, a combination of previous and future focused rare plant survey count data collected for the Project; USFS provided data; and required pre-activity surveys will be used to establish the population size prior to construction for work areas where impacts cannot be avoided. For all other species (e.g., large shrubs or trees, or perennials that are distinguishable by unique growth form or leaf form), the size of the occurrence may be estimated at any time of year. For these species, the individuals present in work areas as identified during pre-activity surveys are intended to be used to establish the population size prior to construction for work areas where impacts cannot be avoided.

4.2 SPECIAL-STATUS PLANT SPECIES SALVAGE AND RECOVERY METHODS

The special-status plant species that are present or have a moderate to high potential to occur within the construction areas are listed in Attachment A: Special-Status Plant Species. Additional details (i.e., listing status, habitat requirements, and occurrence) for these species are provided in Appendix BIO-2 of the Project EIR/EIS. Of these 66 species, four are tree species and one is a large shrub species. All five of these tree or large shrub species will be avoided to the maximum extent possible by all construction activities. In addition, San Diego thornmint—and any additional narrow endemic species defined by the Subregional NCCP and observed during the Project pre-construction surveys—will be avoided to the extent feasible.

The salvage and relocation strategies for special-status plant species that may be impacted have been assigned to specific recovery method categories based on the growth form and habit of each species. Attachment A: Special-Status Plant Species provides a summary list of special-status plant species and their respective recovery methods. However, as noted above, only Tier 1 species (if impacted) would require implementation of restoration/recovery methods with success criteria. Details of restoration methods and locations for the species listed in

Table 2: Special-Status Plant Target Species, including all Tier 1 species, are included in Attachment B: Restoration Approach for Target Special-Status Plant Species. If impacts to a Tier 1 species are unavoidable, then these species will be treated in accordance with the methodologies noted in Attachment B: Restoration Approach for Target Special-Status Plant Species and described in the following sections of this Plan: Section 4.2.0 Seed Collection and Planting; Section 4.2.1 Soil Block Salvage; and Section 4.2.2 Transplanting. Unavoidable impacts to Tier 2 species require seed collection and re-seeding or soil block salvage (if applicable based on species growth habit); therefore, impacts to Tier 2 species will be treated in accordance with Sections 4.2.0 Seed Collection and Planting and 4.2.1 Soil Block Salvage.

In the event that special-status plant species other than the species listed in Attachment A: Special-Status Plant Species are documented during Project pre-construction surveys, the same general approach for grouping species by life form will apply. SDG&E will provide data to USFS for all new occurrences of special-status plant species identified within National Forest System lands. The following subsections provide additional detail on plant salvage and relocation by recovery method.

4.2.0 Seed Collection and Planting

Seed for special-status plant restoration will be collected from previously identified occurrences within permanent and temporary Project impact areas. All seed material will be collected by a qualified seed collector. For collection that may occur on National Forest System lands, the seed collector will be approved by USFS. Species' flowering periods, annual rainfall patterns, and elevation, as well as the general field variability of plant populations, all influence when seed is set. Seed collection will occur at the end of the growing season when seed is ripe. The approximate seed collection window for each species planned for seed collection is included in Attachment B: Restoration Approach for Target Special-Status Plant Species. To accommodate variability in timing of seed collection from year the year, the HRS will verify the collection window for each species each year and collection managers will inspect native seed sources prior to mobilizing crews in order to identify optimal collection times for the desired species. In

addition, for efficiency, special-status plant seed may be collected for multiple species during the same visit when possible. All seed collections will be labelled and stored by species and collection date and location (e.g., each special-status plant species will be collected and stored separately).

Seed material will consist of native seed collected from the Project ROW (where approved by the landowner), or from approved areas no more than 20 miles outside of the Project area (e.g., National Forest System lands outside of ROW, private lands, off-site habitat acquisition/mitigation parcels, etc.). For native seed used on National Forest System lands, SDG&E will coordinate with USFS if the collection source is more than 10 miles outside of the Project area. In addition, a seed collection permit will be required by USFS for seed collection on USFS-managed lands, and additional permits may be required if seed collection is planned from state or federally listed species (e.g., San Diego thornmint). Availability of seed may be limited by various environmental factors (e.g., drought during the collection period), so flexibility in species selection and subsequent application rates will be necessary.

The necessary amounts of seed will ultimately be determined by the purity and germination rates of the collected seed. If seed is collected outside of Project impact areas, SDG&E will not collect more than 20 percent of available seed within a specific population area during 1 year. For native seed collected on National Forest System lands, SDG&E will not collect more than 5 to 10 percent of available seed within a specific population during 1 year, and collecting locations will be mapped and catalogued to prevent over-collecting from any one population. Within areas proposed for vegetation clearing during construction, SDG&E will collect 100 percent of the available seed. All seed material will be weed-free; separated; and clearly labeled with the date of collection, location, and species by scientific name. All seed material will also be weighed, cleaned (and dryed), and, where feasible based on the amount of seed collected, tested for purity and germination. For native seed used on National Forest System lands, purity and germination data will be provided to USFS when enough seed is available for testing. No more than 1 percent of the collected seed per species will be subject to testing. Testing will not be conducted on that species if more than 1 percent of the collected seed is required for testing to achieve valid results.

After cleaning and drying, special-status plant seeds will be stored in a cool, dry environment in sealed containers that are labelled with the date of collection, location, and scientific name. The storage facility will provide a cool, dry environment with protection from the elements, proper air circulation, and appropriate shelving for storage. This facility could be a large shed or house in the vicinity of the Project.

Seedbed preparation, application, and rates will follow the methods described in Section 4.3 Seeding, of the Project HRP. The preferred method of applying special-status plant seed is hand application and raking. Special-status plant seed is applied directly on bare soil and lightly raked into the soil surface by hand to ensure adequate soil-to-seed contact. The HRS will coordinate seedbed preparation and application of vegetation community seed mixes with application of special-status plant seed. For example, seedbed preparation and application of vegetation community seed mixes will generally occur prior to applying special-status plant seed.

Each species will be seeded in the location of the original occurrence where possible, in an alternate restoration area with suitable habitat within the Project ROW, or if neither of those

options is feasible, then SDG&E will work with USFS and CPUC to determine an appropriate planting area. Where appropriate, multiple small impacted populations may be combined into fewer large restoration areas to facilitate more effective restoration and monitoring. Attachment B: Restoration Approach for Target Special-Status Plant Species lists the appropriate soils and/or habitat for reestablishment of the Tier 1 and Tier 2 target or planned impact species; this information will be used to guide the selection of appropriate receptor sites/planting locations for species that cannot be restored at their original impact locations. Receptor sites/planting locations for these species will be documented in the SRPs for the applicable components. If no feasible planting locations can be identified, SDG&E will work with USFS to determine appropriate off-site restoration, land preservation, or land enhancement at an existing special-status plant population that is unaffected by the Project.

In addition to seed collection and planting, seedbank topsoil removal and salvage will be conducted for select Tier 1 and 2 special-status plant species with the potential to be impacted, as specified in Attachment B: Restoration Approach for Target Special-Status Plant Species. Seedbank topsoil and salvage will be performed for these species regardless of whether grading will occur in the planned work areas, but will occur prior to topsoil removal and stockpiling during initial construction activities, as detailed in Section 4.1 Clearing and Grading of the Project HRP. In work areas where collection of seedbank topsoil is planned, the top 0.5 inch to 4.0 inches of topsoil will be salvaged from areas of appropriate habitat or soil conditions (described in Attachment B for each species).

The seedbank topsoil will be stockpiled and clearly labeled for species, collection location, and collection date. The seed bank topsoil will be stored at an appropriate location on-site or off-site until construction is complete. On-site storage will follow the guidelines in Section 4.1 of the HRP. For off-site storage, which will typically be used for smaller quantities (e.g., less than 0.5 cubic yard), seed bank topsoil will be stored on tarps or in open boxes in a cool, dry environment with protection from the elements and proper air circulation. This facility could be a shed, house, or barn in the vicinity of the Project on or off SDG&E property.

Once construction is complete, the seedbank topsoil will be returned to the location where it was removed or, if that is infeasible, to a nearby portion of the temporary impact area with appropriate conditions (e.g., slope, aspect, and habitat-type). Seedbank topsoil salvage will take place outside of the growing season, either before annual species have germinated or after they have set seed (see Attachment B for seed production windows for each species).

An additional approach that can be implemented once seed is collected is to grow container plants in a nursery setting. The container plants can then be used for direct planting or seed bulking, depending on the species. For species where it is difficult to collect enough seed initially, due to limited number of plants and/or the species have low seed counts, growing the plants in containers provides additional options to outplant the containers and/or collect additional seed. Planting will follow the transplanting methods described below in Section 4.2.2 Transplanting. This approach, in combination with seed collection, will be employed as determined by the HRS for specific Tier 1 species to achieve the mitigation requirements.

4.2.1 Soil Block Salvage

In locations where Tier 1 or 2 perennial bulbiferous, cormose, or rhizomatous species will be impacted due to grading or prolonged overland travel, entire blocks of soil containing the propagules of the target species will be removed prior to construction. Soil blocks will be removed in up to 1-meter by 1-meter pieces using shovels or mechanized removal techniques, such as a mini-excavator or backhoe, generally excavating to a depth of 8 to 12 inches below the surface where most of the propagules are located. Soil blocks may measure smaller based on size of suitable habitat, as well as growth habit of species. For example, *Packera ganderi* grow in dense chaparral habitats and soil salvage may result in smaller blocks. For each species for which this method is used, the goal is to salvage as large an intact block (up to 1 meter by 1 meter) as possible based on the habitat and soil conditions. The actual depth of the soil to be salvaged will be determined by the HRS in the field based on soil depths where the species are observed and other conditions observed during construction. If efforts to maintain soil blocks intact during the salvage process are unsuccessful and soil blocks come apart, all salvaged material, including bulbs, soil biomass, and inorganic material (e.g., rocks) will be maintained in as cohesive a mass as possible. If necessary, salvaged material may be wrapped in burlap to keep it from disassociating further during transport or placed in an open box during storage.

Soil blocks will be removed as part of topsoil removal and stockpiling during initial construction activities, as described in Section 4.1 Clearing and Grading of the Project HRP. To the extent feasible, soil block salvage will occur outside of the growing season when the soil is dry and the subject species are dormant. Soil blocks will be removed in a grid-like pattern from a portion of the suitable habitat for the subject Tier 1 species within each temporary impact area where the species may be impacted. Areas of suitable habitat that are left in place will be included in the post-construction monitoring for the Tier 1 species. In addition, efforts will be made during construction to minimize impacts to these areas, including limiting the size of the work area in suitable habitat.

Soil blocks excavated from temporary impact areas will be transplanted to a portion of suitable habitat within the approved Project limits (e.g., a nearby area within the work space that will not be impacted), agency-approved location, or stored off-site for transplant back to the temporary impact area once construction has been completed. Soil blocks shall be planted in plots measuring up to 1-meter by 1-meter that have been excavated at the receptor site. Attachment B: Restoration Approach for Target Special-Status Plant Species lists the appropriate soils and/or habitat for receptor sites for the Tier 1 perennial bulbiferous/cormose/rhizomatous species, which will be used to guide the selection of appropriate receptor sites. These species include Dunn's mariposa lily (*Calochortus dunnii*), Orcutt's brodiaea (*Brodiaea orcuttii*), and Gander's butterweed (*Packera ganderi*). Receptor sites for these species will be documented and submitted to USFS and/or CPUC prior to impacts. Documentation will include notes on maintenance activities (e.g., planned watering regime). The SRPs will document these locations and activities as well. On-site storage may be employed for time periods of less than 3 days. Off-site storage would be employed for time periods longer than 3 days. Soil blocks will be stored on tarps or in open boxes to keep soil blocks intact, and will be placed in a cool, dry environment with protection from the elements and proper air circulation. This facility could be a shed, house, or barn in the vicinity of the project on or off SDG&E property. . If stored offsite, stored salvaged soil blocks will be transplanted within 1 year of excavation, or upon completion

of construction activities in the temporarily impacted receptor site. The soil blocks will be kept in a dormant state through the growing season to protect the material until it is time for transplanting. If no feasible planting locations can be identified, SDG&E will work with USFS and/or CPUC to determine appropriate off-site restoration, land preservation, or land enhancement at an existing special-status plant population that is unaffected by the Project.

Soil block transplanting will occur in conjunction with the restoration activities described in the Project HRP. It will involve preparing the recipient area for transplantation of the salvaged soil. Depending on the size and depth of the soil, this will be accomplished by hand with shovels, or may include the use of small mechanized equipment such as a trencher, mini-excavator, or small backhoe. Soil will be placed in the prepared areas by hand and then back-filled with soil removed during preparation. Depending on the timing of the transplant and site conditions, the soil patches may be watered after installation.

4.2.2 Transplanting

Transplanting special-status plants from the temporary impact areas is not anticipated. Impacts to Tier 1 species for which transplantation is the target restoration methodology have not been identified. Transplanting may be required if seeding of a Tier 1 species is not successful and additional restoration methods are required for the species to meet success criteria. In such a case, seed would be collected per Section 4.2.0 Seed Collection and Planting and used to grow container plants in a nursery setting. The container plants would be used for direct planting or seed bulking, depending on the species. Planting will follow the transplanting methods described below in Section 4.2.3 Cactus (Succulents) – Transplanting. This approach will be employed as determined by the HRS for specific Tier 1 species to achieve the mitigation requirements.

Should a Tier 1 species be identified in the future for salvage and transplanting prior to construction, the following methods will be utilized. Transplanting will be accomplished by using hand tools to dig around the stem of the plant at a distance of least four times the plant's width, where feasible, to minimize root damage and impacts to other native vegetation. The contractor will excavate all transplants with a shovel just below the root ball of the plant. Mechanized removal may be appropriate in instances where larger perennial shrubs will benefit from more extensive excavation than will be possible by using only hand-held digging tools, or where perennial rhizomatous plants will benefit from more extensive horizontal excavation to minimize damage to their root systems, which are often spread out over larger areas. Once excavation is complete, the plant will be lifted out of the excavation area. The plant will then be placed with a similar aspect in a similar-sized hole, either within the temporary work area where the plant was removed, or, if not feasible due to site constraints, in suitable habitat outside of the construction corridor. If direct transfer is not possible, the plants will be placed temporarily in containers, and placed near temporary work areas or in construction yards until planting time (if transplantation is to occur within 3 days), or taken to an off-site nursery location for care and maintenance until they are replanted. While being stored (either on-site or in a nursery setting), plants will be kept in a shade house and watered as appropriate to promote survivorship and to limit root rot. When appropriate, salvage shrubs may be pruned to reduce unhealthy growth and aboveground water loss during transplantation. The intent is to transplant salvaged individuals within 1 year of excavation to avoid root bound plants. If storage is needed for longer, plants will evaluated to determine if transfer to a larger container is needed. Excavation and

transplanting will be planned for fall and winter to support establishment of the plants and minimize the need for supplemental watering, but could occur at other times of years with the appropriate supplemental watering.

As required by the NCCP, the HRS will prioritize transplantation of special-status plant species in areas where the same species is already present or has been present in the past and where adequate room exists for the spread of the special-status plant population. Transplantation sites will be evaluated for appropriate soils based on soils mapping data as well as on the ground site condition evaluation by the HRS. The HRS, when determining the appropriate location for the transplanted individuals, will ensure that no habitat conversion (e.g., from a grassland community to a shrubland community) will occur in the receiving sites. In addition, the HRS will ensure minimal impacts to other native vegetation during transplantation and will prioritize transplantation in suitable habitat areas that are disturbed but have potential for restoration. Attachment B: Restoration Approach for Target Special-Status Plant Species lists the appropriate soils and/or habitat for Tier 1 species that might require growing out from seed, which will be used to guide the selection of appropriate transplant sites. Approved receptor sites for these species will be documented and submitted to USFS and/or CPUC prior to construction, including notes on storage location and conditions (e.g., planned watering regime). In addition, the SRPs submitted prior to implementation will document the locations and maintenance activities conducted while caring for the plants in storage.

All plants to be transplanted will be clearly labeled with the date of collection, location, and species by scientific name. Plants that cannot be directly transplanted in the receptor site will be stored in pots placed near temporary work areas or in construction yards until planting time (if transplantation is to occur within a few days), or taken to an off-site nursery location for care and maintenance until they are replanted. For on-site storage, plants will be kept shaded and watered as appropriate. Plants taken to an off-site nursery will be kept in shade and also watered as appropriate for each species. For most species, weekly watering will be appropriate for maintenance without causing issues with root rot. If plants are dormant at the time of salvage, it may be most appropriate to not water the salvage individuals until transplantation, but this will be determined based on species requirements and conditions at the time of salvage by the HRS. Appropriate storage methods will be determined by the HRS based on specific site conditions and species requirements for each species, and in coordination with USFS and CPUC. Transplants will be placed in their final locations as soon as practical after construction to minimize the risk of plant mortality. To avoid the introduction of pathogens in nursery settings, the HRS will verify that best practices, such as clean soil and containers and other greenhouse equipment, are being implemented as well as inspecting plants when delivered to the receptor site.

Once transplanted to the recipient sites, the transplants will be watered as deemed necessary by the HRS, until established. The watering frequency will be adjusted to account for significant rain events, as well as extended periods of dry or very hot weather. For additional information on timing of maintenance and monitoring, see Section 5 – Restoration Schedule and Section 6 – Restoration Monitoring.

4.2.3 Cactus (Succulents) – Transplanting

If impacts to cactus species are unavoidable during Project construction, SDG&E may temporarily remove the plants and replant them in an appropriate location on-site to facilitate restoration success. There are no special-status cactus species anticipated for the Project area (Attachment A: Special-Status Plant Species). Any transplanting of cactus species will be conducted as described below, per MM BIO-15 and in compliance with the California Desert Native Plant Act. These methods will be used for any special-status cactus species that are identified within the planned work areas and cannot be avoided. Any special-status cactus species that are transplanted will be monitored, maintained, and subject to success criteria as described in Section 6.0 Monitoring, Success Criteria, and Remedial Measures. Non-special status cactus species that are transplanted as part of the restoration program will not require monitoring or success criteria.

Each individual plant being relocated will be assigned an identification number. When replanted, the specimen will be replaced with a similar aspect. GPS coordinates will be taken of all removal locations in order to return the plant to the same, or nearly the same, location once construction has been completed. Succulent specimens that have a minimum of 50 percent green and healthy plant mass, as determined by a biologist, will be transplanted as the entire individual. If the whole plant is not healthy, individual pads or sections that are healthy will be salvaged and transplanted as determined by the HRS. The survivorship of these younger, healthier pads or sections can often be much higher than the original older individual. It also can allow for a single individual to be divided into separate, healthier pieces, helping to increase the number of individuals compared to the original impact counts.

Cacti transplanting will be accomplished using hand tools to dig around the stem of the plant at a distance of least four times the plant's width to minimize root damage. The contractor will excavate all cacti with a shovel just below the root ball of the plant, typically 4 to 8 inches below the soil surface. Once excavation is complete, the cacti will be lifted out of the hole, taking special precautions not to damage the spines and vertical segments of multi-branched cacti. The cacti will then be placed with similar aspect in similar-sized holes, along the edge of the work area or staging yard. The cacti will be watered once a week for the first 2 weeks and once a month for a year, or as deemed necessary by an HRS, until established. Watering frequency will be adjusted to account for significant rain events. Excavation and transplanting will be planned for fall and winter to support establishment of the plants and minimize the need for supplemental watering, but could occur at other times of years with the appropriate supplemental watering. In addition, plant pads and/or sections that fall off during handling will be also be transplanted alongside the rooted specimens.

5 – RESTORATION SCHEDULE

Restoration efforts for special-status plant species will be implemented in conjunction with the Project-wide restoration schedule described in the Project HRP.

5.0 MAINTENANCE

After special-status species restoration and seeding, site maintenance visits will occur once per month for the first year, once per quarter for the second year, and twice per year during the spring and the fall during the third, fourth, and fifth years. As recommended by the HRS, maintenance activities will include weed treatment, supplemental watering, erosion control, remedial seeding/planting, fencing, or other requirements needed to achieve success. These site maintenance visits will coincide, to the extent feasible, with Project-wide restoration maintenance, as described in Section 5 Restoration Schedule of the HRP.

6 – RESTORATION MONITORING

Post-construction monitoring of all restored temporary work areas will be performed by SDG&E and is described in Section 6 Restoration Monitoring of the Project HRP. Monitoring of the special-status plant species restoration will occur at the same time as Project-wide monitoring activities. The following subsections describe the monitoring methods, success criteria, and reporting for the post-construction monitoring of special-status plant species.

6.0 MONITORING, SUCCESS CRITERIA, AND REMEDIAL MEASURES

After construction and initial restoration have been completed, the HRS will monitor Project-wide restoration efforts, which also includes monitoring the special-status plant species. Project-wide restoration monitoring is further described in the Project HRP. Monitoring for maintenance activities will occur, at a minimum, once per month for the first year, once per quarter for the second year, and twice per year during the spring and the fall during the third, fourth, and fifth years. This monitoring will focus on identifying the health of the restored individuals, recommending appropriate maintenance activities, and verifying that the recommended maintenance activities have been conducted. This includes identifying potential problems associated with weeds, herbivory, drought stress, etc. The HRS will prepare a maintenance monitoring checklist to be used in the field during these visits. The maintenance monitoring checklist will be provided to USFS and CPUC.

Monitoring for performance in relation to the success criteria will occur once annually at the appropriate phenological stage for each Tier 1 species. The HRS will collect pertinent information through direct observation, including data on germination success, plant density, and survivorship of special-status plants within the salvage and restoration areas established during construction. Performance monitoring will be conducted for Tier 2 species to increase knowledge of these plants and their restoration efforts; however, the success criteria evaluation will only apply to Tier 1 species. Annual performance monitoring will include:

- documenting the population size of restored annual and bulbiferous and rhizomatous species within the disturbed areas;
- comparing restored populations to previously undisturbed reference sites within or near the Project ROW;
- comparing the species composition to previously undisturbed reference sites within or near the Project ROW, as well as the USFS occurrences within work areas where soil salvage did not occur;

- documenting the health and survival of transplanted individual perennial species; and
- conducting photographic documentation of transplanted/seeded individuals/populations and the surrounding undisturbed sites, per SDG&E's Subregional NCCP requirements.

Restoration of the special-status plant species will be considered successful if the success criteria are met during the 5-year maintenance and monitoring period. The success criteria are described in Table 3: Restoration Monitoring Success Criteria and are defined for Tier 1 species. The success criteria require that each restoration area achieve 80% of the special-status plant cover and density in the restoration area relative to pre-construction conditions and as compared to an adjacent reference area. Reference areas will be established adjacent to the impact population in an area similar to the impact area, but not disturbed by construction. The success criteria also require evidence of reproductive success at each restoration area, as well as similar species composition for soil block salvaged species.

As described in Section 4.2 Special-Status Plant Species Salvage and Recovery Methods, density will be measured by a direct count of individuals for occurrences of less than 1,000 individuals and direct count or quadrat sampling for occurrences greater than 1,000 individuals. Special-status plant cover will be measured using the relevé method and cover classes as described in Section 6.0 of the Project's HRP (SDG&E 2016; CNPS 2000). In addition, for Tier 1 and 2 special-status plant species that are being restored, nearby reference populations (e.g., different than the adjacent reference populations) will be identified and checked each year to determine the appropriate monitoring window and inform annual variations that may be due to varying climatic conditions each year.

Table 3: Restoration Monitoring Success Criteria for Tier 1 Species

Targeted Restoration Approach	Success Criteria	
Seed collection and planting	80% of the special-status plant cover or 100% of the density in the restoration area as compared to an adjacent reference area	Evidence of reproductive success at each restoration area (e.g., produce flower and seed)
Soil block salvage	80% of the special-status plant cover or 100% of the density in the restoration area as compared to an adjacent reference area[2]	Evidence of reproductive success at each restoration area (e.g., produce flower and seed); Similar species composition to adjacent reference site

[2] If propagules of the subject species were not present within the salvaged soil, then species that have been subject to the soil block salvage method may not be observed within the receptor sites during years when these species and/or other bulbiferous/cormose/ rhizomatous species are observed in the reference areas. In such a case, the species compositions of the receptor site and the adjacent reference site will be assessed for similarity to determine the success of the soil transplantation.

Monitoring and maintenance site visits will continue for up to 5 years following initial seeding or soil block salvage. If a Tier 1 species meets its primary success criteria during any year of the 5-year monitoring period, the restoration effort for that species will be considered successful and SDG&E will have met their mitigation obligations. For Tier 1 special-status plant where seeding

is the preferred method for restoration, should success criteria have not be met after 2 growing seasons, then plants will be propagated at a nursery for transplantation to the restoration areas at the appropriate time of year (e.g., late fall, early winter). Propagation may start earlier at the discretion of SDG&E and the HRS. Additionally, SDG&E will cooperate with the wildlife agencies and/or USFS to determine additional measures, restoration efforts, remedial action, or alternative success criteria, where appropriate and as required by SDG&E's Subregional NCCP. Over the course of the 5-year maintenance and monitoring period, SDG&E will have demonstrated due diligence in attempting to reestablish these special-status plant species and will have contributed to the knowledge and conservation of these species through their actions. Therefore, if remedial measures initiated by SDG&E are not successful over the 5-year restoration program, the agencies may determine that the mitigation requirements for these species have been met. If restoration of specific species in certain areas is not feasible after the end of the 5-year monitoring period and the agencies do not determine that SDG&E has met their mitigation obligations, the impacts in these areas will be considered permanent. SDG&E will compensate for permanent impacts to those specific special-status plant species in accordance with the mitigation requirements of MM BIO-15. SDG&E will work with USFS to determine an appropriate off-site restoration, land preservation, or land enhancement at an existing special-status plant population that is unaffected by the Project. If the special-status plant species in question is a Covered Species within the SDG&E NCCP, mitigation consistent with measures established in the NCCP will be provided.

6.0.1 SDG&E's Database

SDG&E will utilize a database to record and store all data associated with maintenance and performance monitoring for each special-status plant for which restoration is implemented. The database will be a Microsoft Access database which is geospatially linked to Geographic Information System data. The database will be used to record the information necessary to comply with Section 7.2 Habitat Enhancement Measures of SDG&E's Subregional NCCP and to produce a report for the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife regarding SDG&E's restoration activities.

The HRS will be responsible for updating existing database records and adding new records during each monitoring year for restoration associated with this Project. This database will be used to support progress reports and annual reports on the status of the special-status plant restoration activities. Data and photographic documentation will be stored in the database.

6.1 REPORTING

Three types of reporting for special-status plant restoration will occur as part of this Plan: Pre-construction Approach, SRPs, and Annual Reports. This section describes each of these types of reporting.

6.1.1 Pre-Construction Approach

Detailed maps of special-status plant locations and the impact areas for each Project segment will be submitted prior to construction in accordance with the requirements for BIO MM-1 and BIO MM-14. These maps will depict work areas and special-status plants that have been flagged for avoidance during construction. Receptor sites for special-status plant seed, salvaged soil, or

transplants, if needed, will be documented and provided to USFS and/or CPUC prior to impacts. Notes on maintenance activities (e.g., planned watering regime) for plants in receptor sites or in storage will also be included in the documentation.

6.1.2 Site-specific Restoration Plans

SRPs will be submitted for agency review and approval for each Project segment within 90 days after energization. The SRPs will identify the location and number of special-status plants impacted by construction, activities conducted for special-status plants pre-construction, including salvage and transplant to receptor sites or salvage and storage, and describe the restoration implementation approach, including seed collection, seeding methods and timing, and transplant details, if needed. The SRPs will include maps and information on the following topics:

- pre-construction condition,
- construction summary at sites with special-status plants,
- restoration implementation steps, and
- final success standards based on final impacts

6.1.3 Annual Reports

SDG&E will submit a Special-Status Plant Species Salvage and Relocation Report to CPUC and USFS each of the 5 monitoring years. The Special-Status Plant Species Salvage and Relocation Report will be submitted concurrently with the HRP Annual Report and will include the following:

- an introduction,
- maintenance and monitoring methods,
- maintenance activities conducted,
- monitoring results,
- a discussion of results compared to performance, and
- a conclusion and recommendations.

6.2 COMPLETION OF SPECIAL-STATUS PLANT SPECIES SALVAGE AND RELOCATION

The salvage and relocation of the special-status plant species within the Project area will be considered complete when the 5-year monitoring period is over or the primary success standards are met. SDG&E will notify CPUC and USFS whether the success standards have been met for the Project in the annual reports. If success standards are not met for each species impacted by the Project by the fifth year or at any time during the maintenance and monitoring period, the appropriate jurisdictional agencies will be consulted to determine how the impacts should be mitigated. Potential solutions may include continuing monitoring and maintenance of special-status plants in restoration and/or enhancement areas, or an acknowledgement that the restoration effort to date has contributed to the conservation, knowledge, and understanding of these special-status plants and SDG&E has met their mitigation obligations. If impacts are determined to be permanent, SDG&E will compensate for those specific special-status plant species in accordance with the mitigation requirements of MM BIO-15, which may include off-site restoration, land

preservation, or land enhancement as described in the agency-approved Compensatory Mitigation Plan. The compensatory mitigation land will contain many of the same special-status plant species for which success standards were not met during relocation and salvage.

7 – REFERENCES

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ATTACHMENT A: SPECIAL-STATUS PLANT SPECIES

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Recovery Method	Species	Sensitivity Status[1]	Habit/Growth Form	Restoration Tier
Avoid	*Fremontodendron mexicanum* Mexican flannelbush	FE/SR/List A/1B.1	perennial evergreen shrub	N/A
	Hesperocyparis forbesii Tecate cypress	BLMS/FSS/None/List A/1B.1/MSCP/NCCP	perennial evergreen tree	N/A
	Hesperocyparis stephensonii Cuyamaca cypress	FSS/None/List A/1B.1	perennial evergreen tree	N/A
	Quercus cedrosensis Cedros Island oak	None/None/List B/2.2	perennial evergreen tree	N/A
	Quercus engelmannii Engelmann's oak	None/None/List D/4.2	perennial deciduous tree	N/A
Soil Block Salvage	*Bloomeria* [*Muilla*] *clevelandii* San Diego goldenstar	BLMS/None/None/List A/1B.1/ MSCP/NCCP	perennial bulbiferous herb	Tier 2
	Brodiaea orcuttii Orcutt's brodiaea	BLMS/FSS/None/List A/1B.1/ MSCP/NCCP	perennial bulbiferous herb	Tier 1
	Calochortus dunnii Dunn's mariposa lily	BLMS/FSS/SR/List A/1B.2/ MSCP, NE/NCCP	perennial bulbiferous herb	Tier 1
	Dudleya variegata variegated dudleya	BLMS/None/List A/1B.2/ MSCP, NE/NCCP	perennial herb	Tier 2
	Packera ganderi Gander's butterweed	BLMS/FSS/SR/MSCP/1B.2/ NCCP	perennial rhizomatous herb	Tier 1
	Scutellaria bolanderi ssp. *austromontana* southern skullcap	FSS/None/List A/1B.2	perennial rhizomatous herb	Tier 2
Seeding and/or Seedbank Topsoil Salvage	*Acanthomintha ilicifolia* San Diego thornmint	FT/SE/List A/1B.1/ MSCP, NE/NCCP	annual herb	Tier 1

Recovery Method	Species	Sensitivity Status[1]	Habit/Growth Form	Restoration Tier
Seeding and/or Seedbank Topsoil Salvage (cont.)	*Arabis hirshbergiae* Hirshberg's rock-cress	None/None/List A/1B.2	perennial herb	Tier 2
	Astragalus deanei Dean's milk-vetch	BLMS/FSS/None/List A/1B.1	perennial herb	Tier 2
	California macrophylla round-leaved filaree	BLMS/None/None/List B/1B.1	annual herb	Tier 2
	Caulanthus simulans Payson's jewel-flower	FSS/None/List D/4.2/NCCP	annual herb	Tier 2
	Deinandra floribunda Tecate tarplant	BLMS/FSS/None/List A/1B.2	annual herb	Tier 2
	Dieteria [Machaeranthera] asteroides var. *lagunensis* Mount Laguna aster	BLMS/FSS/SR/List B/2.1	perennial herb	Tier 2
	Eriogonum evanidum vanishing wild buckwheat	FSS/None/List A/1B.1	annual herb	Tier 1
	Galium angustifolium ssp. *jacinticum* San Jacinto Mountains bedstraw	FSS/None/List A/1B.3	perennial herb	Tier 1
	Juncus luciensis Santa Lucia dwarf rush	None/None/1B.2	annual herb	Tier 2
	Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	BLMS/None/None/List A/1B.2	annual herb	Tier 2
	Limnanthes alba [gracilis] ssp. *parishii* Parish's meadowfoam	BLMS/FSS/SE/List A/1B.2	annual herb	Tier 1
	Linanthus orcuttii Orcutt's linanthus	BLMS/FSS/None/List A/1B.3	annual herb	Tier 2
	Orcuttia californica California Orcutt grass	FE/SE/List A/1B.1/ MSCP/NCCP	annual herb	Tier 1

Recovery Method	Species	Sensitivity Status[1]	Habit/Growth Form	Restoration Tier
Seeding and/or Seedbank Topsoil Salvage (cont.)	*Sibaropsis hammittii* Hammitt's claycress	FSS/None/List A/1B.2	annual herb	Tier 1
	Streptanthus campestris southern jewelflower	BLMS/FSS/None/List A/1B.3	perennial herb	Tier 2
No Treatment	*Astragalus douglasii* var. *perstrictus* Jacumba milk-vetch	BLMS/FSS/None/List A/1B.2	perennial herb	Tier 3
	Astragalus oocarpus San Diego milk-vetch	BLMS/FSS/None/List A/1B.2	perennial herb	Tier 3
	Bahiopsis [*Viguiera*] *laciniata* San Diego sunflower	None/None/List D/4.2	perennial shrub	Tier 3
	Calandrinia breweri Brewer's calandrinia	None/None/List D/4.2	annual herb	Tier 3
	Chaenactis parishii Parish's chaenactis	None/None/List A/1B.3	perennial herb	Tier 3
	Chamaebatia australis southern mountain misery	None/None/List D/4.2	perennial evergreen shrub	Tier 3
	Chorizanthe polygonoides var. *longispina* long-spined spineflower	BLMS/None/List A/1B.2	annual herb	Tier 3
	Clarkia delicata delicate clarkia	None/None/List A/1B.2	annual herb	Tier 3
	Ericameria cuneata var. *macrocephala* Laguna Mountains goldenbush	None/None/List A/1B.3	perennial shrub	Tier 3
	Geraea viscida sticky geraea	None/None/List B/2.3	perennial herb	Tier 3
	Grindelia hallii San Diego gumplant	BLMS/None/List A/1B.2	perennial herb	Tier 3

Recovery Method	Species	Sensitivity Status[1]	Habit/Growth Form	Restoration Tier
No Treatment (cont.)	*Harpagonella palmeri* Palmer's grappling-hook	None/None/List D/4.2/NCCP	annual herb	Tier 3
	Heuchera brevistaminea Laguna Mountains alumroot	BLMS/None/None/List A/1B.3	perennial rhizomatous herb	Tier 3
	Heuchera rubescens var. *versicolor* San Diego County alumroot	None/None/List B/2.3	perennial rhizomatous herb	Tier 3
	Horkelia truncata Ramona horkelia	FSS/None/List A/1B.3	perennial herb	Tier 3
	Hulsea californica San Diego hulsea	BLMS/None/None/List A/1B.3	perennial herb	Tier 3
	Hymenothrix wrightii Wright's hymenothrix	None/None/List D/4.3	perennial herb	Tier 3
	Lathyrus splendens pride-of-California	None/None/List D/4.3	perennial herb	Tier 3
	Lewisia brachycalyx short-sepaled lewisia	FSS/None/List B/2.2	perennial herb	Tier 3
	Linanthus bellus desert beauty	None/None/List B/2.3	annual herb	Tier 3
	Lupinus excubitus var. *medius* Mountain Springs bush lupine	BLMS/None/None/List A/1B.3	perennial shrub	Tier 3
	Mimulus aurantiacus var. *aridus* low bush monkeyflower	None/None/4.3	perennial evergreen shrub	Tier 3
	Mimulus clevelandii Cleveland's bush monkeyflower	None/None/List D/4.2	perennial rhizomatous herb	Tier 3
	Mimulus johnstonii Johnston's monkeyflower	None/ None/ 4.3	annual herb	Tier 3

Recovery Method	Species	Sensitivity Status[1]	Habit/Growth Form	Restoration Tier
No Treatment (cont.)	*Mimulus palmeri* Palomar monkeyflower	None/None/4.3	annual herb	Tier 3
	Monardella hypoleuca ssp. *lanata* felt-leaved monardella	None/None/1B.3	perennial rhizomatous herb	Tier 3
	Monardella macrantha ssp. *hallii* Hall's monardella	FSS/None/List A/1B.3	perennial rhizomatous herb	Tier 3
	Monardella nana ssp. *leptosiphon* San Felipe monardella	BLMS/FSS/None/List A/1B.2	perennial rhizomatous herb	Tier 3
	Nama stenocarpum mud nama	None/None/List B/2.2	annual or perennial herb	Tier 3
	Opuntia engelmannii var. *engelmannii* Cactus apple[1]	None/None/None	perennial shrub	Tier 3
	Piperia cooperi Cooper's rein orchid	None/None/List D/4.2	perennial herb	Tier 3
	Ribes canthariforme Moreno currant	BLMS/FSS/None/List A/1B.3	perennial deciduous shrub	Tier 3
	Rubus glaucifolius var. *gander* Cuyamaca raspberry	None/None/List A/3.1	perennial evergreen shrub	Tier 3
	Senna covesii Cove's cassia	None/None/List B/2.2	perennial rhizomatous herb	Tier 3
	Sidalcea neomexicana salt spring checkerbloom	None/None/2.2	perennial herb	Tier 3
	Sphenopholis obtusata prairie wedge grass	None/None/2.2	perennial herb	Tier 3

[1] If this cactus species is identified within the planned work areas and cannot be avoided, it will be transplanted in accordance with Section 4.2.3 Cactus (Succulents) Transplanting of the Special-Status Plant Species Salvage and Relocation Plan.

Recovery Method	Species	Sensitivity Status[1]	Habit/Growth Form	Restoration Tier
No Treatment (cont.)	*Stemodia durantifolia* purple stemodia	None/None/List B/2.1	perennial herb	Tier 3
	Streptanthus bernardinus Laguna Mountains jewelflower	None/None/List D/4.3	perennial herb	Tier 3
	Symphyotrichum defoliatum San Bernardino aster	BLMS/FSS/None/1B.2	perennial rhizomatous herb	Tier 3
	Thermopsis californica var. *semota* velvety false-lupine	BLMS/FSS/None/List A/1B.2	perennial rhizomatous herb	Tier 3
	Xanthisma [*Machaeranthera*] *junceum* rush-like bristleweed	None/None/List D/4.3	perennial herb	Tier 3

[1] Sensitivity Status

Federal

FE = Federally Listed Endangered
FT = Federally Listed Threatened
BLMS = Bureau of Land Management Sensitive
FSS = Forest Service Sensitive

State

SE = State Listed Endangered
SR = State Listed Rare

Other

List A, B, or D = California Rare Plant Rank per California Native Plant Society Inventory
MSCP = Multiple Species Conservation Plan Covered Species
NCCP = SDG&E Natural Communities Conservation Plan Covered Species
NCCP NE = SDG&E Natural Communities Conservation Plan Covered Species Narrow Endemic

ATTACHMENT B: RESTORATION APPROACH FOR TARGET SPECIAL-STATUS PLANT SPECIES

ATTACHMENT B: RESTORATION APPROACH FOR SPECIAL-STATUS PLANT TARGET SPECIES

Species	Tie-Line or Circuit	Targeted Restoration Approach	Potential Impact Locations[1]	Restoration Location/ Receptor Site Criteria
Tier 1 Species				
Acanthomintha ilicifolia	C78	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Note: Seed collection, if conducted, would require collector's permits from CDFW and USFWS, as well as a permit from USFS. Seed collection will occur at the end of the growing season when seed is ripe, approximately May to August, but timing can vary from year to year. Seed collection timing will be verified by the HRS. If seeding not successful, grow in containers at nursery for seed bulking and potential transplanting, per Sections 4.2.0 and 4.2.2 of the Plan	C78 within USFS occurrence area and USFWS critical habitat (Attachment B - Figure B-1). ~0.144 acre of USFS occurrence area may be impacted.	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred and appropriate conditions exist(ed) (e.g., slope, aspect, soil, and habitat-type) (Attachment B – Figure B-1). Preferred habitat for this species includes openings in coastal sage scrub, chaparral, and native grassland on gabbro or calcareous clay soils.
Brodiaea orcuttii	C440, TL625C	Soil block salvage method per Section 4.2.1 of the Plan. Soil blocks measuring up to 1-meter by 1-meter and to a depth of 8 to 12 inches, containing bulbs, will be excavated from a portion of the suitable habitat within temporary impact areas and immediately transplanted to another portion of suitable habitat within the approved Project limits (e.g., a nearby area within the work space that will not be impacted), agency-approved location, or stored for replacement within the temporary impact area post-construction. Soil blocks will be planted in plots measuring 1-meter by 1-meter that have been excavated at the receptor site.	Potential impacts at C440 and TL625C within USFS occurrence areas. C440 will be designed for consistency with USFS Record of Decision (USFS 2016a) and the Project configured as the federal preferred alternative (Dudek 2015). Impacts at C440 and TL625C will be determined upon constructability review of the design for each segment in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS.	On USFS-managed lands, soil blocks will be salvaged from a portion of the area mapped as suitable habitat and transplanted back to the temporary impact areas. Appropriate habitat for this species includes vernally moist grasslands, periphery of vernal pools and vernal swales.

Species	Tie-Line or Circuit	Targeted Restoration Approach	Potential Impact Locations[1]	Restoration Location/ Receptor Site Criteria
Calochortus dunnii	TL625D	Soil block salvage method per Section 4.2.1 of the Plan. Soil blocks measuring up to 1-meter by 1-meter and to a depth of 8 to 12 inches, containing bulbs, will be excavated from a portion of the suitable habitat within temporary impact areas and immediately transplanted to another portion of suitable habitat within the approved Project limits (e.g., a nearby area within the work space that will not be impacted), agency-approved location, or stored for replacement within the temporary impact area post-construction. Soil blocks will be planted in plots measuring up to1-meter by 1-meter that has been excavated at the receptor site.	TL625D within USFS occurrence areas (Attachment B - Figure B-2). ~0.172 acre of USFS occurrence may be impacted Impacts at TL625D will be determined upon constructability review of the design for each segment in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS.	On USFS-managed lands, soil blocks will be salvaged from a portion of the area mapped as suitable habitat and transplanted back to the temporary impact areas. (Attachment B - Figures B-3). Preferred habitat for this species consists of rocky openings in chaparral or grassland/chaparral ecotone on metavolcanic and gabbro derived soils.
Eriogonum evanidum	C440	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately August to October, but timing can vary from year to year. Seed collection timing will be verified by the HRS. If seeding not successful, grow in containers at nursery for seed bulking and potential transplanting, per Sections 4.2.0 and 4.2.2 of the Plan.	USFS occurrence areas in the vicinity of C440. C440 will be designed for consistency with USFS Record of Decision (USFS 2016a) and the Project configured as the federal preferred alternative (Dudek 2015). Impacts at C440 will be determined upon constructability review of the design in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS.	If impacted, seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Montane coniferous forest and pinyon juniper woodland are the appropriate habitats for this species.

Species	Tie-Line or Circuit	Targeted Restoration Approach	Potential Impact Locations[1]	Restoration Location/ Receptor Site Criteria
Galium angustifolium ssp. *jacinticum*	C440	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately August to October, but timing can vary from year to year. Seed collection timing will be verified by the HRS. If seeding not successful, grow in containers at nursery for seed bulking and potential transplanting, per Sections 4.2.0 and 4.2.2 of the Plan.	No individuals planned for impact and no USFS occurrence areas along this Project segment for this species.	If impacted, seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Open coniferous forest is the appropriate habitat for this species.
Limnanthes alba [gracilis] ssp. *parishii*	C440	Seedbank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately May to July, but timing can vary from year to year. Seed collection timing will be verified by the HRS. If seeding not successful, grow in containers at nursery for seed bulking and potential transplanting, per Sections 4.2.0 and 4.2.2 of the Plan.	USFS occurrence areas and focused plant survey identify this species in the vicinity of C440. C440 will be designed for consistency with USFS Record of Decision (USFS 2016a) and the Project configured as the federal preferred alternative (Dudek 2015). Impacts at C440 will be determined upon constructability review of the design in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS.	If impacted, seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred (Attachment B – Figure B-4). Montane meadows are the appropriate habitat for this species.
Orcuttia californica	none	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately May to July, but timing can vary from year to year. Seed collection timing will be verified by the HRS. If seeding not successful, grow in containers at nursery for seed bulking and potential transplanting, per Sections 4.2.0 and 4.2.2 of the Plan.	No individuals planned for impact and no USFS occurrence areas for this species.	If impacted, seed bank topsoil and seed would be applied back in the temporary impact (restoration) area where impacts occurred. Vernal pools are the appropriate habitat for this species.

Species	Tie-Line or Circuit	Targeted Restoration Approach	Potential Impact Locations[1]	Restoration Location/ Receptor Site Criteria
Packera ganderi	TL625D	Soil block salvage method per Section 4.2.1 of the Plan. Soil blocks measuring up to 1-meter by 1-meter and to a depth of 8 to 12 inches, containing bulbs, will be excavated from a portion of the suitable habitat within temporary impact areas and immediately transplanted to another portion of suitable habitat within the approved Project limits (e.g., a nearby area within the work space that will not be impacted), agency-approved location, or stored for replacement within the temporary impact area post-construction. Soil blocks will be planted in plots measuring 1-meter by 1-meter that have been excavated at the receptor site. If this method is not successful, collect and plant seed per Section 4.2.1 of the Plan.	TL625D within USFS occurrence area (Attachment B - Figure B-3). ~0.072 acre of USFS occurrence area may be impacted. Impacts at TL625D will be determined upon constructability review of the design for each segment in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS.	On USFS-managed lands, soil blocks will be salvaged from a portion of the area mapped as suitable habitat and transplanted back to the temporary impact areas. Chaparral habitats on gabbro soils are the appropriate habitat for this species.
Sibaropsis hammittii	C78	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately April to July, but timing can vary from year to year. Seed collection timing will be verified by the HRS. If seeding not successful, grow in containers at nursery for seed bulking and potential transplanting, per Sections 4.2.0 and 4.2.2 of the Plan.	C78 within USFS occurrence area (Attachment B - Figure B-4). ~0.002 acre of USFS occurrence area may be impacted.	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred (Attachment B – Figure B-5). Chaparral habitats on gabbro soils (possibly on clay lenses within gabbro soils) are the appropriate habitat for this species.
Tier 2 Species				
Astragalus deanei	TL626A	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. . Seed collection will occur at the end of the growing season when seed is ripe, approximately March to June, but timing can vary from year to year. Seed collection timing will be verified by the HRS.	TL626A within USFS occurrence area. ~0.001 acre of USFS occurrence area may be impacted.	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Sandy washes in Diegan coastal sage scrub and chaparral are appropriate habitat for this species.

Species	Tie-Line or Circuit	Targeted Restoration Approach	Potential Impact Locations[1]	Restoration Location/ Receptor Site Criteria
Caulanthus simulans	TL629E	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately May to July, but timing can vary from year to year. Seed collection timing will be verified by the HRS.	TL629E within USFS occurrence area. ~0.029 acre of USFS occurrence area may be impacted.	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Gabbro soils in chaparral and pinyon-juniper woodland are the appropriate habitat for this species.
Deinandra floribunda	TL6923	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately August to October, but timing can vary from year to year. Seed collection timing will be verified by the HRS.	Focused plant surveys identify potential impacts for this species along TL6923. No USFS occurrence areas.	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Sandy washes in chaparral in the high desert are the appropriate habitat for this species.
Dieteria [Machaeranthera] asteroides var. *lagunensis*	C440	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately August to October, but timing can vary from year to year. Seed collection timing will be verified by the HRS.	USFS occurrence area and focused plant survey identify this species in the vicinity of C440. C440 will be designed for consistency with USFS Record of Decision (USFS 2016a) and the Project configured as the federal preferred alternative (Dudek 2015). Impacts at C440 will be determined upon constructability review of the design in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS.	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Lower montane coniferous forest is the appropriate habitat for this species.

Species	Tie-Line or Circuit	Targeted Restoration Approach	Potential Impact Locations[1]	Restoration Location/ Receptor Site Criteria
Linanthus orcuttii	C440	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately June to August, but timing can vary from year to year. Seed collection timing will be verified by the HRS.	USFS occurrence area and focused plant survey identify this species in the vicinity of C440. C440 will be designed for consistency with USFS Record of Decision (USFS 2016a) and the Project configured as the federal preferred alternative (Dudek 2015). Impacts at C440 will be determined upon constructability review of the design in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS.	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Montane chaparral, lower montane coniferous forest, and desert scrub are the appropriate habitats for this species.
Streptanthus campestris	TL629E, C440, TL629A	Seed bank topsoil salvage and seed collection and planting per Section 4.2.0 of the Plan. Seed collection will occur at the end of the growing season when seed is ripe, approximately June to August, but timing can vary from year to year. Seed collection timing will be verified by the HRS.	USFS occurrence area and/or focused plant surveys identify this species in the vicinity of TL629E, C440, and TL629A. C440 will be designed for consistency with USFS Record of Decision (USFS 2016a) and the Project configured as the federal preferred alternative (Dudek 2015). Impacts at TL629E, C440, and TL629A will be determined upon constructability review of the design in conjunction with subsequent focused plant surveys conducted for the Project and data provided by USFS	Seed bank topsoil and seed will be applied back in the temporary impact (restoration) area where impacts occurred. Rocky areas within desert transitional chaparral and juniper woodlands are the appropriate habitats for this species.

[1] Potential impacts are based on an intersection of the current Project design and special-status plant survey data from 2010, 2015, and 2016 (Chambers 2012a, 2015, 2016), as well as USFS data (USFS 2016b). Potential impacts may change based on a constructability review of the design for each segment, and/or subsequent focused plant surveys conducted for the Project. If additional impacts to special-status plant species are identified, salvage and relocation will occur in accordance with the Special-Status Plant Species Salvage and Relocation Plan. Detailed maps of special-status plant locations within the impact areas for each component will be submitted prior to construction in accordance with the requirements for MM BIO-1 and MM BIO-14 of the Project MMCRP and ROD.