

# Special-Status Raptor Survey Report

## Sanger Substation Expansion Project

Fresno County, California



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# Introduction

Pacific Gas and Electric Company (PG&E) proposes to expand the existing Sanger Substation, which is approximately 2 miles west of Sanger and approximately 3 miles southeast of Fresno in unincorporated Fresno County, California. The existing substation occupies approximately 4.5 acres at the northwest corner of East Jensen Avenue and South McCall Avenue (Figure 1). The expansion would cover approximately 7 acres adjacent to and generally north and west of the existing substation. Some lines, poles, and towers outside of the substation will be removed and others will be newly installed. Collectively, these areas are referred to hereafter as the Project Site. The surrounding land cover is predominately agricultural, with scattered rural residences, paved roadways, and a small commercial space (a general store) on the northeast corner of East Jensen Avenue and South McCall Avenue. There is no natural land cover within 0.5 miles of the Project Site.

The proposed project was subject to environmental review under both the California Public Utilities Commission (CPUC) internal process and the California Environmental Quality Act (CEQA). The CPUC, as the lead agency under CEQA, issued the Final Initial Study/Mitigated Negative Declaration (IS/MND) in March 2017. The IS/MND is available at the following link:

<http://www.cpuc.ca.gov/environment/info/ene/sanger/sangerFinal.html#appendices>

The IS/MND called out two special-status raptors as potentially occurring within 0.5 miles of the Project Site: the state-listed as threatened Swainson's hawk (*Buteo swainsoni*), said to have a moderate probability of occurrence, and the state-designated as fully protected white-tailed kite (*Elanus leucurus*), said to have a low probability of occurrence.

To determine presence of these species, the IS/MND's Mitigation Monitoring and Reporting Plan includes Mitigation Measure (MM) BIO-7 calls for conducting pre-construction surveys in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (TAC 2000). Pursuant to MM BIO-7, we conducted these surveys during the 2017 nesting season.



Figure 1. Site vicinity map.

# Methods

Colibri biologist Jeff Davis conducted surveys for nesting Swainson's hawks and white-tailed kites following the standard survey protocol (TAC 2000). Three independent surveys were performed during each of two survey periods immediately prior to project construction. In this case, those surveys occurred during the protocol-defined Period III (5 to 20 April) and Period V (10 June to 30 July). During each of the six surveys, all accessible nesting habitat and substrates within 0.5 miles of the Project Site (the survey area) were searched using public roads and access points. Although the focus of the survey was special-status raptors, the nesting activities of all raptors within the survey area were observed and documented. The survey area was also further evaluated for its suitability for nesting Swainson's hawks and white-tailed kites.

# Results

No Swainson’s hawks or white-tailed kites were observed in the survey area during any of the surveys. Orchards and vineyards comprised more than 70 percent of the agricultural land cover. The remaining agricultural land cover consisted primarily of rotated row crops, predominantly squash. Scattered ornamental trees, mainly at rural residences, provided a few potential nest trees for Swainson’s hawks and white-tailed kites.

## Period III

During the first set of three surveys (conducted 5, 10, and 14 April), we found one active red-tailed hawk (*Buteo jamaicensis*) nest in the incubation phase and one suspected but unconfirmed American kestrel (*Falco sparverius*) nest (Table 1, Figures 2–4). The red-tailed hawk nest was in an electric transmission tower about 780 feet east of the substation. The possible American kestrel nest was on the east side of the substation. An adult male and an adult female repeatedly flew to recesses in tubular steel poles (TSPs) at the substation, and the male fed the female several times. However, neither adult entered any potential nest cavity while under observation during the surveys.

## Period V

During the second set of surveys (conducted 12, 20, and 27 June), we documented the continued occupation of the same red-tailed hawk nest. Two fledglings were at and near the nest site on 12 and 20 June (Table 1), as were both adults. Although the adults were found near the nest site on 27 June, the fledglings were not observed anywhere in the survey area and had presumably dispersed from the natal territory. A pair of adult American kestrels were again observed in the survey area on each survey, but neither adult was observed at the substation, no juveniles were found in the survey area, and nesting otherwise remained unconfirmed.

Table 1. Raptor nests in the survey area in 2017.

Species	Nest Location	Nest Substrate	Survey Period Notes	
			III	V
Red-tailed hawk	36.70798, -119.60767	Metal tower	Adult incubating	Two fledglings at and near nest site
American kestrel	36.70722, -119.61059	Tubular steel pole	Occupancy undetermined. Two adults observed.	Occupancy undetermined. Two adults observed.

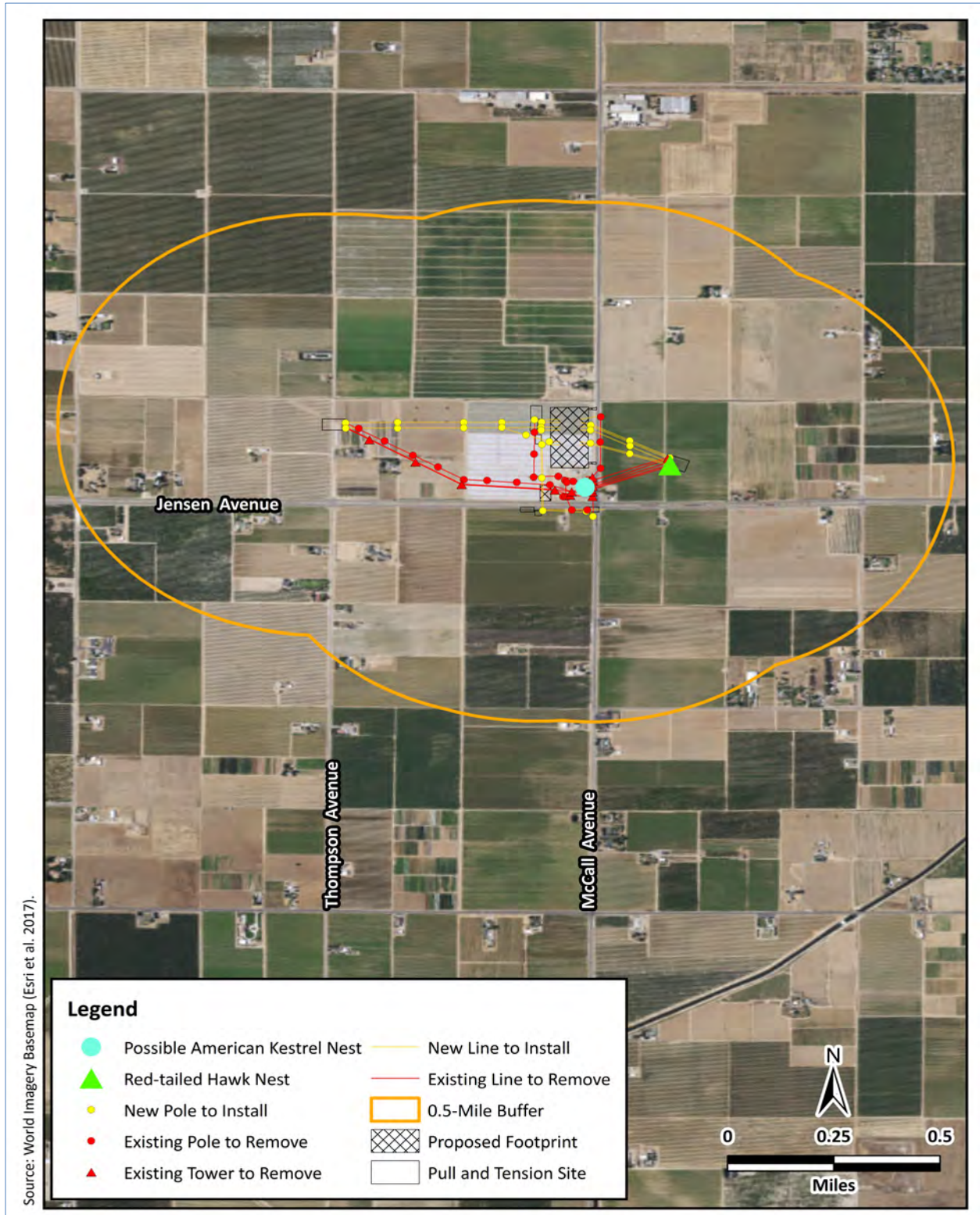


Figure 2. Survey results map.



Figure 3. A red-tailed hawk nest in a tower east of the Sanger Substation.



Figure 4. An American kestrel near a potential nest site at the Sanger Substation.



# Discussion

Swainson's hawk and white-tailed kite were identified in the IS/MND as having a moderate and low potential to occur, respectively. Although those terms may adequately reflect the potential of those species to occur in the survey area, our assessment suggests these species have little potential to nest in the survey area.

Suitable nesting habitat consists of two primary elements: suitable nest trees and proximity to high-quality foraging habitat (Estep 1989). Suitable nest trees in the survey area were limited to a few ornamental trees at rural residences. There were no riparian trees in the survey area. The survey area was dominated by orchards and vineyards (Figure 5), which have limited to no value for foraging due to relatively low prey populations and reduced prey accessibility (Estep 1989, Babcock 1995, Swolsgard 2003). The survey area lacked irrigated hay crops, such as alfalfa, which provide high quality foraging habitat due to relatively high prey abundance and relatively high prey accessibility, the latter due to periodic flooding (which concentrates prey near field edges) and regular harvesting (which reduces the height of the vegetation). The foraging habitat value of the other agricultural land cover in the survey area (rotated cropland, Figure 6) varies with the season. As the crop plants grow in height, prey accessibility decreases (Bechard 1982, Estep 1989). This seasonal fluctuation in value of rotated cropland, especially in the absence of crops such as alfalfa that have consistently high forage value, decreases the overall suitability of an area as nesting habitat (Estep 1989). In addition, the survey area represents a fragmented landscape dominated by large patches of unsuitable foraging habitat. Swainson's hawks are sensitive to habitat fragmentation, and their use of an area declines as the sizes of suitable foraging habitat patches decreases (Estep and Teresa 1992).

Therefore, due to the limited availability of suitable nest trees, the lack of consistent high-quality foraging habitat, and the fragmented landscape, we consider the potential of the survey area to support nesting Swainson's hawks or white-tailed kites to be low to negligible.



Figure 5. A vineyard in the survey area.



Figure 6. Rotated cropland (squash) in the survey area.

# Recommendations

Plan for the possibility of the red-tailed hawk and American kestrel nests being active during 2018 by (1) scheduling project construction within the 500-foot buffers for those nests between early September and late November (the non-nesting season) or (2) anticipating the need to request a reduction in buffer size in accordance with MM BIO-7 if construction must occur within the 500-foot buffer between early December and late August (the nesting season).

Red-tailed hawks are mainly year-round residents in the project area and generally begin refurbishing their nests in December, lay eggs by mid-March, and fledge young by late June (Preston and Beane 2009). American kestrels are primarily cavity-nesters that also occur year-round in the project area. They typically lay eggs by early-April and fledge young by late-July. Occasionally, they will produce a second brood, extending the nesting season into August (Smallwood and Bird 2002).

Although Swainson's hawks and white-tailed kites have little potential to nest in the survey area, in accordance MM BIO-7, conduct reconnaissance surveys in 2018 for nesting Swainson's hawks and white-tailed kites within 0.5 miles of the Project Site to detect any nesting activity. If no indication of nesting is found during reconnaissance surveys, weekly surveys for nesting Swainson's hawks and white-tailed kites shall be conducted for the remainder of the breeding season in all work areas where any construction-related activities are occurring.

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