SAN DIEGO GAS & ELECTRIC COMPANY

CLEVELAND NATIONAL FOREST
POWER LINE REPLACEMENT PROJECTS
AVIAN PROTECTION PLAN

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SDGE

A Sempra Energy utility℠

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LIST OF ABBREVIATIONS AND ACRONYMS

APLIC	Avian Power Line Interaction Committee
APM	Applicant Proposed Measure
APP	Avian Protection Plan
BMP	best management practice
C	Circuit
CDFW	California Department of Fish and Wildlife
CNF	Cleveland National Forest
CPUC	California Public Utilities Commission
EIR/EIS	Environmental Impact Report/ Environmental Impact Statement
FGC	California Fish and Game Code
G.O.	General Order
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MMCRP	Mitigation Monitoring, Compliance, and Reporting Program
NBMP	Nesting Bird Management Plan
NESC	National Electric Safety Code
Project	Cleveland National Forest Power Line Replacement Projects
RFS	remove from service
SDG&E	San Diego Gas & Electric Company
TL	transmission line
U.S.	United States
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WLAs	Wildlife Agencies (CDFW and USFWS)

1 – INTRODUCTION

This Avian Protection Plan (APP) describes the actions to be taken by San Diego Gas & Electric Company (SDG&E) to ensure that avian protection measures are implemented to avoid avian disturbance and to reduce bird mortalities from electrocution and collision during the operation of the Cleveland National Forest Power Line Replacement Projects (Project). The Project is located at multiple locations in San Diego County, California; within the Descanso and Palomar ranger districts of the Cleveland National Forest (CNF), and outside the CNF in the vicinity of the unincorporated communities of Alpine, Boulevard, Pine Valley, Descanso, Campo, Santa Ysabel, and Julian. The Project traverses National Forest System lands and lands managed by the Bureau of Land Management; tribal lands of the La Jolla, Campo, Inaja/Cosmit, Pauma, and Viejas Indian Reservations managed by the respective tribes and held in trust by the Bureau of Indian Affairs; Cuyamaca Rancho State Park lands managed by California State Parks Department; lands under the jurisdiction of the City of San Diego, and private holdings within unincorporated San Diego County. Figure 1: Project Overview Map provides an overview of the Project and depicts the location of each transmission line and distribution circuit.

The Project primarily includes fire hardening (wood-to-steel pole replacement and reconductoring) along with removal, relocation, and undergrounding of certain facilities. 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 APP was prepared in accordance with Mitigation Measure (MM) BIO-28 of the Project's Final Record of Decision and the Project's Mitigation Monitoring, Compliance, and Reporting Program (MMCRP), and Applicant Proposed Measure (APM) BIO-08 of the Project's Environmental Impact Report/ Environmental Impact Statement (EIR/EIS). Attachment A: Nesting Bird Management Plan provides measures to avoid and minimize disturbance to nesting birds during construction of the Project. The document is developed in coordination with the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), and will be reviewed and approved by the California Public Utilities Commission (CPUC), and U.S. Forest Service (USFS).

A Nesting Bird Management Plan (NBMP) is included in Attachment A: Nesting Bird Management Plan. The NBMP describes the methods for surveying, monitoring, and reporting nesting bird activities in proximity to the Project during the construction phase. The APP and NBMP were developed as stand-alone documents because they have separate and distinct implementation timelines. To the extent feasible we have included the requirements of MM BIO-28 that apply only to the construction phase of the project in the NBMP, and those that apply to structure design, operations and maintenance and post-construction monitoring in the APP. SDG&E believes that separating the Plans will avoid confusion regarding applicability of

the requirements and facilitate implementation of the requirements and protective measures. However, SDG&E acknowledges that some requirements will be duplicated in both Plans.

2 – OBJECTIVES

This APP provides a description of measures that SDG&E will implement to avoid avian disturbance associated with operation of the Project that may affect birds. The APP provides specific information for implementing MM BIO-28, APM BIO-08, as well as the means of monitoring the effectiveness of the avian protection and avoidance measures. The management and reporting practices in this APP are intended to accomplish the following objectives:

- Reduce avian mortality resulting from electrocution and collisions with transmission lines and poles.
- Maintain consistency with MM BIO-28, as specified in the Project's MMCRP.
- Maintain consistency with APM BIO-08, as specified in the Project's EIR/EIS
- Comply with Sections 3503, 3503.5, and 3511 of California Fish and Game Code (FGC), and Section 703 of the Migratory Bird Treaty Act (MBTA).

The APP was developed in accordance with the Project's Record of Decision (ROD) and to meet the requirements of MM BIO-28, APM BIO-08, and federal and state regulations.

3 – APPLICABLE MITIGATION MEASURES

The Project's ROD and MMCRP require implementation of protective measures to avoid Project-related disturbance to birds during the operational phase. Descriptions of the applicable Project design and operational avian protection measures in MM BIO-28 are provided in the following subsections.

3.0 MITIGATION MEASURE BIO-28A

"Construction activities, including to but not limited to tree trimming, road maintenance, (i.e., re-establishing of existing access roads), grading, or site disturbance, may occur during the avian bird breeding season that runs between March 1st and September 1st, for non-listed birds, and other seasons as defined below for special-status species, in compliance with the procedures and provisions of this mitigation measure. To avoid avian disturbance by construction activities, an Avian Protection Plan, including a Nesting Bird Management Plan, shall be developed in coordination with the Wildlife Agencies prior to project onset to develop measures based on site specific conditions to protect birds. This Avian Protection Plan shall be implemented by SDG&E and their biological monitors with oversight by the CPUC and the Forest Service. The Plan shall include procedures to allow the Wildlife Agencies open communication with the biological monitor(s) and access to scientific data collected that will be electronically stored in a database approved by the CPUC, the Forest Service, and the Wildlife Agencies. Between February and September during project construction, SDG&E shall provide a monthly summary of nesting bird monitoring activities and at the completion of each nesting season shall provide an evaluation of the data collected to date as specified in the Nesting Bird Management Plan."

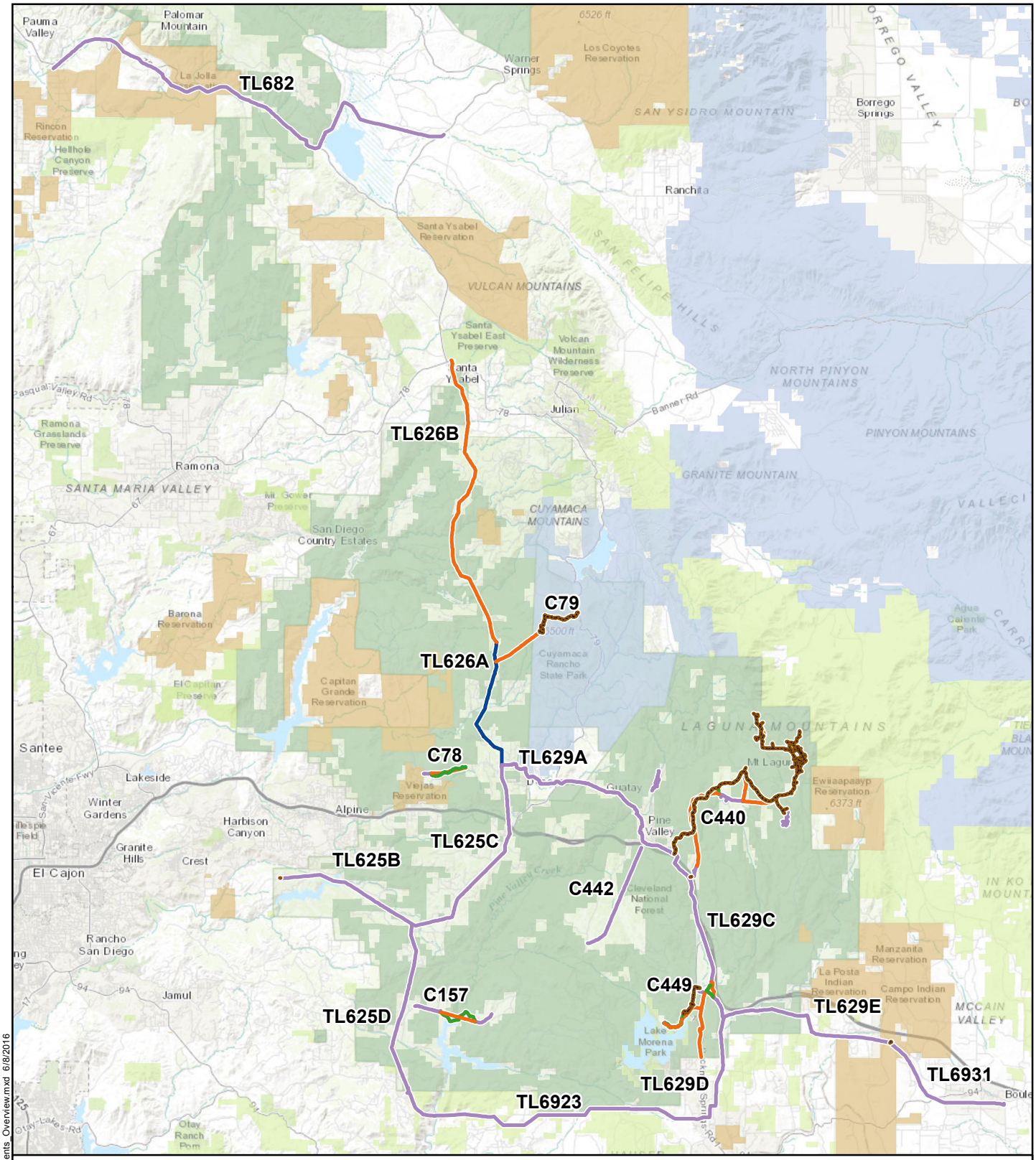

Figure 1: Project Overview Map

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

1:364,000

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3.1 MITIGATION MEASURE BIO-28B

"The Project's transmission pole and line design may have an impact on certain raptor species. Consequently, in addition to the construction activities, the Plan shall address avian mortality related to line strikes through the use of adaptive management (i.e., measures to make the lines more visible to the suite of species affected), in response to reported mortalities."

3.2 MITIGATION MEASURE BIO-28C

"The Avian Protection Plan shall include the following measures:

a) Compliance with the Migratory Bird Treaty Act

b) Compliance with Fish and Game Code Sections 3503, 3503.5, and 3511

c) Activities shall be prohibited within:

   i. Approximately 0.25 mile of the California spotted owl active nest sites (or activity centers) during the breeding season (February 1 through August 15) unless surveys confirm that California spotted owls are not nesting within 0.25-mile radius;

   ii. 500 feet of raptor or owl active nests;

   iii. 500 feet of federally and/or state-listed birds active nests;

   iv. 250 feet of occupied burrowing owl burrows from February 1 to August 31 or within 160 feet from September 1 through January 31; and

   v. 150 feet of non-listed birds and as specified in the avian protection plan for other bird species of concern.

   If year-round burrowing owls are identified and there would only be temporary indirect impacts, then work may continue through coordination with the CDFW and monitoring. If it appears that the burrowing owls may be directly impacted, then a relocation plan will be developed for the specific burrowing owl(s). This plan would include the methods to relocate, location of the relocation, and post-relocation monitoring. Active relocation and banding of birds is not required. Similar buffers will be utilized for non-Forest Service lands as specified in the Avian Protection Plan and Nesting Bird Management Plan. 'Nest' is defined as a structure or site under construction or preparation, constructed or prepared, or being used by a bird for the purpose of incubating eggs or rearing young. Perching sites and screening vegetation are not part of the nest. 'Active nest' is defined as once birds begin constructing, preparing, or using a nest for egg-laying. A nest is no longer an "active nest" if abandoned by the adult birds or once nestlings or fledglings are no longer dependent on the nest."

d) Apply APLIC Measures. Specific APLIC measures to be applied must, at a minimum, allow the circuits to meet National Electric Safety Code (NESC) requirements and should provide general information on specialized construction designs to meet APLIC

standards. In particular, conductor separation between the energized and grounded hardware should meet the current state of the art requirements to protect species up to California condor. If appropriate separation is not feasible, then the energized parts and hardware should be covered. As appropriate, bird diverters should be deployed as well."

3.3 MITIGATION MEASURE BIO-28D

"The database shall include special features to accommodate additional- variables (covariate) information requested by the Wildlife Agencies designed for this Project that will provide data which will contribute to the scientific standards of effective avian avoidance measures. In order to help evaluate buffer effectiveness, nests shall be monitored on a daily basis by a qualified biologist during disturbance and-related activities (i.e., brushing, tree trimming, ground-disturbing activities (i.e. brushing, tree trimming, ground-disturbing activities, mechanized or manual construction/removal installation, and restoration activities) and every 4 days following disturbance until nest fates have been determined for entry into the database. Daily nest monitoring will be conducted by a qualified biologist, from as far away as possible while still being able to observe activity. The biologist need not observe the actual contents of the nest, but may extrapolate status based on adult behaviors. Actual surveys of the nest contents must not occur more than weekly (i.e. allow at least 7 days between nest visits) and visits should be very brief, paths should go by the nest without stopping if possible, the biologist should not touch leaves or branches, and should take a new route each time they pass the nest. If brown-headed cowbirds or potential nest predators (e.g., scrub jays, crows, and ravens) are in the area, then the visit should be postponed until they are gone.

At a minimum, the plan(s) shall include the following sections:

- Plan Objectives,
- Applicable MMs,
- Environmental Awareness Program,
- Existing Avian Resources,
- Construction Process and Timing (relating to avian resource protection),
- Specific Avian Power Line Interaction Committee (APLIC) measures to be Applied,
- Nest Survey and Monitoring Methods,
  - Surveyor Experience and Training
  - Nesting Bird Survey Protocol
  - Standard Buffer Distances as determined in consultation with Wildlife Agencies
  - Protections of Listed Species, Raptors, and Eagles
  - Nest Monitoring
  - Data Collection
- Avian Reporting System,
  - Nest Monitoring Log to include fates of all nests monitored
  - Reporting including update of database accessible to Wildlife Agencies
- Nest Management,
  - Nesting Habitat Reduction
  - Nesting Deterrents
  - Nest Removal

- Risk Assessment and Mortality Reduction,
- Quality Control and Effectiveness,
- Avian Enhancement, and
- Key Resources
- Prior to start of construction and implementation, SDG&E will submit the APP to the CPUC, USFS, and Wildlife Agencies (WLAs)[1] for review and approval."

3.4 MITIGATION MEASURE BIO-28E

"In order to identify locations of current bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), California spotted owl (*Strix occidentalis*), American peregrine falcon (*Falco peregrinus anatum*), or federally and/or state-listed or fully protected bird nests, the monitoring biologists will coordinate with the Forest Service, USFWS, and CDFW to ensure that the most up to date information is made available to monitoring biologists. If work will be conducted within a 1 mile buffer of historic and currently known nests during the bald or golden eagle breeding season (December 15 through July 31), SDG&E will survey the historic and currently known nests sites to determine if they are active. If nests are determined to be active, then work within 1 mile of active nests shall be rescheduled until after the completion of nesting activity at those nests. Alternatively, SDG&E may plan work activities to occur outside of the 1 mile buffers during the breeding season."

4 – APPLICABLE APPLICANT PROPOSED MEASURES

The Project's EIR/EIS requires implementation of protection measures to reduce Project-related impacts to birds. The description of avian protection measure APM BIO-08 is provided in the following subsection.

4.0 APPLICANT PROPOSED MEASURE BIO-08

"SDG&E will design and install all new poles to conform to the guidelines in the Suggested Practices for Avian Protection on Power Lines Manual developed by the Avian Power Line Interaction Committee."

5 – APPLICABLE REGULATIONS

5.0 CALIFORNIA FISH AND GAME CODE

The Project will comply with FGC Sections 3503, 3503.5, and 3511.

5.0.0 FGC Section 3503

It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

[1] The WLAs are comprised of CDFW and USFWS.

5.0.1 FGC Section 3503.5

It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey)—or to take, possess, or destroy the nest or eggs of any such bird—except as otherwise provided by this code or any regulation adopted pursuant thereto.

5.0.2 FGC Section 3511

Applicable portions of Section 3511 include the following:

> "(a)(1) Except as provided in Section 2081.7 or 2835, fully protected birds or parts thereof may not be taken or possessed at any time. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected bird, and no permits or licenses heretofore issued shall have any force or effect for that purpose."
>
> "(b) The following are fully protected birds:
>
> (1) American peregrine falcon (*Falco peregrinus anatum*)
> (2) Brown pelican (*Pelecanus occidentalis*)
> (3) California black rail (*Laterallus jamaicensis coturniculus*)
> (4) California clapper rail (*Rallus longirostris obsoletus*)
> (5) California condor (*Gymnogyps californianus*)
> (6) California least tern (*Sterna albifrons browni*)
> (7) Golden eagle (*Aquila chrysaetos*)
> (8) Greater sandhill crane (*Grus canadensis tabida*)
> (9) Light-footed clapper rail (*Rallus longirostris levipes*)
> (10) Southern bald eagle (*Haliaeetus leucocephalus leucocephalus*)
> (11) Trumpeter swan (*Cygnus buccinator*)
> (12) White-tailed kite (*Elanus leucurus*)
> (13) Yuma clapper rail (*Rallus longirostris yumanensis*)"

In August of 2015 the CDFW proposed to adopt new regulations (FGC Sections 681.1 – 681.5 Title 14) regarding nesting birds and birds of prey. The purpose of the proposed regulations is to facilitate pragmatic implementation of FGC Sections 3503 and 3503.5. The proposed regulations will define terminology used in the statutes and regulations, provide exceptions to the proposed regulations and also provides the CEQA Thresholds of Significance to determine the potential significance of impacts related to the take, possession, needless destruction or destruction of native bird nests, eggs, or birds of prey. Therefore, this APP may be adapted to conform to future changes to regulations that apply to the Project.

5.1 MIGRATORY BIRD TREATY ACT

The MBTA (Title 16, Section 703 of the U.S. Code) states the following:

> "Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be

> shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof...."

This law only applies to migratory bird species that are native to the U.S. Additionally, the USFWS's guidance regarding unoccupied nests states that the MBTA does not contain any prohibition that applies to the destruction of a migratory bird nest alone (without birds or eggs), provided that no possession occurs during the destruction (USFWS 2003).

The USFWS is currently evaluating a new incidental take permitting program under the MBTA that would apply to the unavoidable take of birds associated with industry sectors, including electric utilities (USFWS 2015). The program would allow for general authorization take permits and individual permits that address industry practices and facilities that chronically result in avian mortality or injury. Additionally, the USFWS is evaluating voluntary guidance approaches for industry sectors that will identify best management practices (BMPs) to minimize avian mortality and injury (USFWS 2015). If the proposed program or guidance approach applies to the Project, the APP may be adapted to conform to the changes in federal regulations.

6 – PLAN IMPLEMENTATION

6.0 ENVIRONMENTAL AWARENESS PROGRAM

SDG&E implements environmental awareness programs for its operations and maintenance personnel. During operation of the Project, SDG&E will continue to provide avian awareness guidance to its personnel. Awareness programs may include the appropriate work practices necessary to effectively implement the APP and how to comply with applicable environmental laws and regulations. SDG&E will periodically evaluate the effectiveness of its awareness programs and update them to incorporate new technologies, changes in industry standards, and feedback from field personnel.

6.1 EXISTING AVIAN RESOURCES

The Project traverses much of San Diego County's open and largely undeveloped mountainous area within the Peninsular Range geological province, which supports hundreds of bird species, including raptors, warblers, ducks, woodpeckers, sparrows, towhees, and flycatchers. The diversity of bird species in San Diego County is a result of varied topography, climate, soils, and the county's location along the Pacific Flyway. Topography along the proposed Project ranges from relatively flat pasturelands to steep, rocky cliffs in higher mountain areas. The majority of the Project area is characterized as rolling foothills and canyons, and includes chaparral, oak woodland, grassland, wetland and riparian communities (Dudek 2015). Suitable habitat for raptor breeding is present within the Project area. All of the habitats on-site support varying numbers of bird species. Most of these species are migrants or winter residents. Migration timing varies from species to species, and for some, there is little documentation of the timing; for others, the arrival and departure has been well documented (Unitt 2004). In general, bird migration occurs during the months of March through April and August through November. The

majority of bird species observed within the Project area are protected under the MBTA, with the exception of some game species and all non-native species.

The westernmost portion of the Project is located approximately 30 miles from the Pacific coast and passes through elevations ranging from 2,700 to 3,900 feet. The Pacific Flyway is a known migratory pathway for birds in the western U.S. and is generally split into a coastal route and an interior route in San Diego County. The coastal route occurs primarily at lower elevations close to the coast. The interior migration route does not occur within the Project area, but is focused on a stopover at the Salton Sea, which is located approximately 45 to 60 miles northeast of the Project. According to the Project's EIR/EIS, the Project area is not a major route of the coastal Pacific Flyway for birds during migration. Several small waterbodies are located within or adjacent to the Project (e.g., Lake Henshaw, Loveland Reservoir, Barret Lake, and Lake Morena), which may provide stopovers for avian species in low numbers. Although migratory species are observed within the Project area, there is no evidence to suggest that the Project is located within a major migratory flyway route or that the Project will increase risk to migratory avian species.

6.2 CONSTRUCTION PROCESS AND TIMING

SDG&E anticipates to begin work on the Project in May 2016 and to complete the Project in 2019. The Project includes the replacement of four existing 69 kV power lines, removal of one 69 kV power line, and replacement of six 12 kV distribution circuits. The power line replacement will primarily include fire hardening (i.e., wood-to-steel pole replacement), along with relocation, removal, undergrounding, and reconductoring along certain facilities and segments. The timing and duration of the project is contingent on unforeseen circumstances that could cause construction delays including but not limited to extreme weather and wildland fires.

In order to meet the planned project schedule construction of the Project during the nesting season is unavoidable and therefore site-specific avian protection measures will be implemented when potential for disturbance to nesting birds occur as described in Attachment A: Nesting Bird Management Plan.

6.3 SPECIFIC APLIC MEASURES TO BE APPLIED

The Project involves the replacement of existing wood poles with steel poles. As required by APM BIO-08 and MM BIO-28C(d), SDG&E will design and install all new poles to conform to the guidelines in APLIC's Suggested Practices for Avian Protection on Power Lines Manual. Those guidelines will allow for power lines to meet CPUC General Order (G.O.) 95 and G.O. 128. G.O. 95 and G.O. 128 are state laws regulating the construction and maintenance of overhead and underground utility lines. MM BIO-28C(d) incorrectly references National Electric Safety Code which is not applicable to SDG&E Construction and Maintenance as G.O. 95 and G.O. 128 are the appropriate regulations to reference.

6.3.0 Construction Design

All transmission pole and line design will comply with APLIC's Suggested Practices for Avian Protection on Power Lines. In 2009 all distribution poles within the CNF were evaluated for potential avian risk. Poles that were determined to not meet APLIC guidelines such as sufficient

phase-phase and phase-ground spacing were retrofitted with appropriate avian cover-up material. All poles needing retrofitting were complete by 2011.

In addition, the Project's replacement poles will include the same or similar protections as the retrofitted poles and will incorporate APLIC's guidelines. APLIC's guidelines summarize the research that has been conducted to address bird electrocution and collision mortality associated with electric transmission and distribution systems (2006; 2012). This research has prompted federal and state resource agencies—in concert with the electric utility industry—to adopt various measures for the structural design and siting of new lines that avoid or minimize bird electrocutions and collisions.

6.3.1 Electrocution

The Project involves the replacement of existing electric lines and does not include the construction of any new electric lines; therefore, the electrocution risk will not increase from the risk posed by existing lines. Sections within the project may require re-routes which will move existing lines; it is not anticipated that the re-routes will be of significant distance to increase electrocution risk of birds unfamiliar with their presence. In addition, as part of the Project, SDG&E will replace approximately 26 miles of the existing overhead distribution lines with underground lines and will remove approximately 30 miles of existing overhead facilities

The proposed Project avoidance and minimization measures described in the APP are sufficient to protect from electrocution the largest birds that may perch or roost on transmission and distribution lines or structures. Avian electrocution can occur anytime there is a difference in potential, such as when a bird makes contact with two energized phase conductors, or an energized conductor and grounded hardware. This can occur when the horizontal separation between these elements is less than the wrist-to-wrist (flesh-to-flesh) (2006) distance of a bird's wingspan, or where vertical separation is less than a bird's length from its head to foot. Project design adheres to strict SDG&E and industry standards for allowable clearances.

To minimize risk of avian electrocution, the following APLIC guidelines are incorporated into the Project design:

- Include 60 inches of horizontal separation between phase-to-phase and 40 inches of vertical separation between phase-to-ground (these recommendations are for golden eagles).

- Use the following methods to cover exposed energized or grounded parts (i.e., phases or grounds) to prevent avian contact where adequate separation is not feasible:

  - Distribution phase covers, bushing covers, arrester covers, cutout covers, jumper wire hoses, and covered conductors can be used to prevent avian contact.
  - Perch discouragers may be used to deter birds from landing on hazardous pole locations where separation, covers, or other insulating techniques cannot be used.

- If birds are likely to nest on power structures, nesting platforms may be installed on power structures to enhance nesting while decreasing the risks of electrocution, equipment damage, current tracking which can lead to fires, or loss of service.

APLIC measures do not provide specific guidelines of conductor separation for California condor. Project transmission pole and line design exceeds the APLIC guidelines, thereby reducing the risk of electrocution of large avian species, including the California condor. SDG&E's distribution construction standards for avian protection require a minimum distance of 60 inches for uncovered conductor phase-to-phase or phase-to-neutral (-ground) (SDG&E 2014). The Project design for all high-voltage electric lines complies with APLIC's 2006 design recommendations through adherence of SDG&E's overhead construction standards. In Project areas where California condors occur (perch or nest) or may occur in the future, insulator covers or similar protection will be used if separation between insulators is less than seven feet.

6.3.2 Collision

The Project is not likely to increase the risk of avian collisions with power lines. Collision risks are expected to be reduced as a result of reducing the number of guy-wires, poles, and redundant lines (Dudek 2015). Portions of existing power lines will be converted to underground as part of the Project, which further reduces the potential for avian collisions. The Project is not expected to restrict flight movement or significantly affect aerial corridors for bird species (Dudek 2015). Risk assessment within the Project area is discussed in Section 6.4 Risk Assessment and Mortality Reduction. When the need for adaptive management arises, SDG&E may elect to modify the existing lines using methods such as line marking or installation of diverters, per APLIC (2012) recommendations.

6.4 RISK ASSESSMENT AND MORTALITY REDUCTION

SDG&E maintains information regarding avian mortalities on its equipment and facilities (e.g., poles, lines, and substations). SDG&E identifies risk of avian mortality within its service territory based on evaluation of bird related outages, raptor and waterfowl concentration areas, habitat characteristics, bird electrocutions, notification by a resource agency, or as necessary based on credible input from the public. When a dead or injured bird is found near or on SDG&E facilities or rights-of way, a report is generated to document the occurrence and for avian protection evaluation and management purposes. If an eagle or a federally and/or state-threatened or endangered species is found, then SDG&E's Environmental Services department will notify the appropriate WLA. Special arrangements to preserve the remains may be made under the direction of the agencies. Through the internal process, dead or injured bird records may indicate specific problem areas where more in-depth analysis is necessary. SDG&E investigates problem areas to determine whether corrective measures are required. Agency coordination will be initiated as needed or where required by applicable laws, regulations, and permits.

The Project will replace existing utility lines, which includes redirecting a portion of the existing facilities underground and constructing the replacement poles and lines in compliance with APLIC's guidelines. Removal and undergrounding will reduce aboveground components that may affect aerial corridors and the number of lines crossing through aerial corridors is expected to be less than baseline. Therefore, it is anticipated that the Project will reduce the risk of avian mortality.

6.5 QUALITY CONTROL AND EFFECTIVENESS

SDG&E will review and update practices to ensure efficiency and effectiveness. This Project-specific APP will undergo review and updating as additional information becomes available. SDG&E will continue to monitor data collection and results, and assess mortality reporting procedures to ensure that discoveries of avian mortalities are properly documented. In addition, SDG&E will periodically evaluate the effectiveness of the training and educational programs, and will consider additional training and programs based on feedback from field personnel.

6.6 AVIAN ENHANCEMENT

SDG&E enhances public awareness of bird populations in its Service Territory by supporting local environmental organizations, such as Sky Hunters, Project Wildlife, and the Living Coast Discovery Center. SDG&E will also work cooperatively with the WLAs throughout the construction and operation of the Project. This will assure that SDG&E's impacts to bird populations from its existing facilities are minimized to the extent feasible. Additionally, SDG&E provides annual training for its employees that include nesting bird awareness and education. SDG&E also implements 'EnviroAlert' communication tool annually that notifies employees to the start of the nesting bird season and provides response guidance to employees when nesting birds are encountered.

SDG&E currently engages in activities that provide avian enhancement and benefit bird populations within its service area. SDG&E's construction of nest platforms provides nesting sites while minimizing the risks of electrocution. A variety of birds may nest on power poles, including hawks, falcons, owls, ravens, and kingbirds. Nests that become established on Project poles—or other structures that do not pose a risk to safety, reliability, fire, or electrocution—will be left in place. However, if a nest is established on a Project pole or structure that poses a fire or safety risk, it may need to be relocated to a nest platform or removed. The installation of a nest platform can provide an alternative nesting site for the bird. Constructing a nest platform or modifying the pole to accommodate both the nest and power operations are management options that will be considered. In addition, nest platforms are highly visible and provide an opportunity to educate the public about nesting avian species in the area, as well as to create awareness about power line issues and solutions.

6.7 NEST MANAGEMENT

Several bird species are known to nest on or in transmission and distribution structures, poles, substations, and construction equipment. Although electrocution of birds that nest on transmission and distribution poles and structures is infrequent, bird nests can cause operational problems to an electric system (e.g., an outage) when the nest materials span the distance between the conductors/phases. SDG&E will comply with all federal and state laws and regulations regarding nest management activities during operation of the Project. The species of the nest occupant and the status of its nest will be identified, and the WLAs consulted in accordance with applicable regulations and permits, before taking any management actions.

6.7.0 Non-Threatened/Endangered or Non-Raptor Species

All native bird nests occupied by eggs or young are protected under the MBTA and Sections 3503 and 3503.5 of the California Fish and Game Code. Permits may be required by the WLAs before taking action on or managing any active nest. Nests will be left in place if they do not pose a threat to the reliability of an electric line or if they do not create a potential fire risk or an electrocution risk to the birds. Unoccupied nests encountered during operation and maintenance activities may be removed, if needed, to facilitate maintenance or repair. SDG&E will not needlessly remove a nest of a native, non-game bird during the avian breeding season. Furthermore, SDG&E will not remove a nest containing eggs or young of any bird species protected under the MBTA without appropriate permits and consultation with WLAs . The breeding season for most birds is between February 1 and September 1, and as early as December 15 for raptors.

A memorandum issued by the USFWS on April 15, 2003 discussed nest management and nest destruction, and stated that the MBTA does not contain any rule against the destruction of an unoccupied migratory bird nest alone, provided that no possession occurs during the destruction. In addition, a federal permit is not required to remove or manipulate an unoccupied nest for a non-threatened/endangered or non-eagle species during the non-breeding season. SDG&E personnel will consult with SDG&E's Environmental Services department prior to unoccupied nest removal actions, and nest removal locations will be documented.

6.7.1 Raptors

Active raptor nests will be left in place if they do not pose a threat to reliability of the electric line or if they do not create a potential fire risk. If a specific nest poses a threat to operations, or if it may be a problem in the future, then management action may be necessary. Nest management actions will be accomplished during the non-breeding season to the extent feasible. If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist will survey the nest prior to removal to determine if it is active. If the nest is determined to be unoccupied, it will promptly be dismantled and removed from the site under the supervision of a qualified biologist. If the nest is determined to be active, operation and maintenance activities may be delayed until after the nest is no longer active. If this is an emergency, then the removal of the nest, eggs, and/or chicks may be required. An emergency is defined as the immediate potential for fire or other safety hazards, including the potential effect on operational reliability or risk to the birds/eggs. In such cases, SDG&E's Environmental Services department will notify the WLAs and take appropriate actions in accordance with applicable regulations and permits. This includes contacting a permitted raptor rehabilitator, as provided in Section 6.8 Key Resources.

6.7.2 Threatened/Endangered, State Fully Protected, or Eagle Species

Coordination with the WLAs is required prior to the removal of any unoccupied or active nest belonging to a threatened or endangered bird species. SDG&E will obtain the appropriate permits or conduct consultation with the WLAs, as appropriate, if nest removal for a threatened or endangered species is necessary. Nests of species that are listed under the Bald and Golden Eagle Protection Act have additional protections, and unoccupied eagle nests cannot be removed without a permit.

6.8 KEY RESOURCES

Contact information is provided in the following subsections for internal and external resources that will assist with the implementation of this APP.

6.8.0 SDG&E Environmental Services

Ron Freeman
SDG&E Project Manager
Office: (XXX) XXX-XXXX
Email: XXXX

Brent Eastty
SDG&E Environmental Resource Specialist
Office: (XXX) XXX-XXXX
Cell: (XXX) XXX-XXXX
Email: XXXX

Kirstie Reynolds
SDG&E Environmental Compliance Lead
Office: (XXX) XXX-XXXX
Cell: (XXX) XXX-XXXX
Email: XXXX

Jeff Coward
Senior Biologist
Insignia Environmental
Office: (XXX) XXX-XXXX
Cell: (XXX) XXX-XXXX
Email: XXXX

6.8.1 CPUC

Lisa Orsaba
Project Manager
Infrastructure Permitting and California Environmental Quality Act
Phone: (XXX) XXX-XXXX
Email: XXXX

6.8.2 USFS

Kirsten Winter
Forest Biologist
Cleveland National Forest
10845 Rancho Bernardo Road #200
San Diego, CA 92127
Phone: (XXX) XXX-XXXX
Email: XXXX

Jeff Wells
Wildlife Biologist
Cleveland National Forest
10845 Rancho Bernardo Road #200
San Diego, CA 92127
Phone: (XXX) XXX-XXXX
Email: XXXX

6.8.3 CDFW

Eric Hollenbeck
Senior Environmental Scientist
South Coast Region 5
3883 Ruffin Road
San Diego, CA 92123
Phone: (XXX) XXX-XXXX
Email: XXXX

David Mayer
South Coast Region 5
3883 Ruffin Road
San Diego, CA 92123
Phone: (XXX) XXX-XXXX
Email: XXXX

6.8.4 USFWS

Jesse Bennett
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008
Phone: (XXX) XXX-XXXX
Email: XXXX

Tom Dietsch
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008
Phone: (XXX) XXX-XXXX
Email: XXXX

6.8.5 Eagles

To report a dead or injured eagle, SDG&E's primary contact is the USFWS Office of Law Enforcement:

Ed Nieves, Special Agent
USFWS Office of Law Enforcement
610 West Ash St., Suite 1103

San Diego, CA 92101
Phone: (XXX) XXX-XXXX
Email: XXXX

6.8.6 Injured Wildlife

Sky Hunters is the primary contact for reporting injured wildlife:

Sky Hunters
P.O. Box 1275
Lakeside, CA 92040
Phone: (619) 445-6565
Email: skyhunters@juno.com

Other rehabilitators in the area:

Project Wildlife
4343 Morena Blvd, #7
San Diego, CA 92117
Phone: (858) 866-0555
Email: info@projectwildlife.org

The Fund for Animals Wildlife Center
18740 Highland Valley Road
Ramona, CA 92065
Phone: (760) 789-2324
Email: acrumpacker@humanesociety.org

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ATTACHMENT A: NESTING BIRD MANAGEMENT PLAN

SAN DIEGO GAS & ELECTRIC COMPANY

CLEVELAND NATIONAL FOREST
POWER LINE REPLACEMENT PROJECTS
NESTING BIRD MANAGEMENT PLAN

JUNE 2016

PREPARED BY:

INSIGNIA ENVIRONMENTAL

PREPARED FOR:

SDGE

A Sempra Energy utility℠

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LIST OF ABBREVIATIONS AND ACRONYMS

APLIC	Avian Power Line Interaction Committee
APP	Avian Protection Plan
APM	Applicant Proposed Measure
BMP	best management practice
CDFW	California Department of Fish and Wildlife
CPUC	California Public Utilities Commission
EIR/EIS	Environmental Impact Report/Environmental Impact Statement
FGC	California Fish and Game Code
GIS	geographic information system
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MMCRP	Mitigation Monitoring, Compliance, and Reporting Program
NBMP	Nesting Bird Management Plan
NESC	National Electric Safety Code
NML	Nest Monitoring Log
Project	Cleveland National Forest Power Line Replacement Projects
ROD	Record of Decision
SDG&E	San Diego Gas & Electric Company
U.S.	United States
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WLAs	Wildlife Agencies (CDFW and USFWS)

1 – INTRODUCTION

The Nesting Bird Management Plan (NBMP) describes the measures that will be taken by San Diego Gas & Electric Company (SDG&E) and SDG&E's contractors to ensure that avian protection measures are implemented to avoid and minimize impacts to nesting birds during construction of the Cleveland National Forest Power Line Replacement Projects (Project). Figure 1: Project Overview Map provides an overview of the Project and depicts the location of each transmission line and distribution circuit.

The Project primarily includes fire hardening (wood to-steel pole replacement and reconductoring) along with removal, relocation, and undergrounding of certain facilities. 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 NBMP was prepared in accordance with Mitigation Measure (MM) BIO-28 of the Project's Final Record of Decision (ROD) and the Project's Mitigation Monitoring, Compliance, and Reporting Program (MMCRP), and Applicant Proposed Measure (APM) BIO-07 of the Project's Environmental Impact Report/Environmental Impact Statement (EIR/EIS), and describes nesting bird measures that will be implemented during the construction phase of the Project. Avian protection measures incorporated into the design of the Project and implemented during the operational phase are included in the Project Avian Protection Plan (APP). The NBMP is developed in coordination with the United States (U.S.) Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), and will be reviewed and approved by the Wildlife Agencies, California Public Utilities Commission (CPUC), and U.S. Forest Service (USFS).

2 – OBJECTIVES

The purpose of the NBMP is to provide SDG&E's construction management team with a description of protocols and methods that will be implemented to avoid and minimize impacts to nesting birds associated with construction of the Project. The NBMP provides specific information for complying with federal and state regulations, the ROD, and implementing MM BIO-28 and APM BIO-07. This NBMP describes nest surveying and monitoring methods, guidelines for establishing buffers, instructions for monitoring and reporting nesting activities, nesting deterrents, and nest removal strategies. This NBMP is included in the APP in accordance with the ROD and MM BIO-28 of the MMCRP.

3 – APPLICABLE MITIGATION MEASURES

The Project's ROD and MMCRP require implementation of protection measures to reduce Project-related impacts to birds. Descriptions of avian protection measure MM BIO-28 (A through E) are provided in the following subsections.

3.0 MITIGATION MEASURE BIO-28A

"Construction activities, including to but not limited to tree trimming, road maintenance, (i.e., re-establishing of existing access roads), grading, or site disturbance, may occur during the avian bird breeding season that runs between March 1st and September 1st, for non-listed birds, and other seasons as defined below for special-status species, in compliance with the procedures and provisions of this mitigation measure. To avoid avian disturbance by construction activities, an Avian Protection Plan, including a Nesting Bird Management Plan, shall be developed in coordination with the Wildlife Agencies prior to project onset to develop measures based on site specific conditions to protect birds. This Avian Protection Plan shall be implemented by SDG&E and their biological monitors with oversight by the CPUC and the Forest Service. The Plan shall include procedures to allow the Wildlife Agencies open communication with the biological monitor(s) and access to scientific data collected that will be electronically stored in a database approved by the CPUC, the Forest Service, and the Wildlife Agencies. Between February and September during project construction, SDG&E shall provide a monthly summary of nesting bird monitoring activities and at the completion of each nesting season shall provide an evaluation of the data collected to date as specified in the Nesting Bird Management Plan."

3.1 MITIGATION MEASURE BIO-28B

"The Project's transmission pole and line design may have an impact on certain raptor species. Consequently, in addition to the construction activities, the Plan shall address avian mortality related to line strikes through the use of adaptive management (i.e., measures to make the lines more visible to the suite of species affected), in response to reported mortalities."

3.2 MITIGATION MEASURE BIO-28C

"The Avian Protection Plan shall include the following measures:

a) Compliance with the Migratory Bird Treaty Act

b) Compliance with Fish and Game Code Sections 3503, 3503.5, and 3511

c) Activities shall be prohibited within:

   i. Approximately 0.25 mile of the California spotted owl active nest sites (or activity centers) during the breeding season (February 1 through August 15) unless surveys confirm that California spotted owls are not nesting within 0.25-mile radius;

   ii. 500 feet of raptor or owl active nests;

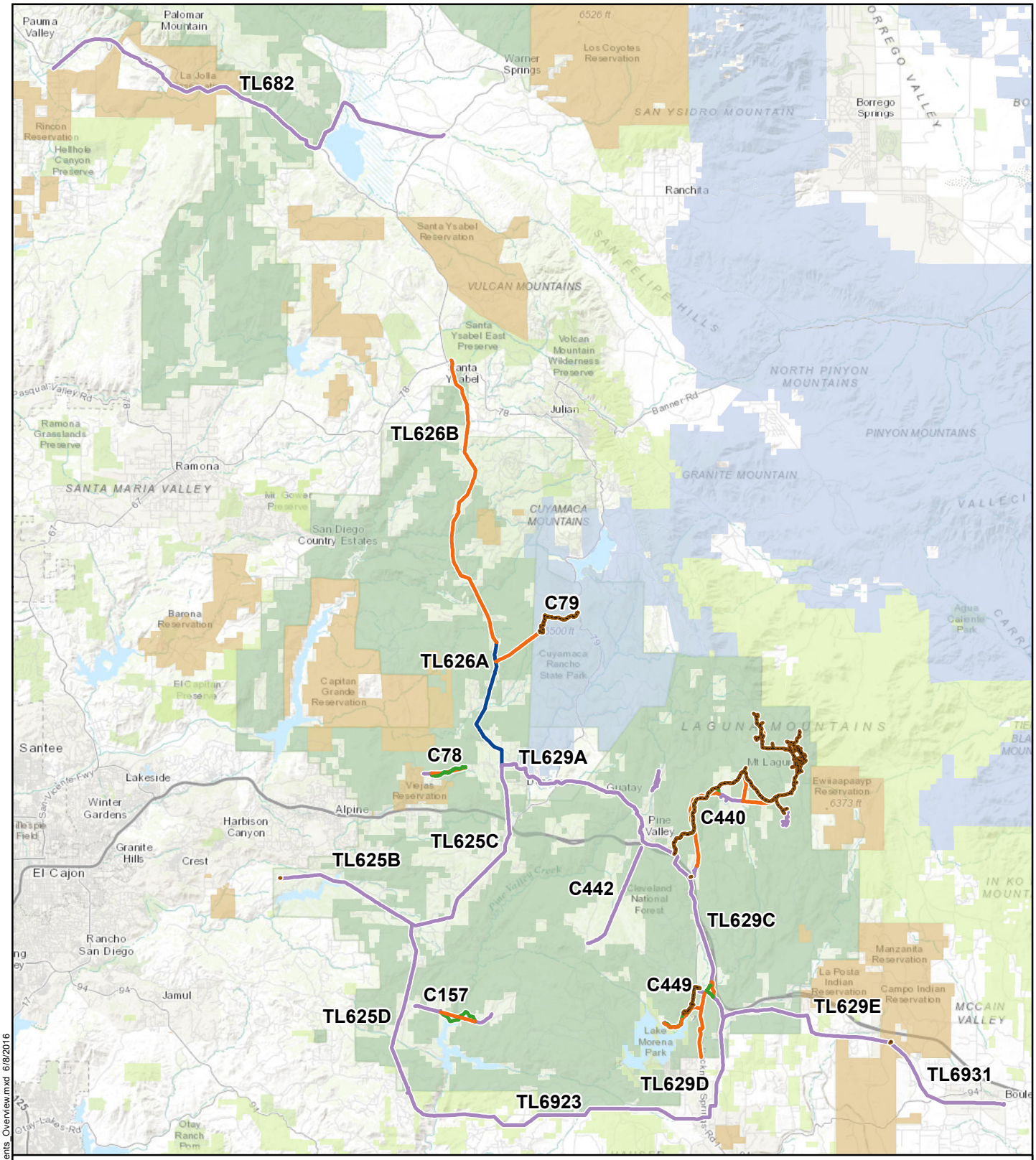

Figure 1: Project Overview Map

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

1:364,000

0 5 10 Miles

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

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iii. 500 feet of federally and/or state-listed birds active nests;

iv. 250 feet of occupied burrowing owl burrows from February 1 to August 31 or within 160 feet from September 1 through January 31; and

v. 150 feet of non-listed birds and as specified in the avian protection plan for other bird species of concern.

If year-round burrowing owls are identified and there would only be temporary indirect impacts, then work may continue through coordination with the CDFW and monitoring. If it appears that the burrowing owls may be directly impacted, then a relocation plan will be developed for the specific burrowing owl(s). This plan would include the methods to relocate, location of the relocation, and post-relocation monitoring. Active relocation and banding of birds is not required. Similar buffers will be utilized for non-Forest Service lands as specified in the Avian Protection Plan and Nesting Bird Management Plan. 'Nest' is defined as a structure or site under construction or preparation, constructed or prepared, or being used by a bird for the purpose of incubating eggs or rearing young. Perching sites and screening vegetation are not part of the nest. 'Active nest' is defined as once birds begin constructing, preparing, or using a nest for egg-laying. A nest is no longer an "active nest" if abandoned by the adult birds or once nestlings or fledglings are no longer dependent on the nest.

d) Apply APLIC Measures. Specific APLIC measures to be applied must, at a minimum, allow the circuits to meet National Electric Safety Code (NESC) requirements and should provide general information on specialized construction designs to meet APLIC standards. In particular, conductor separation between the energized and grounded hardware should meet the current state of the art requirements to protect species up to California condor. If appropriate separation is not feasible, then the energized parts and hardware should be covered. As appropriate, bird diverters should be deployed as well."

3.3 MITIGATION MEASURE BIO-28D

"The database shall include special features to accommodate additional- variables (covariate) information requested by the Wildlife Agencies designed for this Project that will provide data which will contribute to the scientific standards of effective avian avoidance measures. In order to help evaluate buffer effectiveness, nests shall be monitored on a daily basis by a qualified biologist during disturbance and-related activities (i.e., brushing, tree trimming, ground-disturbing activities (i.e. brushing, tree trimming, ground-disturbing activities, mechanized or manual construction/removal installation, and restoration activities) and every 4 days following disturbance until nest fates have been determined for entry into the database. Daily nest monitoring will be conducted by a qualified biologist, from as far away as possible while still being able to observe activity. The biologist need not observe the actual contents of the nest, but may extrapolate status based on adult behaviors. Actual surveys of the nest contents must not occur more than weekly (i.e. allow at least seven days between nest visits) and visits should be very brief, paths should go by the nest without stopping if possible, the biologist should not touch leaves or branches, and should take a new route each time they pass the nest. If brown-

headed cowbirds or potential nest predators (e.g., scrub jays, crows, and ravens) are in the area, then the visit should be postponed until they are gone.

At a minimum, the plan(s) shall include the following sections:

- Plan Objectives,
- Applicable MMs,
- Environmental Awareness Program,
- Existing Avian Resources,
- Construction Process and Timing (relating to avian resource protection),
- Specific Avian Power Line Interaction Committee (APLIC) measures to be Applied,
- Nest Survey and Monitoring Methods,
  - Surveyor Experience and Training
  - Nesting Bird Survey Protocol
  - Standard Buffer Distances as determined in consultation with Wildlife Agencies
  - Protections of Listed Species, Raptors, and Eagles
  - Nest Monitoring
  - Data Collection
- Avian Reporting System,
  - Nest Monitoring Log to include fates of all nests monitored
  - Reporting including update of database accessible to Wildlife Agencies
- Nest Management,
  - Nesting Habitat Reduction
  - Nesting Deterrents
  - Nest Removal
- Risk Assessment and Mortality Reduction,
- Quality Control and Effectiveness,
- Avian Enhancement, and
- Key Resources
- Prior to start of construction and implementation, SDG&E will submit the APP to the CPUC, USFS, and Wildlife Agencies (WLAs)[1] for review and approval."

3.4 MITIGATION MEASURE BIO-28E

"In order to identify locations of current bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), California spotted owl (*Strix occidentalis*), American peregrine falcon (*Falco peregrinus anatum*), or federally and/or state-listed or fully protected bird nests, the monitoring biologists will coordinate with the Forest Service, USFWS, and CDFW to ensure that the most up to date information is made available to monitoring biologists. If work will be conducted within a 1 mile buffer of historic and currently known nests during the bald or golden eagle breeding season (December 15 through July 31), SDG&E will survey the historic and currently known nests sites to determine if they are active. If nests are determined to be active, then work within 1 mile of active nests shall be rescheduled until after the completion of nesting

[1] The WLAs are comprised of CDFW and USFWS.

activity at those nests. Alternatively, SDG&E may plan work activities to occur outside of the 1 mile buffers during the breeding season."

4 – APPLICABLE APPLICANT PROPOSED MEASURE

The Project's EIR/EIS requires implementation of protective measures to reduce Project-related impacts to birds. Description of avian protection measure APM BIO-07 is provided in the following subsection.

4.0 APPLICANT PROPOSED MEASURE BIO-07

"If California spotted owls are identified in the vicinity of proposed work areas during the pre-activity survey process, SDG&E will consult with the appropriate resource agencies to avoid impacts to nesting California spotted owl."

5 – APPLICABLE REGULATIONS

5.0 CALIFORNIA FISH AND GAME CODE

The Project will comply with Sections 3503, 3503.5, and 3511 of the California Fish and Game Code (FGC).

5.0.0 FGC Section 3503

It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

5.0.1 FGC Section 3503.5

It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey)—or to take, possess, or destroy the nest or eggs of any such bird—except as otherwise provided by this code or any regulation adopted pursuant thereto.

5.0.2 FGC Section 3511

Applicable portions of Section 3511 include the following:

> "(a)(1) Except as provided in Section 2081.7 or 2835, fully protected birds or parts thereof may not be taken or possessed at any time. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected bird, and no permits or licenses heretofore issued shall have any force or effect for that purpose."
>
> "(b) The following are fully protected birds:
>
> (1) American peregrine falcon (*Falco peregrinus anatum*)
> (2) Brown pelican (*Pelecanus occidentalis*)
> (3) California black rail (*Laterallus jamaicensis coturniculus*)
> (4) California clapper rail (*Rallus longirostris obsoletus*)

(5) California condor (*Gymnogyps californianus*)
(6) California least tern (*Sterna albifrons browni*)
(7) Golden eagle (*Aquila chrysaetos*)
(8) Greater sandhill crane (*Grus canadensis tabida*)
(9) Light-footed clapper rail (*Rallus longirostris levipes*)
(10) Southern bald eagle (*Haliaeetus leucocephalus leucocephalus*)
(11) Trumpeter swan (*Cygnus buccinator*)
(12) White-tailed kite (*Elanus leucurus*)
(13) Yuma clapper rail (*Rallus longirostris yumanensis*)"

In August of 2015 the CDFW proposed to adopt new regulations (FGC Sections 681.1 – 681.5 Title 14) regarding nesting birds and birds of prey. The purpose of the proposed regulations is to facilitate pragmatic implementation of FGC Sections 3503 and 3503.5. The proposed regulations will define terminology used in the statutes and regulations, provide exceptions to the proposed regulations and also provides the CEQA Thresholds of Significance to determine the potential significance of impacts related to the take, possession, needless destruction or destruction of native bird nests, eggs, or birds of prey. At the time of Project implementation, the most current definitions accepted by the WLAs will be adhered to. If new state regulations are adopted during construction of the Project, the NBMP will adapt to comply with changes in the regulations.

5.1 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (Title 16, Section 703 of the U.S. Code) states the following:

> "Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof...."

This law only applies to migratory bird species that are native to the U.S. Additionally, USFWS guidance regarding unoccupied nests[2] states that the MBTA does not contain any prohibition that applies to the destruction of a migratory bird nest alone (without birds or eggs), provided that no possession occurs during the destruction (USFWS 2003).

The USFWS is currently evaluating a new incidental take permitting program under the MBTA that would apply to the unavoidable take of birds associated with industry sectors, including electric utilities (USFWS 2015). The program would allow for general authorization take permits and individual permits that address industry practices and facilities that chronically result

[2] Unoccupied nests are defined in Section 10 – Glossary.

in avian mortality or injury. Additionally, the USFWS is evaluating voluntary guidance approaches for industry sectors that will identify best management practices (BMPs) to minimize avian mortality and injury (USFWS 2015). If the proposed program or guidance approach applies to the Project, the NBMP may be adapted to conform to changes in federal regulations.

6 – PLAN IMPLEMENTATION

SDG&E will implement this NBMP when construction of the Project occurs during the avian breeding season, which is specifically defined in the MMCRP as between March 1 and September 1 for non-listed birds; other seasons are defined for special-status species and are provided in Section 7.0 Nesting Bird Survey Protocol. The species and status of the active nest[3]—hereinafter referred to as "nests"—will be identified to direct the appropriate management actions. All impacts and disturbance to nests will be avoided to the extent feasible, and will be minimized if they cannot be fully avoided. Avian protection measures described in the NBMP do not apply to non-native bird species.

This NBMP describes the methods to avoid and minimize disturbance to nesting birds and their nests, eggs, and chicks during the avian breeding season, and includes an environmental awareness program, pre-construction surveys and monitoring methods, and reporting. Details on survey methods, buffers, nest monitoring, special-status species and raptors, and documentation submittals are included in Section 7.0 Nesting Bird Survey Protocol. The Nest Monitoring Log (NML) is detailed in Section 8.0 Nest Monitoring Log.

7 – NEST SURVEY AND MONITORING METHODOLOGY

7.0 NESTING BIRD SURVEY PROTOCOL

The nesting bird survey protocol outlines procedures for pre-construction nesting bird surveys. The following protocol is intended to streamline communications between all parties and facilitate reporting of nest observations, as well as the implementation of MMs:

- Prior to initiating construction during the nesting bird season, nesting bird surveys will be conducted by qualified Avian Biologists in the work area and the surrounding buffer area, as discussed in Section 7.1 Standard Buffer Distances. When survey areas are located outside of the SDG&E right-of-way and landowners do not allow access, the Avian Biologists will conduct binocular surveys from the edge of the right-of-way.

- Nesting bird surveys will be conducted for various species based on their nesting seasons, which are specified in MM BIO-28 and listed as follows:

  - Non-listed avian species: March 1 through September 1
  - Non-listed raptor species: January 1 through September 1
  - Bald eagle and golden eagle: December 15 through July 15
  - California spotted owl: February 1 through August 15

[3] Active nests are defined in Section 10 – Glossary.

  - Burrowing owl (*Athene cunicularia*): February 1 through August 31

- Pre-construction nesting bird surveys for non-listed avian species will be conducted by an Avian Biologist no more than four days prior to initiating construction activities. Pre-construction nesting bird surveys methods required for listed avian species will be conducted in accordance with currently accepted protocols and as specified in MM BIO-28.

  Additionally, a pre-construction sweep will be conducted by an Avian Biologist or Environmental Inspector immediately preceding initial work, and daily when construction is occurring during the nesting season, in order to identify and manage changed conditions, if any. If work is not initiated within seven days of the pre-construction survey, a new pre-construction survey will be conducted.

- All nests found will be recorded in the NML. A summary of the NML will be submitted monthly to the CPUC, USFS, and WLAs during bird nesting season (March 1 through September 1, or as described previously for special-status raptor, eagle, and owl species).

- The pre-construction nesting bird survey areas will include all locations where work is scheduled to occur during the nesting season and within the applicable survey buffers discussed in Section 7.1 Standard Buffer Distances. These survey areas may include, but are not limited to, pole removals/installation work areas, development of staging areas, pull sites, access roads grading areas, and development of fly/construction yards; a list of anticipated work types is provided in Section 8.0 Nest Monitoring Log. Site-specific modifications to the survey area may be appropriate to account for landscape and topography features that naturally buffer avian species from construction activities, or in residential or commercial areas where existing levels of disturbance may exceed Project-related disturbance. In these instances, modifications to the survey areas will be made by the Avian Biologists and details will be documented in the NML.

- Pre-construction nest surveys will not be conducted along existing access roads that will only be used for drive-through access and that are actively used by the public or private landowners. During the nesting season, roads will be surveyed if they require grading, widening, or other ground disturbance; vegetation removal activities; or use for staging construction equipment or materials.

- When helicopters will be used for work (e.g., conductor stringing, new pole installation) during the nesting bird season, nest surveys will include those areas where rotor wash may adversely affect existing nests. Survey areas will take into account the distances to potential nests. Site-specific modifications to the survey area may be appropriate to account for landscape and topography features that naturally buffer avian species from construction activities. In these instances, modifications to the survey areas will be made by the Avian Biologists and details will be documented in the NML. The Avian Biologists will consider the potential for impacts to nests created by down wash, rotor wash, vibration, noise above 65 decibels, disturbance from above for elevated nests, and other helicopter-related disturbances when determining avoidance and minimization recommendations.

- When helicopters will be used for work, pre-construction nest surveys for golden eagles and California spotted owls will include proposed work flight paths within the standard buffers discussed in Section 7.1 Standard Buffer Distances.

7.0.0 Nest Searching and Processing

Pre-construction nesting bird surveys will be conducted by utilizing nest-finding methods described in the Handbook of Field Methods for Monitoring Landbirds (Ralph et al. 1993). These methods rely on auditory and visual behavioral cues to locate nests. The surveys will focus on all nest types (e.g., ground, cavity, shrub/tree/vegetation, and bridge/structural) and are described as follows:

- Pre-construction nesting bird surveys will be conducted by one or more qualified Avian Biologists sitting or standing at selected vantage points and observing bird activity and behavior. The Avian Biologists will then walk systematically through the entire survey area to locate nests and to detect any additional bird activity and behavior.

- Weather conditions must be conducive to bird activity and visual detection. Nest surveys will not be conducted during inclement weather, such as steady or heavy rain events or sustained high-wind conditions.

- Each site will be surveyed for an adequate amount of time to determine its nesting status. The amount of time spent surveying will vary based on vegetation density and bird behavior. The Avian Biologists may conclude that a nest is present or may determine the nest status based on breeding behavior without locating or directly observing the actual nest.

- Data relating to breeding will be recorded, including nest phenology (e.g., singing, courtship, territorial displays, nest building, mate pairing, egg laying, incubating, nestling, and fledgling). Signs of nest building, such as birds carrying nest material, will be utilized to locate nests.

Nest-finding techniques for all birds will include systematic searches and observations of reproductive behavior. Systematic searches will include visually inspecting vegetation, bare ground, cavities, structures, and other suitable nesting locations. Though surveys may be modified based on the experience and opinion of the Avian Biologists, the most commonly utilized techniques are summarized as follows:

- Visually check trees, shrubs, grasses, cliffs, rocks, the ground, and man-made structures for cavities and nests within 150 feet of construction activities for passerines and other non-raptors, and within 500 feet of construction activities for raptors and owls.

- Follow adults defending a nest site or displaying territorial behavior.

- For raptors, record and follow pairs perched together.

- Follow pairs exhibiting courtship behavior, such as copulation.

- Follow adults carrying nesting materials and building a nest.
- Follow adult birds carrying other materials, such as food or fecal sacs.
- Follow calling nestlings.
- Follow adult birds making repeated flights to particular areas.
- Check tree cavities for signs of use, such as down wash or whitewash on the rim of the cavity.
- Observe tree cavities for use by watching the entrance to determine if incubating adults are inside. In general, adult birds will leave the nest every 20 to 40 minutes to feed and conduct self-maintenance activities, or a mate will arrive to provide food.
- Check existing nests for signs of occupation, such as evidence of fresh building, presence of down, a completed nest bowl, eggs, and/or nestlings.

If a nest is found, the Avian Biologists will recommend site-specific avoidance and minimization measures. The following steps will be taken when a nest is found:

- When a nest is identified during a pre-construction nesting bird survey, pre-construction sweep, or monitoring, the Avian Biologists will determine the appropriate avoidance and minimization measures. The recommended buffer and/or any other avoidance and minimization measures will be detailed in the NML.
- In the event a nest is discovered within the applicable survey buffers discussed in Section 7.1 Standard Buffer Distances and the Avian Biologist has determined that construction does not pose a threat to the nest, work will proceed and construction buffers will be utilized. Construction buffers will be marked using signs and flagging placed at the edge of the buffer facing the work area and/or access road. Nesting bird buffers will not be reduced below 100 feet for any raptors, special-status, or listed species without USFS concurrence. Additionally, the USFS will be notified when nesting bird buffers on USFS lands are reduced below 100 feet for non-listed birds.
- All nests will be monitored and the nest monitoring information will be entered into the mobile data collectors in the field. The nest monitoring data will be compiled in the NML and submitted monthly via email to the CPUC, USFS, and WLAs during the avian nesting season and while nests that require monitoring remain active. Section 8.0 Nest Monitoring Log provides details on the data that will be gathered and entered into the mobile data collectors.
- As described in Section 8.0 Nest Monitoring Log, nest location and information will be recorded in the mobile data collector. The Avian Biologists will exercise caution to minimize disturbance to the nest. Photographs and other documentation will be conducted away from the nest to prevent disturbance.

7.1 STANDARD BUFFER DISTANCES

If an active nest is found and work will occur within the specified buffer distance for that species, then work will be rescheduled until after the completion of nesting activity at that nest. Per MM BIO-28, the following buffer distances will be utilized during the bird nesting season:

- one mile from any active bald or golden eagle nest
- 0.25 mile from any active California spotted owl nest (or activity center during the breeding season of February 1 through August 15, unless focused surveys confirm there are no active nests)
- 500 feet from any active raptor, falcon, or owl nest
- 500 feet from any active federally and/or state-listed bird nest
- 250 feet from any occupied burrowing owl burrow during the breeding season of February 1 through August 31, or within 160 feet of an occupied burrowing owl burrow between September 1 and January 31
- 150 feet from any active nest belonging to a non-listed bird or other bird species of concern

The Avian Biologists will actively and passively survey for nests up to 150 feet from any construction activity. For raptor and special-status species with Project-specific buffers discussed previously, the Avian Biologist will conduct surveys 500 feet beyond the Project area where legal access is available, in areas that contain known nesting sites, historic nesting sites, and suitable nesting habitat within those buffers. Survey distances are discussed further in Section 7.2 Protections of Listed Species, Raptors, and Eagles.

The CPUC and USFS-approved Avian Biologist may recommend and implement buffer reductions for non-listed bird species. For example, buffer reductions may be acceptable if the environment creates a barrier from construction (e.g., a cliff or boulders) that shelters nesting birds from impacts associated with construction. Buffer reductions may be warranted based on the species, nest status, tolerance behavior, or type of proposed construction activity. Nest buffers will only be reduced when necessary, and buffer reductions will be temporary where applicable and appropriate, as deemed by the Avian Biologist.

The Avian Biologist will monitor all active nests, as described in Section 7.3 Nest Monitoring and Section 7.4 Specific Nest Monitoring Methods, within standard buffer distances from construction activities. Per MM BIO-28D, the Avian Biologists will assess the effectiveness of the imposed buffer daily during construction activities, as further discussed in Section 7.3 Nest Monitoring.

7.2 PROTECTIONS OF LISTED SPECIES, RAPTORS, AND EAGLES

Listed species, raptors, and eagles have the potential to nest in proximity to the Project area. Special precautions will be taken to avoid and minimize impacts to these nesting birds, including the following:

- Pre-construction raptor surveys will be conducted 500 feet beyond the Project area. Nest-disturbing activities, as determined by the Avian Biologist, will be prohibited within 500 feet of active raptor nest sites during the breeding season. The Avian Biologist will identify and recommend avoidance and minimization measures of nest sites that are appropriate for the raptor species.

- To ensure that the most up to date information is made available to Avian Biologists, SDG&E will coordinate with USFS and the WLAs to identify locations of current nests of bald eagle, golden eagle, California spotted owl, American peregrine falcon, or federally and/or state-listed or fully protected avian species.

- Pre-construction surveys for federally and/or state-listed species will be conducted within any suitable habitat that occurs within 500 feet of the Project area. If a federally and/or state-listed species active nest is identified within 500 feet of the Project during the breeding season, SDG&E will coordinate with the WLAs prior to construction. The Avian Biologist, in conjunction with the WLAs, will identify and recommend avoidance and minimization measures of nest sites that are appropriate for the listed species.

- Pre-construction surveys for bald and golden eagles will be conducted at any historic or currently known nest sites that occur within one mile of the Project area. In addition, if golden eagles are observed within the vicinity of active or planned construction areas, Avian Biologists qualified to perform eagle nest searches in forested situation will ascertain if golden eagles are nesting within one mile by observing eagle behavior and movements. If work will be conducted within a one-mile buffer of historic and currently known nests during the bald or golden eagle breeding season, SDG&E will survey the sites to determine if they are active. If nests are determined to be active, the Avian Biologist in conjunction with USFS and the WLAs will identify and recommend appropriate avoidance and minimization measures. These may include rescheduling or altering planned construction activities during the breeding season.

- Pre-construction surveys for California spotted owls will be conducted within suitable habitat or known nesting locations that occur within 0.25 mile of the Project area. SDG&E will coordinate with the USFS if a California spotted owl active nest is identified on Forest lands within 0.25 of the Project during the breeding season. The Avian Biologists, in conjunction with the USFS, will identify and recommend avoidance and minimization measures of nest sites that are appropriate for spotted owls.

- Pre-construction burrowing owl surveys will be conducted within suitable habitat or known nesting locations that occur within 250 feet of the Project area during the nesting season or within 160 feet of the Project area during the non-nesting season. SDG&E will coordinate with CDFW if an active burrowing owl burrow is identified. The Avian

Biologist, in conjunction with the CDFW, will identify and recommend avoidance and minimization measures that are appropriate for active burrowing owl burrows.

7.3 NEST MONITORING

Nests located within standard buffer distances from active work (e.g., excavation, trenching, saw cutting, and staging) will be monitored to ensure that disturbance resulting from the Project does not increase the potential for nest failure. Monitoring will be conducted by qualified Avian Biologists to evaluate the effectiveness of nest buffers. Nests within standard buffer distances will be monitored by an Avian Biologist or Environmental Inspector during initial disturbance activities and on a daily basis during active work, and by an Avian Biologist every four days following the disturbance until the nests' fates have been determined. Daily nest monitoring will be conducted as far away from the nest as possible. Actual surveys of the nest contents will not occur more than weekly (i.e., allow at least seven days between surveys of nest contents). In addition to visits by Avian Biologists, the Environmental Inspectors monitoring construction activities may note bird behavior and communicate their findings to the Avian Biologists. All data collected by the Avian Biologists will be entered into the NML.

The Avian Biologists will be responsible for monitoring all nests that are found within the Project survey area once construction work is initiated. Nests will be monitored within the following distances until the final nest outcome is determined (i.e., fledged or failed):

- 150 feet for passerines and other non-raptors,
- 500 feet for raptors and owls,
- 250 feet for occupied burrowing owl burrows,
- 500 feet for federally and/or state-listed species, and
- 0.25 mile for spotted owls
- 1 mile for bald eagles and golden eagles

If the Avian Biologists determine that the recommended buffer may not avoid disturbance that could cause a nest failure, the Avian Biologists will recommend additional measures (e.g., increased buffer width, noise or visual barriers, work intervals, stopping work as needed, or allowing only specific work types). These measures may be implemented on a case-by-case basis to minimize impacts to nesting birds and may be based on site-specific conditions and work requirements. The Avian Biologists will use behavioral cues that indicate nest disturbance (e.g., time off the nest, hesitation approaching the nest, incessant chattering, bill swiping, or other unusual behavior) to determine the buffer's effectiveness. All potential sources of nest disturbance will be assessed and documented, including non-construction activities (e.g., interspecific and conspecific interactions and depredation) and non-Project-related activities (e.g., traffic and recreational activities). The Avian Biologists will record details in the NML during each visit, such as the birds' time on/off the nest, behavioral responses, activities while off the nest, and any other information that may be helpful in assessing nest disturbance. A list of information that will be included in the NML is provided in Section 8.0 Nest Monitoring Log.

7.4 SPECIFIC NEST MONITORING METHODS

To minimize nest disturbance, nests will be monitored from a distance using binoculars or a spotting scope whenever possible. The Avian Biologist does not need to observe the actual contents of the nest, but may extrapolate status based on adult behaviors. Approaching the nest may be necessary to gather useful information about the nest stage and/or other information related to the Avian Biologists' determinations. When approaching a nest, the Avian Biologists will first determine whether there are any potential nest predators nearby (e.g., greater roadrunner [*Geococcyx californianus*], western scrub-jay [*Aphelocoma californica*], Steller's jay [*Cyanocitta stelleri*], common raven [*Corvus corax*], American crow [*Corvus brachyrhynchos*], or female brown-headed cowbird [*Molothrus ater*]). If no predators are observed, the Avian Biologists may approach the nest. The Avian Biologists will remain aware of the possibility of additional, undetected nests nearby. Visits to nests will be brief, and observers will go by the nest without stopping, if possible. The Avian Biologists will not touch leaves or branches of the nest substrate (bush, tree, etc.) and will take a new route each time they pass by the nest.

The Avian Biologists will gather all information needed to appropriately document the nest stage and recommended buffer reductions, if needed. The Avian Biologists will make assessments based on their experiences, professional judgment, and the following considerations:

- nesting chronologies,
- the geographic location,
- existing ambient conditions (i.e., human activity within the line of sight, such as cars, bikes, pedestrians, dogs, and noise),
- the work type and extent of disturbance (e.g., noise levels and quality, such as punctuated or continual ground vibrations),
- the visibility of disturbance,
- the duration and timing of disturbance,
- the influence of other environmental factors, and
- the species' site-specific level of habituation to the disturbance.

7.5 SURVEYOR EXPERIENCE AND TRAINING

Resumes for the Avian Biologists will be approved by the CPUC and USFS. To conduct accurate and efficient surveys, the Avian Biologists will be sufficiently skilled and experienced with the identification—by both sight and sound—of all species expected to occur in this region, and with the nesting requirements of local nesting birds. The Environmental Inspectors will also be familiar with local bird species and their breeding behaviors, and will have sufficient construction monitoring experience. The following subsections describe the roles and responsibilities for determining and monitoring nests, and for determining and implementing the appropriate nest buffers.

Avian Biologists:

- Resume approved by the CPUC and USFS.

- Searches for and identifies all avian nests.

- Recommends appropriate and effective buffers and communicates this to the Lead Environmental Inspector and SDG&E.

- Details collected information and observations in the required survey forms and enters information into the mobile data collector. This data is then summarized in the monthly NML.

- Installs flagging/signage that establishes the recommended buffer around nests.

- Recommends, as needed, additional methods to reduce disturbance, such as establishing no stopping/standing/construction zones, including stopping work as needed.

- Involved in determining when a nest should be closed (i.e., when a nest cycle or construction is complete) based on personal observations or those of the Environmental Inspectors.

- Determines the nest outcome or nest condition at the time of monitoring cessation.

- Removes buffer (e.g., staking/flagging) around a closed nest.

Environmental Inspectors:

- Conducts daily sweeps to search for and detect additional nests in the immediate work area prior to and during vegetation removal and ground disturbing construction activities.
- Actively monitors construction activities adjacent to nests.
- Communicates regularly with the Avian Biologists about any nesting bird behaviors observed.
- Installs flagging/signage around a nest to establish a buffer based on guidance provided by the Avian Biologists and SDG&E.

SDG&E Environmental Compliance Lead:

- Serves as the primary point of contact with the CPUC, USFS, and WLAs on nesting bird issues and questions.
- Communicates with the CPUC, USFS, and WLAs regarding nesting bird management issues.
- Works with the SDG&E Environmental Resource Specialist and Avian Biologists regarding avian issues.
- Regularly reviews all agency submittals related to MM BIO-28D.

SDG&E Environmental Resource Specialist:

- Serves as the secondary point of contact for the CPUC, USFS, and WLAs for avian issues.
- Ensures implementation of the NBMP.
- Reviews NML for consistency and accuracy.
- Provides support to the SDG&E Environmental Compliance Lead in the review of the NML.

8 – AVIAN REPORTING DATABASE

8.0 NEST MONITORING LOG

The NML will provide field data that are relevant to each nest observed within standard buffers of Project construction activities. Each nest will be assigned a unique identification code and will contain relevant field data collected during the Avian Biologist's nest monitoring visits. The NML will also include the outcomes of all monitored nests.

The field data collected by Avian Biologists is downloaded daily to a centralized database by using the mobile data collector. The database will be maintained for all nests identified within the Project alignment and nesting bird buffer (e.g., 150 feet for passerines and other non-raptors, and 500 feet for raptors). The database is available for Project personnel scheduling construction and for Environmental Inspectors monitoring construction. The NML pulls data directly from the database. One of the primary benefits of this process is the avoidance of data transfer errors. At a minimum, the following information will be documented in the NML for each nest:

- **Date observed:** The date is automatically recorded in the mobile data collector during each nest check.

- **Species:** The species is selected by the Avian Biologists in the mobile data collector. The data will transfer to the NML from the geographic information system (GIS) database after it is uploaded from the mobile data collector.

- **Status:** The Avian Biologists will record the nest status (e.g., nest building, incubating, and brooding) in the mobile data collector during a survey or nest check. The data will transfer to the NML from the GIS database after it is uploaded from the mobile data collector.

- **Recommended buffer size:** The Avian Biologists will determine and record the buffer size, which will be expressed as a numerical distance in the mobile data collector. The data will transfer to the NML from the GIS database after it is uploaded from the mobile data collector.

- **Construction activity:** In the mobile data collector, the Avian Biologists will record the type of construction activity occurring at the time of a nest check. At the time of a nest closure, the construction activities occurring over the life of the nest will be reviewed. The construction activity type with the greatest potential to adversely affect nesting behavior will be listed in the appropriate column of the NML. The following is a list of construction activity types:

  - BMP installation or maintenance
  - fencing
  - brushing or clearing
  - vegetation maintenance
  - grading

  - excavation
  - restoration
  - foundation installation
  - pole installation
  - wire stringing
  - trenching
  - conduit installation
  - vault installation
  - concrete pouring
  - guard structure installation
  - helicopter work
  - backfilling
  - cable pulling
  - paving
  - demolition

- **Behavioral observations:** The Avian Biologists will record ambient activity and avian behavior observed during a nest check. Such comments will be recorded in the mobile data collector. The data will transfer to the NML from the GIS database after it is uploaded from mobile data collector, and the data will appear in the "Survey Dates & Observations" column.

- **Nest closure date:** The Avian Biologists will record the date when a nest outcome was determined (e.g., when the nestling[s] fledged) or when monitoring was discontinued.

- **Explanation of any nest closure, including fledge or nest loss data:** The Avian Biologists will describe how the nest outcome conclusion was reached. The description should include the assumptions used to determine the nest outcome. This data will be listed in the "Survey Dates & Observations" column of the NML.

- **Nest contents:** The Avian Biologist may attempt to ascertain the nest contents, but will approach the nest no more than once every seven days. Data collected may include the number of eggs or young, cowbird chicks, eggshell fragments, droppings, feather sheaths, whether the nest is empty, etc.

- **Nest outcome:** The Avian Biologists will select one of the following nest outcomes at the end of a monitored nest cycle:

  - fledged;
  - nest cycle discontinued prior to egg laying;
  - construction complete, monitoring discontinued;
  - nest with eggs or young failed;
  - indeterminate;
  - removed; or
  - satellite nest.

- **Nest failure cause:** The Avian Biologist will attempt to ascertain the cause of nest failure. This will be recorded in the notes and may include observations regarding predation, weather, site disturbance, parent killed, nest abandoned, fire, etc.

- **Distance from nest to construction:** At the end of a monitored nest cycle, the Avian Biologists will work with the Environmental Inspectors and construction personnel, as well as review past monitoring comments, to approximate the distance of the closest construction activity to the nest. The distance will be expressed numerically in a separate column in the NML.

SDG&E will conduct database training for all Avian Biologists and Environmental Inspectors, as necessary, to promote consistency in data collection methodology.

8.1 REPORTING AND DATABASE UPDATES

During the nesting bird season, SDG&E will provide a monthly nesting summary to the CPUC, USFS, and WLAs that includes a summary of new nests observed, closed nests, year-to-date nest outcomes, a summary of nest buffer distances, and a list of nesting species observed to date during the nesting bird season. Submittals will cease when all active nests identified during nesting bird management activities are closed and there are no other nests which require additional monitoring for the Project. Additionally, at the completion of each nesting season SDG&E will provide an evaluation of the nesting data collected during that season. This evaluation will include an assessment of the effectiveness of protective measures for nesting birds and adaptive management recommendations.

SDG&E's Environmental Compliance Lead will provide a point of contact to act as the liaison between the WLA's and Biological Monitors on the project. The SDG&E liaison will work with the WLA's to fulfill requests for communication with Biological Monitors and requests for scientific data collected beyond what is provided in the monthly nesting summary.

SDG&E is committed to providing the WLAs with any requested information regarding the database and any requested additional information will be collected for use as additional variables, which will contribute to the scientific standards of effective avian avoidance measures.

9 – NESTING BIRD DETERRENT METHODS

9.0 NESTING HABITAT REDUCTION

Removing potential nesting habitat is the first component in effectively excluding nesting birds within a construction area. To the extent feasible prior to the onset of the nesting bird season, construction areas will be cleared of vegetation and grubbed as appropriate to reduce potential conflicts between construction activities and nesting birds during the breeding season. Vegetation removal both during and outside of the breeding season may include removal of trees, shrubs, and herbaceous species. Prior to vegetation clearing within the nesting bird season, Avian Biologists will conduct a pre-construction survey for nesting birds. Although vegetation-free construction areas are ideal for limiting nesting bird activities, vegetation removal will be

limited to the approved work area and/or staging area, and SDG&E will minimize impacts to vegetation to the extent feasible.

9.1 PASSIVE DETERRENCE

If non-listed or non-raptor species begin to prepare or construct a nest, or if an established nest is detected, within a standard buffer area during on-going construction activities, a passive approach to nest management will be employed. Passive deterrent measures include continuing the same level of work activity without implementing additional avoidance or minimization measures (e.g., work buffers) utilized for a nest built prior to initiating construction activities. However, the nest and nest substrate will be avoided in all cases in order to avoid nest destruction. Continuing active work as a passive deterrent will discourage less tolerant birds from investing additional energy to continue their nest cycle in an area that is subjected to Project disturbance. This method is effective when birds that are less tolerant to disturbance increase their chance of reproductive success by nesting elsewhere, and birds that are more tolerant continue their nest cycle regardless of construction activity.

If a nest is in the process of being built but has yet to contain eggs or young, the Avian Biologist will record the GPS location and perform a subsequent survey(s). If the nest does not reach the egg-laying stage and the Avian Biologist determines sufficient time has passed with no nesting activity, then no further visits to that nest will be performed. If, in the course of passive deterrence, the bird continues the nest cycle and lays eggs, the Avian Biologist will implement additional minimization measures. If the nest is occupied by eggs or young, or cannot be verified as unoccupied, the Avian Biologist will determine an appropriate buffer width and the buffer will be implemented in the same manner as if the nest was identified during a pre-construction survey. When determining the appropriate buffer width, the Avian Biologist will consider observed tolerance to ongoing construction work as well as changes in level of construction work. The nest will be added to the NML and avoidance and minimization measures, which may include increasing the buffer width, revising work method or schedule, installing visual or sound barrier, etc., will be implemented and detailed as appropriate.

9.2 NESTING DETERRENTS

SDG&E and its subcontractors may elect to utilize nesting deterrent methods during the nesting season. The nest deterrent methods described in the following subsections may be implemented by SDG&E and its subcontractors to minimize the risk of birds nesting in construction equipment or materials.

9.2.0 Mesh Netting

The use of mesh netting to cover equipment, stored materials and equipment, and partially constructed facilities helps prevent birds from accessing potential nesting sites within the construction areas. Mesh netting will not be used on vegetation or natural features. Inspection and maintenance of netting will be performed daily to avoid impacts to birds and other wildlife species. Netting can be specially ordered for this purpose from a number of companies, including the following:

- USA Bird Control (www.usabirdcontrol.com)

- Nixalite (www.nixalite.com/birdnetting.aspx)

The size of the mesh grid can vary depending on the sizes of birds that are being excluded. Given the diversity of birds that could nest within construction areas across the Project corridor, a 0.75-inch mesh may be suitable for excluding the greatest number of birds, including small birds such as house finches (*Haemorhous mexicanus*) and swallows.

To increase the effectiveness of the mesh netting as a bird exclusion device, equipment or other objects will be completely covered, leaving no gaps in the netting where birds could enter and build nests under the netting. Mesh netting will be inspected daily to identify and repair any rips or gaps that could permit birds to pass through the netting, and to look for wildlife that may have become trapped in the netting. If wildlife is observed inside or trapped in the mesh netting, an Environmental Inspector will be contacted immediately. The Biological Monitor will also inspect netting during monitoring to ensure that birds or other wildlife have not become trapped under the netting. Care will be taken to avoid excessive netting on the ground to minimize the potential for lizards and snakes to become entangled.

9.2.1 Tarps

Where practical, equipment and materials can be covered with tarps instead of netting. However, tarps must be tied down firmly to secure them against strong winds, and will not be open at the bottom because some species (e.g., rock wrens [*Salpinctes obsoletus*]) will access the equipment or material from the bottom. Tarps will be inspected at least once per week to identify and correct any openings that may allow cavity-nesting bird species to enter. If openings are found, the tarps will be inspected for trapped wildlife before re-closure.

9.2.2 Bird Spikes

The use of plastic or stainless steel spikes can be effective to discourage birds from landing on structures and thus deterring nest establishment. Bird spikes typically consist of groupings of stainless steel or ultraviolet-resistant polycarbonate spikes that are spaced in such a way as to prevent birds from landing and gaining a foothold on the surface where the spikes are adhered.

Bird spikes can be specially ordered for this purpose from a number of companies, including USA Bird Control and Bird-B-Gone (http://birdbgone.com/). Bird spikes are affixed to structures and are designed to be longer-term deterrents to birds. Therefore, the use of bird spikes may be more practical to deter nesting on poles and structures and within substations. Such devices are not likely practical for use on equipment, material storage areas, or contractor yards. Installation of bird spikes on tower structures concurrent with structure construction may discourage birds from nesting on tower structures during construction.

9.2.3 Visual Deterrents

There is a wide variety of visual deterrents that can be used to discourage birds from nesting. Visual deterrents can be affixed to construction equipment, around the perimeter of storage yards, or on towers or other facilities to scare birds from the area, thereby reducing the likelihood of nesting. Visual deterrents will not include reflective ribbon.

9.2.4 Material and Pipe Covers

Sheltered spaces, such as pipes or stacks of stored materials, provide potential nesting sites for some birds. To reduce the likelihood that birds will build nests in these areas, materials can be covered with mesh netting or tarps, as described previously, or pipe covers. Routinely covering equipment and stored materials is a standard management practice that can be effective to deter birds from nesting in these areas.

Construction and staging yards often contain suitable nesting materials or opportunities for birds. For example, straw waddles can be attractive to birds, as it provides excellent nesting material for a wide range of species. Birds attracted to this source of nest material may be more likely to build a nest in close proximity to these stored materials (e.g., within a yard). To reduce the likelihood for nesting in yards, waddles and similar stored material may be covered.

9.2.5 Trash Management

Although it is not a specific deterrent, managing trash in and around construction areas is important in reducing the potential to attract birds. Trash from food waste can provide an attractive food source for birds, thereby increasing the likelihood of them nesting within construction areas. Effective management of food waste and other trash is important to avoid attracting birds to construction areas. Such management measures will include the daily removal of trash from the remote sites, and covering trash bins with tightly fitting lids at stationary sites.

9.3 NEST REMOVAL

If SDG&E finds it necessary to remove a nest in order to provide for construction safety or to meet the demands of the construction schedule, the details of nest removal will be documented in the NML. The NML will provide the CPUC, USFS, and WLAs with information regarding the bird deterrent methods that are in place, the species, the location of the nest, the nest stage, any observed nesting behavior, observation times and durations, and the need for removal.

As detailed in the EIR/EIS for the Project, potential impacts to nesting birds are limited mostly to common and abundant species. SDG&E will not remove any active nest of a federally and/or state-listed or fully protected bird. SDG&E will not remove a nest containing eggs or young of any bird species protected under the MBTA. SDG&E will not needlessly remove a nest of a native, non-game bird during the avian breeding season.

10 – GLOSSARY

Active nest: A structure or site that birds begin constructing, preparing, or using as a nest for egg-laying and rearing young.

Closed nest: A nest that is no longer an active nesting attempt; a nest with one of the following outcomes:

- fledged,
- discontinued prior to egg laying,
- failed,

- removed,
- determined to be a satellite or inactive nest, or
- indeterminate.

Construction complete, monitoring discontinued: Typically monitoring will cease if construction is complete. A final monitoring visit will occur to report the condition of nests when the monitoring was discontinued.

Fledge: To leave the nest; a nest that fledged one or more young. The Avian Biologists could use the following observations to reach such a determination:

- an intact and empty nest supported by a sufficient duration of time for that species to indicate fledging;
- semi-altricial fledglings in the area supported by a sufficient duration of time for that species to indicate fledging; and
- symmetrically broken egg shells supported by a sufficient duration of time for that species to indicate fledging.

Fledgling: A young bird that has just fledged. Both altricial and precocial young normally remain at least partly dependent on adults for survival for some time after fledging.

Indeterminate: A nest with eggs or young for which a fledge-or-fail outcome could not be confirmed. An example of such a scenario is when the natural destruction of a nest occurs close to its anticipated fledge date, but the Avian Biologists are unable to determine which event occurred first.

Nest abandonment: Abandonment of a nesting effort by birds, resulting in a nest that is no longer being constructed or utilized for nesting. Typically, that nest site will no longer be visited by those individual birds that season.

Non-native bird: A member of a species that does not naturally occur in California. The following are examples of common non-native species that are considered to have established populations in Southern California:

- chukar (*Alectoris chukar*),
- Eurasian collared-dove (*Streptopelia decaocto*),
- European starling (*Sturnus vulgaris*),
- house sparrow (*Passer domesticus*),
- nutmeg manikin (*Lonchura punctulata*).
- orange bishop (*Euplectes franciscanus*),
- red-crowned parrot (*Amazona viridigenalis*),
- ring-necked pheasant (*Phasianus colchicus*),
- rock pigeon (*Columba livia*),
- spotted dove (*Streptopelia chinensis*), and
- wild turkey (*Meleagris gallopavo*).

Nestling: A bird that has hatched, but is not yet old enough to leave the nest. In precocial species, this period can be very brief.

Nest with eggs or young failed due to construction: A nest with eggs or young with a cause of failure that was related to the Project. The Avian Biologists could use the following observations to reach such a determination:

- a piece of construction equipment inadvertently dislodged a nest by contacting the nest substrate, causing its eggs to shatter; or
- a fledgling was struck and killed by a Project vehicle at a work site.

Nest with eggs or young failed due to natural causes: A nest with eggs or young with a cause of failure that was determined to be an act of nature (e.g., predation or weather). The Avian Biologists could use the following observations to reach such a determination:

- following a storm event, the nesting material is overly saturated or worn, or pooling water has occurred (for ground nesting species); or

- signs of predation have occurred, such as an abandoned nest with missing eggs or nestlings, broken shells or remains near a nest site, or an intact nest site and contents with adult bird prey remains nearby.

Nest with eggs or young failed for unknown causes: A nest with eggs or young with an indeterminate cause of failure. When such failure cannot be directly attributed to either natural causes or to the construction of the Project, the Avian Biologists will determine that the failure is due to unknown causes. An example of this may be an abandoned nest that is intact, with all contents present prior to its anticipated fledge date.

Satellite nest: A nest that was not used to shelter eggs or rear young, but was possibly constructed or maintained for attracting mates, intimidating competition, or deterring predators.

Unoccupied nest: A nest that has been abandoned by the adult birds or once nestlings of fledglings are no longer dependent on the nest.

11 – REFERENCES

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