

# Pre-Application Document

## Collierville and Spicer Meadow Transmission Lines Project FERC Project No. 11197

Submitted by  
Northern California Power Agency  
Murphys, California



Prepared by



and



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## List of Abbreviations

|            |                                                          |
|------------|----------------------------------------------------------|
| APE        | Area of Potential Effect                                 |
| Applicant  | Northern California Power Agency                         |
| BLM        | Bureau of Land Management                                |
| CACs       | County Agriculture Commissioner(s)                       |
| CCWD       | Calaveras County Water District                          |
| CDFW       | California Department of Fish and Wildlife               |
| CEII       | Critical Energy Infrastructure Information               |
| CHRIS      | California Historic Resources Information System         |
| CFR        | Code of Federal Regulations                              |
| CNDDb      | California Natural Diversity Database                    |
| CNPS       | California Native Plant Society                          |
| Commission | Federal Energy Regulatory Commission                     |
| DLA        | Draft License Application                                |
| EA         | Environmental Assessment                                 |
| EDRR       | Early Detection Rapid Response                           |
| EIS        | Environmental Impact Statement                           |
| ESA        | Endangered Species Act                                   |
| FERC       | Federal Energy Regulatory Commission                     |
| FLA        | Final License Application                                |
| °F         | Degrees Fahrenheit                                       |
| GIS        | Geographic Information System                            |
| ILP        | Integrated Licensing Process                             |
| IPaC       | Information for Planning and Consultation                |
| ISR        | Initial Study Report                                     |
| kV         | Kilovolts                                                |
| Licensee   | Northern California Power Agency                         |
| MWh        | Megawatt-hour                                            |
| NCP        | Notice of Commencement of Proceeding                     |
| NCPA       | Northern California Power Agency                         |
| NEPA       | National Environmental Policy Act                        |
| NLCD       | National Land Cover Database                             |
| NLT        | No Later Than                                            |
| No.        | Number                                                   |
| NOAA       | National Oceanic Atmospheric Association                 |
| NOD        | Notice of Dispute                                        |
| NOI        | Notice of Intent                                         |
| NPS        | National Park Service                                    |
| NRCS       | Natural Resource Conservation Service                    |
| NWI        | National Wetland Inventory                               |
| PAD        | Preliminary Application Document                         |
| PDF        | Portable Document Format                                 |
| PG&E       | Pacific Gas and Electric                                 |
| PLP        | Preliminary Licensing Proposal                           |
| Project    | Collierville and Spicer Meadow Transmission Line Project |
| PSP        | Proposed Study Plan                                      |
| ROW        | Right of Way                                             |
| RSP        | Revised Study Plan                                       |
| RUSLE2     | Revised Universal Soil Loss Equation, Version 2          |
| §          | Section                                                  |
| SCORP      | Statewide Comprehensive Outdoor Recreation Plan          |
| SD1        | Scoping Document 1                                       |

|       |                                                                  |
|-------|------------------------------------------------------------------|
| SD2   | Scoping Document 2                                               |
| SHPO  | California Historical Society State Historic Preservation Office |
| SPD   | Study Plan Determination                                         |
| TVMP  | Transmission Vegetation Management Program                       |
| USACE | United States Army Corps of Engineers                            |
| USCB  | United States Census Bureau                                      |
| USDA  | United States Department of Agriculture                          |
| USFWS | United States Fish and Wildlife Service                          |
| USGS  | United States Geological Survey                                  |
| USR   | Updated Study Report                                             |
| WECC  | Western Electric Coordinating Council                            |
| WMP   | Wildfire Mitigation Plan                                         |

## 1. Introduction

Northern California Power Agency (NCPA, Licensee, or Applicant), is currently licensed by the Federal Energy Regulatory Commission (FERC or Commission) to operate the Collierville and Spicer Meadow Transmission Line Project (Project or Transmission Lines).

The Collierville and Spicer Meadow Transmission Line Project (FERC Project No. 11197) is composed of two transmission lines: the Collierville Transmission Line and the Spicer Meadow Transmission Line. The 39.6-mile, overhead, 230kV Collierville Transmission Line is solely used to transmit power from Calaveras County Water District's (CCWD) North Fork Stanislaus River Hydroelectric Project's (P-2409) Collierville Powerhouse Switchyard to the Pacific Gas and Electric's (PG&E) Bellota Switchyard. The 13.6-mile long, underground, 21kV Spicer Meadow Transmission Line is solely used to transmit power from the North Fork Stanislaus River Hydroelectric Project's Spicer Meadow Powerhouse Switchyard to the PG&E Cabbage Patch Switchyard (FERC, 2000). The Transmission Lines were transferred to NCPA from CCWD on February 12, 1992, effective February 1, 1992 when NCPA was issued a transmission line only FERC license (FERC Project No. 11197) (FERC, 1992). More detailed descriptions of the Transmission Lines are located in [Section 3.2.1](#) and [Section 3.2.2](#), respectively.

The existing FERC license for the Project was issued to NCPA on February 12, 1992, for a period of 40 years with an expiration date of January 31, 2032 (FERC, 1992). To ensure that a subsequent license is issued prior to the expiration of the current license, NCPA must submit a license application for the Project to the Commission no later than January 31, 2030.

Applying for a subsequent license requires the Licensee to first prepare a Notice of Intent (NOI) and Pre-Application Document (PAD) pursuant to 18 Code of Federal Regulations (CFR) Part 5 (United States Code of Federal Regulations, 2016). The PAD includes the required information consistent with 18 CFR § 5.6 and provides FERC and the relicensing participants with summaries of existing, relevant, and reasonably available information related to the Project that is in the Licensee's possession or was obtained with the exercise of due diligence.

FERC requires a Licensee to use the Integrated Licensing Process (ILP) unless FERC grants approval to use an alternative process at the request of the Licensee. Pursuant to 18 CFR § 5.3, such a request must accompany the NOI and PAD and set forth specific information justifying the request. NCPA is using the default ILP relicensing process.

NCPA will file a license application for the Project along with corresponding public notices. The public notices will be published in local newspapers of general circulation in each county in which the project is located, providing interested persons and agencies an opportunity to present any concerns they may have. Therefore, the public notices will be published in the following newspapers:

1. Stockton Record (San Joaquin and Stanislaus Counties)
2. Calaveras Enterprise (Calaveras County)
3. Union Democrat (Tuolumne County)
4. Modesto Bee (Stanislaus County)

### **1.1 Authorized Agents (18 CFR § 5.6(d)(2)(i))**

The following person is authorized to act as agent for the Applicant pursuant to 18 CFR § 5.6(d)(2)(i):

Jake Eymann  
Manager, Hydroelectric Facilities  
Northern California Power Agency  
477 Bret Harte Drive  
Murphys, CA 95247  
Office: 209-728-1387  
Email: [HydroRelicensing@ncpa.com](mailto:HydroRelicensing@ncpa.com)

### **1.2 PAD Content**

The PAD is generally organized based upon requirements set forth in 18 CFR § 5.6(c), § 5.6(d), and § 16.7 (United States Code of Federal Regulations, 2016) (United States Code of Federal Regulations, 2018).

The purpose of the PAD is to:

- Describe the existing project and its proposed operations,
- Summarize existing information relevant to the evaluation of the Project's impact on the area,
- Determine initial concerns or issues the various resource agencies may have concerning the Project, and
- Begin to identify potential studies that may need to be conducted to support a subsequent license application.

To assist with this PAD development, various stakeholders at the federal, state, regional, and local level, as well as Native American tribes, were contacted to gather input regarding information and/or studies that may be relevant to the Projects, as well as any possible concerns or issues the stakeholder may have. Consultation is summarized in [Section 6](#) of this PAD.

## 2. Process Plan and Schedule (18 CFR § 5.6(d)(1))

### 2.1 Process Plan and Schedule Through Filing of License Application

This PAD represents one of the first steps in the Licensee's effort to obtain a subsequent license from FERC which will allow for the continued operation and maintenance of the Project. Concurrently with the filing of this PAD, NCPA filed a NOI for the Project. Pursuant to 18 CFR § 5.5, the NOI filing marks the beginning of the relicensing process and sets the schedule for further licensing activities.

The current default process for FERC licensing is the ILP. NCPA plans to use the ILP for this relicensing. The Process Plan and Schedule outlines actions by FERC, NCPA, and other participants in the ILP relicensing process through the filing of the license application. FERC regulations provide for a six-month window for filing the NOI/PAD, which for this project extends from July 31, 2026 to January 31, 2027. NCPA is basing this process Plan and Schedule on a NOI/PAD filing date of August 4, 2026. All subsequent dates derive from that deadline as shown in **Table 2.1-1**. The Final License Application must be filed no later than two years before license expiration but could be filed earlier. Additionally, in developing the Draft ILP Process Plan and Schedule, the Licensee has included timeframes for Formal Dispute Resolution (18 CFR § 5.14) even though any study disputes may be resolved through informal dispute resolution.

As set forth in the ILP regulations, FERC will issue Scoping Document 1 (SD1) within 60 days of the filing date of the NOI and PAD. In addition, pursuant to 18 CFR § 5.8(b)(3)(viii), FERC will provide public notice and schedule a public scoping meeting and a Project site visit within 30 days of issuing SD1. Based on a presumed filing date of August 4, 2026, for the PAD, NCPA proposes holding the FERC Scoping Meeting on Tuesday, October 27 at the Murphys-Angels Lions Club in Murphys, California. FERC will notice the final dates, times, and location of the Scoping Meetings and publish that information in local papers shortly after the filing of the NOI and PAD.

*Table 2.1-1: Draft ILP Process Plan and Schedule*

| Responsible Party | Pre-filing Milestone                                                                                                                                  | Date       | FERC Regulation (18 CFR §) |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------|
| Applicant         | Issue Public Notice for NOI/PAD                                                                                                                       | 08/04/2026 | 5.3(d)(2)                  |
| Applicant         | File NOI/PAD and Request for Non-Federal Representative Status Under Section 7 of ESA and Section 106 of National Historic Preservation Act with FERC | 08/04/2026 | 5.5, 5.6                   |
| FERC              | Tribal Meetings<br>(NLT 30 Days of Filing NOI/PAD)                                                                                                    | 09/03/2026 | 5.7                        |
| FERC              | Issue Notice of Commencement of Proceeding (NCP) and SD1<br>(NLT 60 Days After Filing NOI/PAD)                                                        | 10/03/2026 | 5.8                        |
| FERC              | Environmental Site Review and Scoping Meeting<br>(NLT 30 days from NCP)                                                                               | 11/02/2026 | 5.8(b)(vii)                |
| All Stakeholders  | PAD/SD1 Comments and Study Requests Due<br>(NLT 60 days from NCP)                                                                                     | 01/01/2027 | 5.9                        |

| Responsible Party               | Pre-filing Milestone                                                                                      | Date                     | FERC Regulation (18 CFR §) |
|---------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|
| FERC                            | Issue Scoping Document 2 (if necessary)<br>(NLT 45 Days From End of SD1 Comment Period)                   | 02/16/2027               | 5.10                       |
| Applicant                       | File Proposed Study Plan (PSP)<br>(NLT 45 Days of End of SD1 Comment Period)                              | 02/16/2027               | 5.11(a)                    |
| All Stakeholders                | PSP Meeting<br>(NLT 30 days after PSP Filed)                                                              | 03/18/2027               | 5.11(e)                    |
| All Stakeholders                | PSP Comments Due<br>(NLT 90 days after PSP Filed)                                                         | 05/17/2027               | 5.12                       |
| Applicant                       | File Revised Study Plan (RSP)<br>(NLT 30 Days From End of PSP Comment Period)                             | 06/16/2027               | 5.13(a)                    |
| All Stakeholders                | RSP Comments Due<br>(NLT 15 Days after RSP Filed)                                                         | 07/01/2027               | 5.13(b)                    |
| FERC                            | Director's Study Plan Determination (SPD)<br>(NLT 30 Days After RSP Filed)                                | 07/16/2027               | 5.13(c)                    |
| Mandatory Conditioning Agencies | Notice of Dispute (NOD) Due<br>(NLT 20 Days After SPD Issued)                                             | 08/05/2027               | 5.14(a)                    |
| Applicant                       | Applicant Comments on NOD Due<br>(NLT 25 Days of Date of NOD Filed)                                       | 08/30/2027               | 5.14(j)                    |
| FERC                            | Director's Study Dispute Determination<br>(NLT 70 Days After NOD Filed)                                   | 09/24/2027               | 5.14(l)                    |
| Applicant                       | First Study Season                                                                                        | 07/16/2027 to 07/16/2028 | 5.15(a)                    |
| Applicant                       | File Initial Study Report (ISR)<br>(NLT 1 Year After SPD Issued)                                          | 07/16/2028               | 5.15(c)(1)                 |
| All Stakeholders                | ISR Meeting<br>(NLT 15 Days After ISR Filed)                                                              | 07/31/2028               | 5.15(c)(2)                 |
| Applicant                       | ISR Meeting Summary<br>(NLT 30 Days After ISR Filed)                                                      | 08/15/2028               | 5.15(c)(3)                 |
| All Stakeholders                | Any Disputes/Requests to Amend Study Plan Due<br>(NLT 30 Days after ISR Meeting)                          | 08/15/2028               | 5.15(c)(4)                 |
| All Stakeholders                | Responses to Disputes/Amendment Requests Due<br>(NLT 30 Days after filing of dispute)                     | 09/14/2028               | 5.15(c)(5)                 |
| FERC                            | Director's Determination on Disputes/Amendments<br>(NLT 30 Days following due date for dispute responses) | 10/14/2029               | 5.15(c)(6)                 |
| Applicant                       | Second Study Season<br>(begins with filing of ISR)                                                        | 07/16/2028 to 07/16/2029 | 5.15(a)                    |
| Applicant                       | Updated Study Report (USR) and Notification of Intent to File DLA Due<br>(NLT 2 Years after SPD Issued)   | 07/16/2029               | 5.15(f)                    |
| All Stakeholders                | USR Meeting<br>(NLT 15 Days After USR Filed)                                                              | 07/31/2029               | 5.15(f)                    |
| Applicant                       | USR Meeting Summary<br>(NLT 30 Days After USR Filed)                                                      | 08/15/2029               | 5.15(f)                    |
| All Stakeholders                | Any Disputes/Requests to Amend Study Plan Due<br>(NLT 30 Days after USR Meeting)                          | 08/30/2029               | 5.15(f)                    |

| Responsible Party | Pre-filing Milestone                                                                                             | Date       | FERC Regulation (18 CFR §) |
|-------------------|------------------------------------------------------------------------------------------------------------------|------------|----------------------------|
| All Stakeholders  | Responses to Disputes/Amendment Requests Due<br>(NLT 30 Days after filing of dispute)                            | 09/29/2029 | 5.15(f)                    |
| FERC              | Director's Determination on Disputes/Amendments<br>(NLT 30 Days after due date for dispute responses)            | 10/29/2029 | 5.15(f)                    |
| Applicant         | File Preliminary Licensing Proposal (PLP) or Draft License Application (DLA)<br>(NLT 150 Days Before Filing FLA) | 09/02/2030 | 5.16(a)                    |
| All Stakeholders  | PLP/DLA Comments Due<br>(NLT 90 Days After Filing of PSP/DLA)                                                    | 12/01/2030 | 5.16(e)                    |
| Applicant         | File Final License Application (FLA)<br>(NLT 2 Years Before License Expiration)                                  | 01/30/2031 | 5.17                       |

## 2.2 Proposed Communications Protocols

The ILP provides stakeholders with numerous opportunities to provide input. The current distribution list for this PAD is included as part of the Certificate of Service. The distribution list will be updated throughout the relicensing process based upon feedback from the participants.

### 2.2.1 General Communications

Primary means of communication and document distribution will be via email, unless email addresses are not available or unless otherwise requested. A mailing service will be used for distribution of any necessary hard copies. The telephone will serve as an informal method of communication. In addition, major document submissions, FERC orders, and other relevant relicensing documents will be available on NCPA's public website as described below in [Section 2.2.3](#). All filings related to the relicensing process are available from the FERC's eLibrary website at [elibrary.ferc.gov](http://elibrary.ferc.gov). Anyone can search for filings by Project by using P-11197 for information regarding the Project.

### 2.2.2 Meetings

All meetings that are an essential part of the relicensing process will be scheduled on weekdays (Monday through Thursday) to allow for participation during the hours of 8:00 a.m. to 2:00 p.m. Pacific Time. Meetings will occur in person at a reasonable location in close proximity to the Project or by conference call. It may become impractical to accommodate each stakeholder's unique schedule; however, every effort will be made to schedule meetings to accommodate the majority of stakeholders. NCPA will strive to provide all stakeholders with notification of any process-required meeting at least two weeks prior to the scheduled meeting date. A meeting agenda and any necessary meeting materials will be provided prior to the meeting as well.

### 2.2.3 Documents

A hard copy of the NOI, as well as this PAD, will be available for public viewing at the public libraries listed below:

1. Angels Camp Branch Library – 358 N. Main Street, Angels Camp, California 95222
2. Fair Oaks Library – 2370 E. Main Street, Stockton, California 95205
3. Stanislaus County Library – 1500 I Street, Modesto, California 95354
4. Tuolumne County Library – 480 Greenley Road, Sonora, California 95370

Copies of process-related documents can be viewed and printed electronically in portable document format (PDF) from the NCPA website at: <http://www.ncpahydro.com/> or FERC's eLibrary system. Certain documents will contain Critical Energy Infrastructure Information (CEII) or privileged information and will be designated as such. Not all stakeholders will be able to view CEII or privileged documents. Information on obtaining access to view CEII or privileged information can be found by following the instructions contained at: <https://www.ferc.gov/enforcement-legal/ceii>.

Requests for hard copies of relicensing documents should be sent to Jake Eymann using the contact information provided in [Section 1.1](#) and should clearly indicate the document name, publication date (if known), and the FERC Project number. A reproduction charge (\$0.25/page) and postage costs may be assessed for hard copies requested by the public. Per the requirements of 18 CFR § 5.2(b)(4), the United States Fish and Wildlife Service (USFWS), the United States Forest Service, the United States Bureau of Reclamation, the United States Army Corps of Engineers (USACE or Corps), the National Marine Fisheries Service, the California Department of Fish and Wildlife (CDFW), and Native American tribes will not be subject to document processing or postage fees.

#### **2.2.4 Study Requests**

As described in 18 CFR § 5.9(b) of FERC's ILP regulations, the required information to be included in a study request is as follows:

- Describe the goals and objectives of each study proposal and the information to be obtained;
- If applicable, explain the relevant resource management goals of the agencies or Native American tribes with jurisdiction over the resource to be studied;
- If the requestor is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;
- Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;
- Explain how any proposed study methodology including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
- Describe consideration of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

Any study requests should be filed directly with the Commission with a courtesy copy provided to Jake Eymann at [HydroRelicensing@ncpa.com](mailto:HydroRelicensing@ncpa.com).

### **3. Project Location, Facilities, and Operation (18 CFR § 5.6(d)(2))**

#### **3.1 Project Location (18 CFR § 5.6(d)(2)(ii))**

##### **3.1.1 Collierville Transmission Line**

The Collierville Transmission Line is located within San Joaquin, Stanislaus, and Calaveras Counties, California. The Project is located approximately 13 miles northeast of the city of Stockton, California.

##### **3.1.2 Spicer Meadow Transmission Line**

The Spicer Meadow Transmission Line is located in Calaveras and Tuolumne Counties, California. The Project is located approximately 68 miles northeast of the city of Stockton, California.

#### **3.2 Existing Project Structures (18 CFR § 5.6(d)(2)(iii))**

##### **3.2.1 Collierville Transmission Line**

The Collierville Transmission Line extends 39.6 miles from the Collierville Powerhouse Switchyard to the PG&E Bellota Switchyard. It is a 230-kilovolt (kV) double circuit, three phase, overhead transmission line. The Transmission Line is located within a 120-foot-wide right-of-way (ROW) and encompasses a total of 599.9 acres on private property, including 26.4 acres of land owned by USACE and 10.8 acres of land owned by the US Bureau of Land Management (BLM).<sup>1</sup>

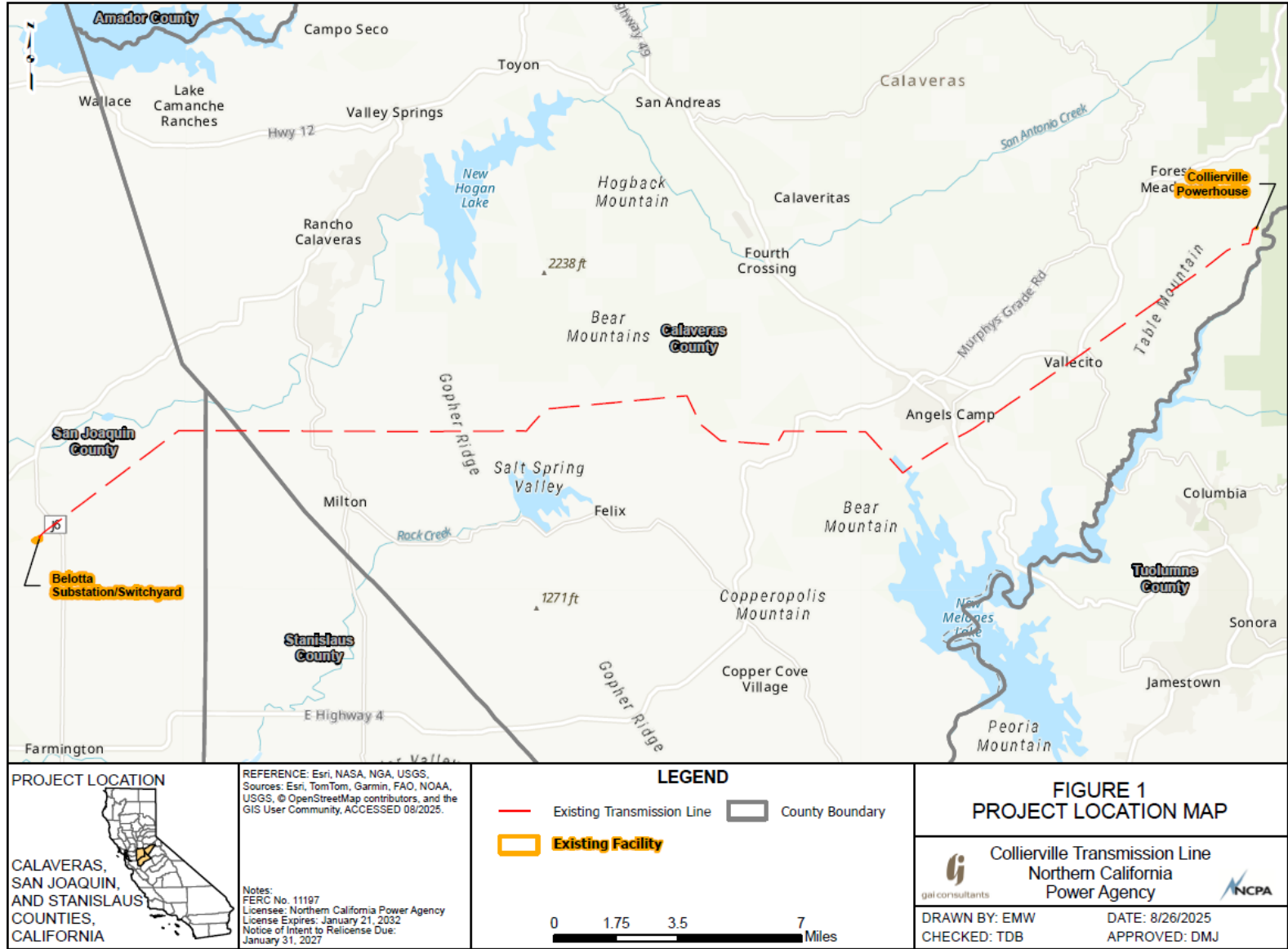
The transmission line is composed of three vertically configured, BlueJay 1113 KCMIL ACSR (45/7) conductors per circuit on 159 direct embed, weathered steel, mono pole structures with 133 single structures (straight sections); 11 single structures with guy wires (at slight angles); and 15 structure locations (at sharp angles) each composed of two monopoles with guy wires. The guy wires are anchored opposite the angle to provide additional support. At the 15 major corners, each circuit is on its own direct embed monopole structure with guy wires. The poles range in height from 60 to 95 feet (Power Engineers, Inc., 1998). The location of the Collierville Transmission Line is shown in **Figure 3.2.1-1**.

##### **3.2.2 Spicer Meadow Transmission Line**

The Spicer Meadow Transmission Line extends 13.6 miles underground from the Spicer Meadow Powerhouse Switchyard to the PG&E Cabbage Patch Switchyard. It is a 21 kV, single circuit, three-phase, underground transmission line with three Type MV-90 35 kV 4.0 (19x) conductors in a single conduit. The Transmission Line is located within a 10-foot-wide ROW and encompasses a total of 16.7 acres. The line also includes 60 underground electric vaults. The Transmission Line is located on 16.4 acres of federal land and 0.3 acres of private land within the Stanislaus National Forest in Calaveras and Tuolumne Counties as shown in **Figure 3.2.2-1**.

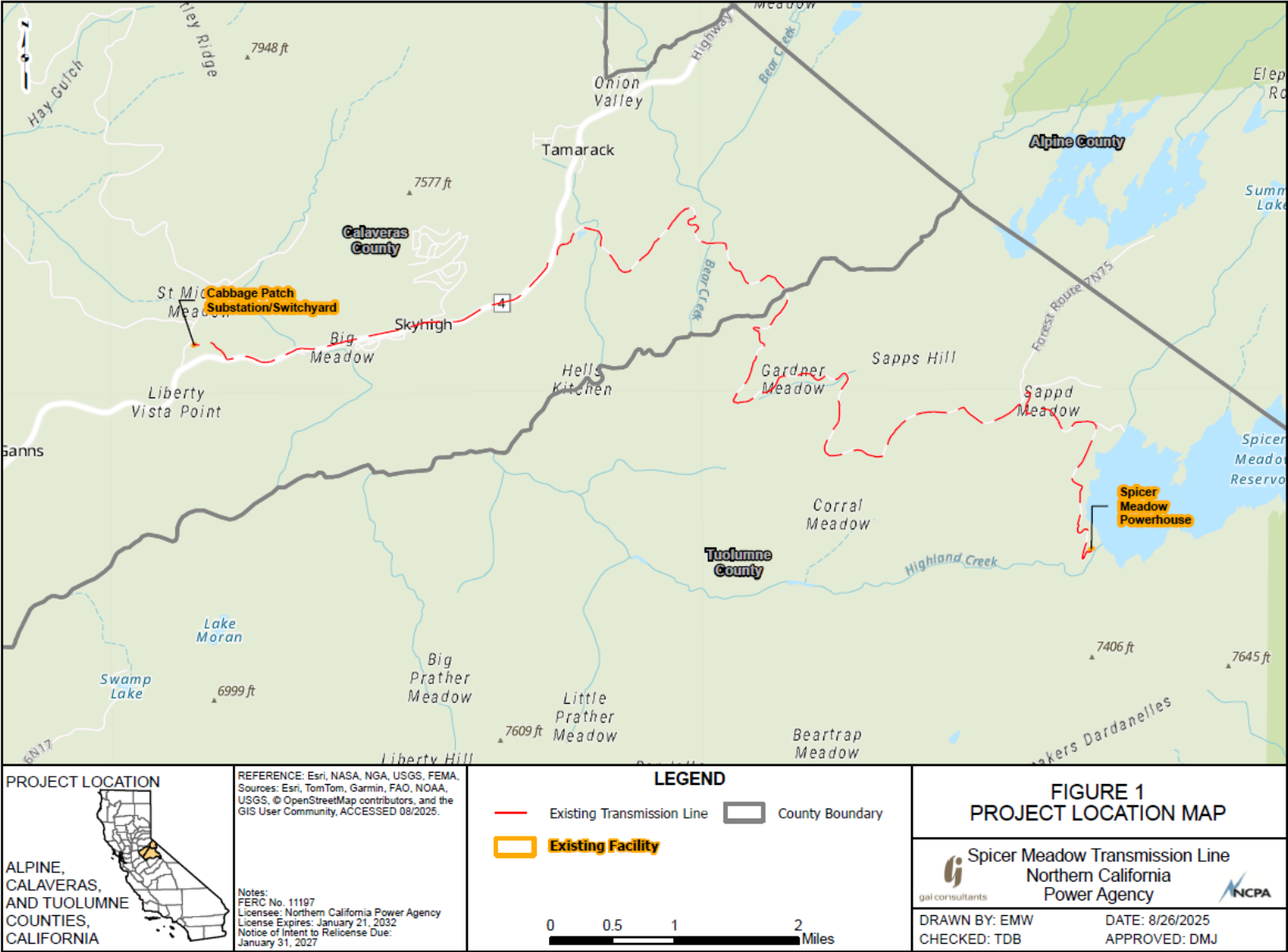
<sup>1</sup> All federal acreages listed in this document have been re-calculated using geographic information system mapping.

Figure 3.2.1-1: Collierville Transmission Line



G:\\_2025\1250898\_00 - GIS\AGP\1250898\_00\_Mead\_Hunt\_Mapping\1250898\_00\_Mead\_Hunt\_Mapping\_2025\1250898\_00\_Mead\_Hunt\_Mapping\_2025.aprx

Figure 3.2.2-1: Spicer Meadow Transmission Line



G:\\_2025\R250898.00 - GIS\AGP\R250898\_00\_Mead\_Hunt\_Mapping\R250898\_00\_Mead\_Hunt\_Mapping\_2025\R250898\_00\_Mead\_Hunt\_Mapping\_2025.aprx

### **3.3 Project Operations (18 CFR § 5.6(d)(2)(iv))**

The Project delivers electricity generated by the North Fork Stanislaus Project's Collierville and Spicer Meadow Powerhouses, owned by CCWD, and operated by NCPA, to PG&E's interconnected grid at Bellota and Cabbage Patch substations respectively. The Project serves to transmit high voltage power through transmission lines which are under FERC jurisdiction.<sup>2</sup>

#### **3.3.1 Collierville Transmission Line Current Project Operations**

##### **3.3.1.1 Right of Way Vegetation Inspections**

NCPA has developed and implemented a Transmission Vegetation Management Program (TVMP) to establish the vegetation maintenance requirements to improve reliability of its generation interconnection system in accordance with the North American Electric Reliability Corporation Standard FAC-003-5 and Western Electricity Coordinating Council's (WECC) bulletins and procedures (NCPA, 2025).

The TVMP ensures reliability of NCPA's generation interconnection system by preventing outages from vegetation located within or adjacent to the powerline ROW, maintaining required clearances between the power line and vegetation within or adjacent to the ROW, reporting vegetation related outages of the system to WECC and documenting the process for the annual vegetation work plan (NCPA, 2025).

All vegetation management activities follow NCPA's Wildfire Mitigation Plan (WMP) 2024, which follows the guidelines set forth in the Powerline Fire Prevention Field Guide published by Cal Fire in 2021 and used by California Power Utilities for the care and maintenance of trees, shrubs, and other woody plants when pruning vegetation near electric facilities (NCPA, 2024). The WMP is reviewed by the Wildfire Safety Advisory Board.

Vegetation along the entire Transmission Line is inspected annually. These inspections may be aerial inspections (LiDAR), ground inspections (visual), or a combination of the two. If potential hazards are detected, the Plant Manager determines the appropriate mitigation measure to correct the situation. Mitigation measures may include tree trimming, tree removal, and mowing to satisfy clearance requirements. All inspections and mitigation actions are tracked using NCPA's Computer Maintenance Management System (NCPA, 2025).

##### **3.3.1.2 Repairs to Transmission Equipment**

NCPA conducts maintenance, repairs, and replacements to transmission-related equipment as needed. Such work is generally conducted by accessing the site with either aerially placed lineman (helicopter) or ground vehicles. Any potential disturbance is localized and of short duration. The transmission lines are inspected annually for hardware issues as well as flown annually for Corona and IR scans.

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<sup>2</sup> For this document "transmission lines under FERC jurisdiction" has the same meaning as "generation tie-lines under FERC jurisdiction".

### 3.3.2 Spicer Meadow Current Project Operations

As needed, NCPA repairs this transmission line. Such repairs are conducted when accessing the site via ground vehicles. The line is underground and is primarily located adjacent to existing roads. NCPA conducts routine vegetation management activities around all splice boxes and areas where the underground cable ROW does not follow the access road. NCPA patrols the underground transmission line once a year, verifying that the splice boxes are clear of vegetation, and that the underground warning signs are in place.

### 3.3.3 Proposed Project Operations

NCPA proposes to continue the existing maintenance activities for both Transmission Lines under a subsequent license. No new facilities or structures are being proposed as part of the relicensing.

## 3.4 Other Project Information (18 CFR § 5.6(d)(2)(v))

### 3.4.1 Current License Requirements (18 CFR § 5.6(d)(2)(v)(A))

The Project license includes a series of articles that specify the actions the Licensee must take to remain in compliance with the license terms and conditions. FERC issued the Transmission Line license on February 12, 1992 (FERC, 1992). The license conditions are summarized below in **Table 3.4.1-1** and a copy of the order issuing the Transmission Line license is included in **Appendix 3.4.1-1**.

*Table 3.4.1-1: Collierville and Spicer Meadow Project Transmission Line Project Current License Conditions*

| License Article | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Article 1       | The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Article 2       | No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, that if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Article 3       | The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct. |

| License Article | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Article 4       | <p>The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.</p> |
| Article 5       | <p>The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Article 6       | <p>In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Article 7       | <p>Timber on lands of the United State cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| License Article | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                 | Licensee: Provided, that timber so sold or disposed of shall be cut and removed from the area prior to; or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Article 8       | The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.                                                                                                                                                                                                                                                                |
| Article 9       | The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.                                                                                                                                                                                                                                                                                                                                                                                         |
| Article 10      | The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.                                                                                                                                                                                                                       |
| Article 11      | The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.                                                                                                                                                                                                                                                                                                              |
| Article 12      | The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place. |
| Article 13      | If the Licensee shall cause or suffer essential property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency                                                                                           |

| License Article | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.                                                                                                                                                                                                                                |
| Article 14      | The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.                                                                                                                                                                                                                                                                                      |
| Article 15      | The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and the Federal Power Act which are not expressly set forth herein.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Article 201     | The licensee shall pay the United States the following annual charges, effective the first day of the month in which this order is issued: <ul style="list-style-type: none"> <li>a) For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, an annual charge of \$200.00, or such amount as may be determined in accordance with the provisions of the Commission's regulations in effect from time to time.</li> <li>b) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 34 acres of its lands for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.</li> </ul> |

Source (FERC, 1992)

### 3.4.2 Summary of Generation and Outflow Records (18 CFR § 5.6(d)(2)(v)(B))

The Project consists of only two transmission lines. It does not generate power and does not include any dams, diversions, or otherwise discharge to surface waters. The Collierville Transmission Line transmits approximately 443,000 MWh of hydroelectric energy annually from the Collierville Powerhouse to PG&E's interconnected grid at the Bellota Switchyard. The Spicer Meadow Transmission Line transmits approximately 20,000 MWh of hydroelectric energy annually from the Spicer Meadow Powerhouse to PG&E's interconnected grid at the Cabbage Patch Switchyard.

### 3.4.3 Current Net Investment (18 CFR § 5.6(d)(2)(v)(C))

NCPA will provide the Project's net book value (assets minus liabilities) in the Final License Application.

### 3.4.4 Summary of Compliance History (18 CFR § 5.6(d)(2)(v)(D))

A review of the FERC eLibrary for the Project did not identify any notices of non-compliance during the term of the existing license.

## 3.5 Description of Any New Facilities, Plans for Development, and Changes in Operations (18 CFR § 5.6(d)(2)(vi))

No new structures or facilities are planned for development, and no changes in operations are proposed as part of this relicensing.

## 4. Description of Existing Environment and Resource Impacts

This section summarizes the existing environment and resource impacts related to the Collierville and Spicer Meadow Transmission Line Project.

### 4.1 General Description of the Project Area (18 CFR § 5.6(d)(3)(xiii))

#### 4.1.1 Collierville Transmission Line

The 39.6-mile-long overhead Collierville Transmission Line is located within three counties. A total of 5.8 miles is in San Joaquin County, 1.0 mile is in Stanislaus County, and 32.8 miles are in Calaveras County (GAI Consultants, 2025). The western extent of the Transmission Line is located approximately 13 miles northwest of the city of Stockton.

#### 4.1.2 Spicer Meadow Transmission Line

The 13.6-mile-long underground Spicer Meadow Transmission Line is located within two counties. A total of 6.3 miles is within Calaveras County and 7.3 miles are within Tuolumne County (GAI Consultants, 2025). The transmission line is located 68 miles northwest of the city of Stockton.

#### 4.1.3 Major Land Uses

NCPA reviewed the US Geological Survey (USGS) National Land Cover Database (NLCD) to determine the current land cover classifications within the Project boundary. **Table 4.1.3-1** details the land cover within the Project boundary for each Transmission Line. **Figure 4.1.3-1** and **Figure 4.1.3-2** show the land cover in the vicinity of the Collierville and Spicer Meadow Transmission Lines, respectively. More detailed land cover maps showing land cover within the Project boundary are included in **Appendix 4.1.3-1**.

*Table 4.1.3-1: USGS NLCD Category for Lands within the Project Boundary of the Collierville and Spicer Meadow Transmission Lines*

| Land Cover Classification    | Collierville Transmission Line |            | Spicer Meadow Transmission Line |            |
|------------------------------|--------------------------------|------------|---------------------------------|------------|
|                              | Acres                          | Percentage | Acres                           | Percentage |
| Barren Land (Rock/Sand/Clay) | 0.4                            | 0.1%       | 0                               | 0%         |
| Cultivated Crops             | 39.1                           | 6.5%       | 0                               | 0%         |
| Deciduous Forest             | 13.4                           | 2.2%       | 0                               | 0%         |
| Developed, High Intensity    | 0.7                            | 0.1%       | 0                               | 0%         |
| Developed, Low Intensity     | 6.3                            | 1.0%       | 6.9                             | 41.3%      |
| Developed, Medium Intensity  | 3.8                            | 0.6%       | 0.3                             | 1.8%       |
| Developed, Open Space        | 17.4                           | 2.9%       | 5.2                             | 31.1%      |
| Evergreen Forest             | 96.5                           | 16.1%      | 3.4                             | 20.4%      |
| Grassland/Herbaceous         | 278.5                          | 46.4%      | 1.2                             | 7.2%       |
| Open Water                   | 0.6                            | 0.1%       | 0                               | 0%         |
| Pasture/Hay                  | 0.0                            | 0%         | 0                               | 0%         |

| Land Cover Classification | Collierville Transmission Line |            | Spicer Meadow Transmission Line |            |
|---------------------------|--------------------------------|------------|---------------------------------|------------|
|                           | Acres                          | Percentage | Acres                           | Percentage |
| Scrub/Shrub               | 143.8                          | 23.9%      | 0                               | 0%         |
| Total*                    | 600.5*                         | 99.9%**    | 16.7                            | 101.8%**   |

\*Total acreage does not match official Project boundary total due to differences in data coordinate systems.

\*\*Percentages do not add to 100% due to rounding.

Source: (GAI Consultants, 2025)

Based on USGS NLCD data, major land uses within the Collierville Transmission Line Project boundary in order of abundance include grassland/herbaceous 46.4%, scrub/shrub 23.9%, evergreen forest 16.1%, cultivated crops 6.5%, developed open space 2.9%, deciduous forest 2.2%, developed low intensity 1.0%, developed medium intensity 0.6%, and 0.1% of each barren land, developed-high intensity, and open water (GAI Consultants, 2025).

Based on USGS NLCD data, major land uses within the Spicer Meadow Transmission Line Project boundary in order of abundance include developed-low intensity 41.3%, developed-open space 31.1%, evergreen forest 20.4%, grassland/herbaceous 7.2%, and developed-medium intensity 1.8% (GAI Consultants, 2025).

According to the Calaveras County General Plan, land uses within Calaveras County are widely distributed. Higher density residential, commercial, and industrial uses follow the historical development pattern in and around existing communities, where there is existing infrastructure. Areas around these communities have been designated to provide for the expansion of commercial, industrial, and residential uses (Calaveras County, 2020). Land use policies encourage development within nearby and existing communities. The plan also provides opportunities for additional rural residential development and land to support a healthy agricultural and timber economy (Calaveras County, 2020). While the plan does not spell out the amount of land in each land classification, it does identify different land classifications and sets standards for population density, building intensity, and water/sewage disposal requirements. General land use categories include natural resource lands, rural transition lands, residential lands, mixed use lands, commercial lands, industrial lands, and other lands (Calaveras County, 2020).

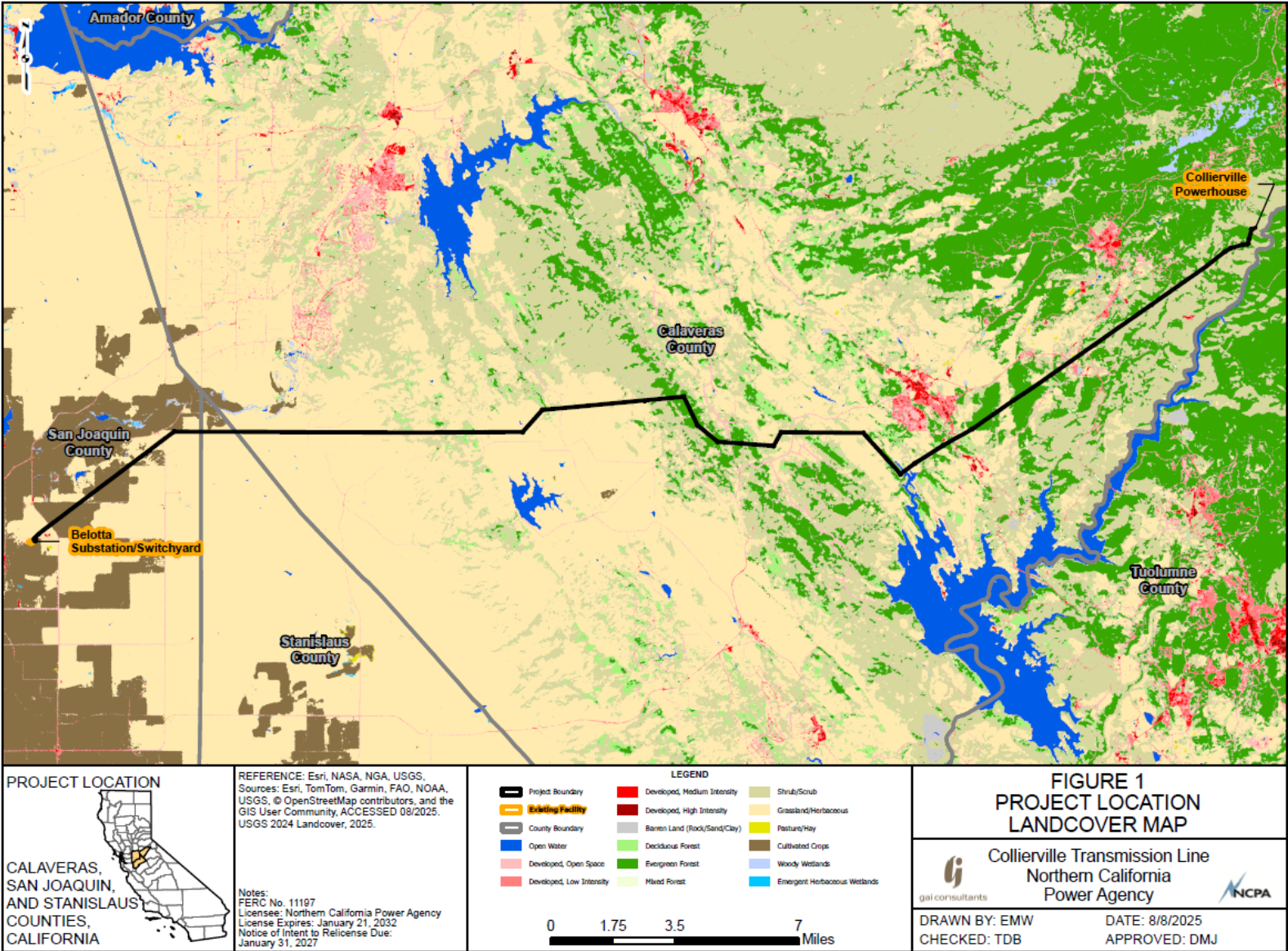
According to the San Joaquin County General Plan Policy Document, the majority of land in the county is designated as general agriculture. There are more intensive residential and urban uses in the county surrounding cities and unincorporated communities (Mintier Harnish Planning Consultants, 2016). The plan identified different land use categories and set minimum standards for each category. Land use categories include residential development, community development, commercial and mixed-use development, industrial development, agricultural lands, public uses, and parks and recreation/open space/resource uses (Mintier Harnish Planning Consultants, 2016).

According to the Stanislaus County General Plan, the county has developed land use designations for use in the unincorporated areas of the county. The plan also sets minimum standards for each category. Land use categories include residential, commercial, industrial, planned industrial, industrial

transition, business park, agriculture, urban transition, planned development, highway commercial planned development, historical, mineral resources, and specific plan (Stanislaus County, 2016).

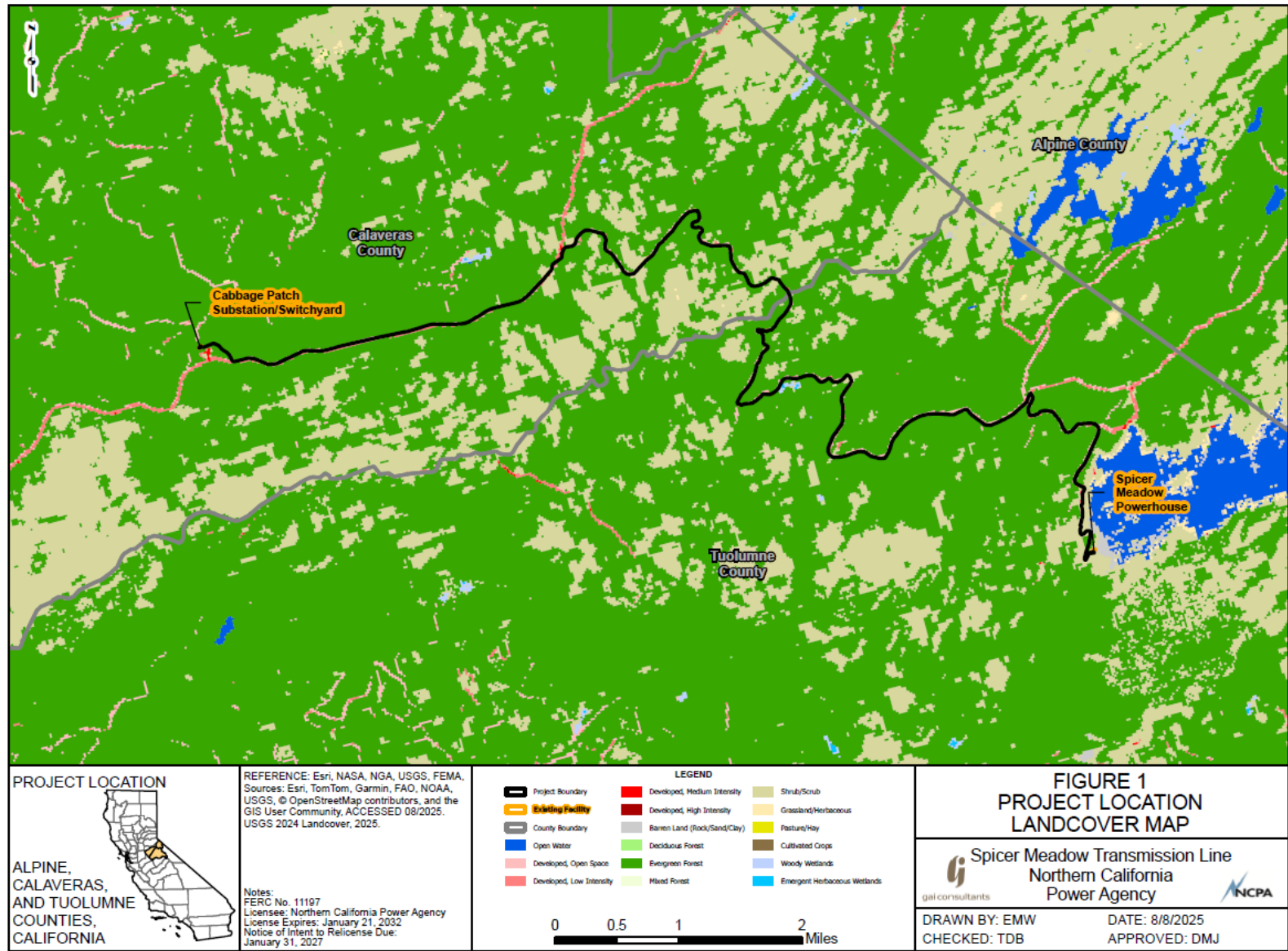
According to the Tuolumne County General Plan, major land uses within Tuolumne County include public 77%, agricultural 11%, timber production 6%, non-urban residential 4%, urban 1%, parks and recreation/open space <1%, and commercial/industrial <1% (Tuolumne County Community Resources Agency, 2018).

Figure 4.1.3-1: Major Land Uses in the Vicinity of the Collierville Transmission Line



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Figure 4.1.3-2: Major Land Uses in the Vicinity of the Spicer Meadow Transmission Line



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#### **4.1.4 Major Water Uses**

The Collierville and Spicer Meadow Transmission Line Project transports power generated at the North Fork Stanislaus River Hydroelectric Project to the electric grid. The Transmission Lines are primarily within the Stanislaus River Basin; however, no Project activities occur in or near the waterway. As a result, there are no waters, reservoirs, reservoir tributaries, bypass reaches or tailraces that are affected by the Project. Therefore, continued operation of the Project will have no impact on current or future water use.

Historically, the Stanislaus River was used for gold mining. It was one of the rivers associated with the California Gold Rush. The river and areas near the river provided some of the most productive gold digging in the Sierra Nevada foothills (Goldrushnuggets.com, n.d). While some recreational prospectors still look for gold, the main water uses of the river today include hydroelectric power generation, irrigation, municipal water supply, flood control, recreation, and fish and wildlife habitat.

#### **4.1.5 Climate**

California is located within the Mediterranean, hot summer temperate climate classification. The summers are generally hot and dry, and the winters have moderate temperatures and rainy weather (Plantmaps.com, n.d.).

##### **4.1.5.1 Collierville Transmission Line**

Climate information for the Collierville Transmission Line is based on data collected in the city of Valley Springs, located approximately 9 miles north of the center point of the Transmission Line. The average monthly minimum temperatures range from 39 degrees Fahrenheit (°F) in January to 62°F in July. The average monthly maximum temperatures range from 53°F in January to 94°F in July. The overall monthly average temperatures range from 46°F in January to 78°F in July. The average annual precipitation is 23.49 inches, with approximately 68% of the precipitation falling between November and March. No average snowfall number was provided for Valley Springs (US Climate Data, 2025a).

##### **4.1.5.2 Spicer Meadow Transmission Line**

Climate information for the Spicer Meadow Transmission Line is based on data collected in the city of Arnold, located approximately 16 miles southwest of the Transmission Line. The average monthly minimum temperatures range from 29°F in January to 54°F in July. The average monthly maximum temperatures range from 44°F in January to 80°F in July. The overall monthly average temperatures range from 36.5°F in January to 67°F in July. The average annual precipitation is 57 inches, with approximately 78% of the precipitation falling between November and March. The area receives an average of 112 inches of snow each year (US Climate Data, 2025b).

## 4.2 Geology and Soils (18 CFR § 5.6(d)(3)(ii))

### 4.2.1 Geology

#### 4.2.1.1 Collierville Transmission Line

The west end of the Collierville Transmission Line originates in the Great Valley geomorphic province and extends eastward to the Sierra Nevada geomorphic province. The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. The Great Valley is a trough where sediments have been deposited since the Jurassic period (California Department of Conservation, 2002). The Sierra Nevada is a tilted fault block approximately 400 miles long with rugged multiple scarps, contrasting with the gentle western slope that disappears under the sediments of the Great Valley (California Department of Conservation, 2002). The western end of the Transmission Line is relatively flat and is dominated by agricultural lands. The eastern portion is characterized by chaparral and oak foothills interspersed with irregular plains and narrow valleys that are dominated by ranchland for grazing livestock (Griffith, 2016). The topography varies in elevation by approximately 2,201 feet along the Transmission Line route, generally increasing in elevation as you travel eastward. It ranges in elevation from approximately 694 feet to 2,895 feet (Power Engineers, Inc., 1998).

#### 4.2.1.2 Spicer Meadow Transmission Line

The entire Spicer Meadow Transmission Line is located within the western slope of the Sierra Nevada geomorphic province. The Sierra Nevada is a tilted fault block that extends approximately 400 miles. The east face is a high rugged multiple scarp formation and contrasts with the gentle western slope. Deep river canyons are also cut into the western slope (California Department of Conservation, 2002). The area is largely composed of granitic rocks (Griffith, 2016). The topography varies in elevation by approximately 570 feet along the Transmission Line route. It ranges from a low elevation of approximately 6,380 feet to a high elevation of approximately 6,950 feet (Power Engineers, Inc., 1998).

### 4.2.2 Soils

#### 4.2.2.1 Collierville Transmission Line

To evaluate the soil present along the Collierville Transmission Line, NCPA reviewed the United States Department of Agriculture (USDA) web soil survey, creating a web soil map for the Project vicinity in each of the three counties where it is located.

##### San Joaquin County

There are nine soil types throughout the Transmission Line vicinity which are grouped into seven major soils associations with distinct soil patterns, relief, and drainage factors (USDA-NRCS, n.d.). The custom soils report and map for the Transmission Line within San Joaquin County are presented in **Appendix 4.2.2.1-1**.

Keyes-Bellota complex, Pentz sandy loam, and Redding gravelly loam soils are the most prevalent soil series found in the Project vicinity. The most commonly identified soil classifications in respective order of abundance are the Redding gravelly loam with 0 to 8% slopes (210), Redding gravelly loam with 1 to 30% slopes (221), Pentz sandy loam with 15 to 50% slopes (207), and Keyes-Bellota complex soils with 2 to 15% slopes (187) (USDA-NRCS, n.d.). Soil characteristics are shown in **Table 4.2.2.1-1**.

*Table 4.2.2.1-1: Prevalent Soil Characteristics in the Project Vicinity within San Joaquin County - Collierville Transmission Line*

| Soil Series           | Drainage Classification | Formation    | Water Transmittal Capacity | Runoff Class |
|-----------------------|-------------------------|--------------|----------------------------|--------------|
| Redding               | Moderately well drained | Fan remnants | Very low                   | High         |
| Pentz                 | Well drained            | Hills        | Moderately high            | High         |
| Keyes-Bellota complex | Moderately well drained | Hills        | Very low                   | Very high    |

Source: (USDA-NRCS, n.d.)

#### Stanislaus County

There are five soil types throughout the Transmission Line vicinity which are grouped into four major soils associations with distinct soil patterns, relief, and drainage factors (USDA-NRCS, n.d.). The custom soils report and map for the Transmission Line within Stanislaus County are presented in **Appendix 4.2.2.1-2**.

Pentz-Peters association, Redding gravelly loam, and Mined Land - Anthraltic-Xerorthents complex soils are the most prevalent soil series found in the Project vicinity. The most commonly identified soil classifications in respective order of abundance are the Pentz-Peters association with 2 to 50% slopes (475), Redding gravelly loam with 0 to 8% slopes (220), and Mined Land - Anthraltic-Xerorthents complex soils with 1 to 15% slopes (1013) (USDA-NRCS, n.d.). Soil characteristics are shown in **Table 4.2.2.1-2**.

*Table 4.2.2.1-2: Prevalent Soil Characteristics in the Project Vicinity within Stanislaus County - Collierville Transmission Line*

| Soil Series                               | Drainage Classification | Formation       | Water Transmittal Capacity | Runoff Class |
|-------------------------------------------|-------------------------|-----------------|----------------------------|--------------|
| Pentz-Peters complex                      | Well drained            | Hills           | Moderately high            | High         |
| Redding                                   | Moderately well drained | Fan remnants    | Very low                   | High         |
| Mined Land-Anthraltic-Xerorthents complex | Excessively drained     | Stream terraces | High                       | High         |

Source: (USDA-NRCS, n.d.)

#### Calaveras County

There are sixty-six (66) soil types throughout the Transmission Line vicinity which are grouped into forty-nine (49) major soils associations with distinct soil patterns, relief, and drainage factors (USDA-NRCS, n.d.). The custom soils report and map for the Transmission Line within Calaveras County are presented in **Appendix 4.2.2.1-3**.

Loafercreek-Gopheridge complex, Copperopolis-Whiterock complex, and Loafercreek-Bonanza complex are the most prevalent soil series found in the Project vicinity. The most commonly identified soil classifications in respective order of abundance are the Loafercreek-Gopheridge complex soils with 15 to 30% slopes (7086 and 7087), Loafercreek-Bonanza complex soils with 3 to 15% slopes (7074), and Copperopolis-Whiterock complex rocky soils with 3 to 15% slopes (8034) (USDA-NRCS, n.d.). Soil characteristics are shown in **Table 4.2.2.1-3**.

*Table 4.2.2.1-3: Prevalent Soil Characteristics in the Project Vicinity within Calaveras County-Collierville Transmission Line*

| Soil Series                    | Drainage Classification                      | Formation | Water Transmittal Capacity | Runoff Class |
|--------------------------------|----------------------------------------------|-----------|----------------------------|--------------|
| Loafercreek-Gopheridge complex | Well-drained                                 | Hills     | Low to High                | High         |
| Copperopolis-Whiterock complex | Somewhat excessively drained to well drained | Low hills | Low to High                | High         |
| Loafercreek-Bonanza complex    | Well drained                                 | Hills     | Low to High                | High         |

Source: (USDA-NRCS, n.d.)

#### **4.2.2.2 Spicer Meadow Transmission Line**

In order to evaluate the soils present along the Spicer Meadow Transmission Line, NCPA reviewed the USDA web soil survey, creating one soil map for the entire Project vicinity.

There are eight (8) soil types throughout the Transmission Line vicinity which are grouped into seven (7) major soils associations with distinct soil patterns, relief, and drainage factors (USDA-NRCS, n.d.). The custom soils report and map for the Transmission Line within Calaveras and Tuolumne counties are presented in **Appendix 4.2.2.2-1**.

Gerle family bouldery-Rock outcrop complex, Rock outcrop-Gerle family bouldery complex, and rock outcrop are the most prevalent soil series found in the Project vicinity. The most commonly identified soil classifications in respective order of abundance are the Gerle family bouldery-Rock outcrop complex with 5 to 35% slopes (114), Gerle family bouldery rock outcrop complex with 35 to 50% slopes (115), Rock outcrop-Gerle family bouldery complex with 5 to 35% slopes (186), and Rock outcrop (183). Soil characteristics are shown in **Table 4.2.2.2-1**.

*Table 4.2.2.2-1: Prevalent Soil Characteristics in the Project Vicinity within Calaveras and Tuolumne Counties - Spicer Meadow Transmission Line*

| Soil Series                                 | Drainage Classification | Formation | Water Transmittal Capacity | Runoff Class |
|---------------------------------------------|-------------------------|-----------|----------------------------|--------------|
| Gerle family, bouldery-Rock outcrop complex | Well drained            | Moraines  | Very low                   | Medium       |
| Rock outcrop-Gerle family bouldery complex  | Excessively drained     | Mountains | Very low to moderately low | Medium       |
| Rock outcrop                                | Excessively drained     | Mountains | Very low to moderately low | Low          |

### 4.2.3 Erosion

The USDA-Natural Resource Conservation Service (USDA-NRCS) uses a computer software model called Revised Universal Soil Loss Equation Version 2 (RUSLE2) to estimate soil loss from erosion caused by rainfall and its associated flow over the land. Components that are reviewed in RUSLE2 to estimate soil erosion based upon erodibility include the Hydrologic Soil Group, T Factor, and Kf Factor. The USDA-NRCS definition for each component is described in the following paragraphs (USDA-NRCS, 2001). The USDA-NRCS also provides a representative value in the percentage of sand, silt, and clay in dominant soils (USDA-NRCS, n.d.).

The Hydrologic Soil Group is based upon runoff potential for saturated soils and bare soils. The runoff potential is classified as Group A through Group D, with Group A having the lowest runoff potential and Group D having the highest (USDA-NRCS, n.d.).

The T Factor is an estimate of the maximum average rate of soil erosion in tons per acre per year that can occur without affecting crop productivity over a sustained period. T Factor values range from 1 ton per acre per year for the most fragile soils that are typically unable to revegetate once eroded, to 5 tons per acre per year for soils that can sustain more erosion and revegetate more successfully once disturbed (USDA-NRCS, n.d.).

The Kf Factor indexes how susceptible a soil surface is to erosion by water. Factors range from 0.02 to 0.64, with 0.02 being the least erodible and 0.64 being the most erodible soils (USDA-NRCS, n.d.). Based upon RUSLE2 information, the lands in the vicinity of the Collierville Transmission Lines have Kf Factors in the moderate range and are moderately susceptible to soil erosion. Lands in the vicinity of the Spicer Meadow Transmission Line have Kf Factors in the low range and have a low susceptibility to soil erosion.

The RUSLE2 components for the most prevalent soil series found in the vicinity of the Collierville Transmission Line are presented in **Table 4.2.3-1**, **Table 4.2.3-2**, and **Table 4.2.3-3** below. The RUSLE2 components for the most prevalent soil series found in the vicinity of the Spicer Meadow Transmission Line are presented in **Table 4.2.4-4** below.

*Table 4.2.3-1: Collierville Transmission Line San Joaquin County Prevalent Soils RUSLE2 Components*

| Soil                  | Hydrologic Soil Group | T Factor    | Kf Factor    | Percent Sand  | Percent Silt  | Percent Clay  |
|-----------------------|-----------------------|-------------|--------------|---------------|---------------|---------------|
| Redding               | Group D               | 2 tons      | 0.24         | 65.9%         | 19.1%         | 15.0%         |
| Pentz                 | Group D               | 1 ton       | 0.49         | 45.4%         | 41.6%         | 13.0%         |
| Keyes-Bellota complex | Group C/D             | 1 to 3 tons | 0.24 to 0.43 | 41.6 to 65.1% | 18.9 to 36.4% | 16.0 to 22.0% |

Source: (USDA-NRCS, n.d.)

*Table 4.2.3-2: Collierville Transmission Line Stanislaus County Prevalent Soils RUSLE2 Components*

| Soil                                     | Hydrologic Soil Group | T Factor | Kf Factor | Percent Sand  | Percent Silt  | Percent Clay  |
|------------------------------------------|-----------------------|----------|-----------|---------------|---------------|---------------|
| Pentz-Peters complex                     | Group D               | 2 tons   | 0.24      | 16.0 to 25.0% | 48.0 to 60.0% | 15.0 to 36.0% |
| Redding                                  | Group D               | 2 tons   | 0.43      | 38.0%         | 48.0%         | 14.0%         |
| Mined Land-Anthraltic-Xerothents complex | Group A               | 1 ton    | 0.24      | 65.0%         | 30.0%         | 5.0%          |

Source: (USDA-NRCS, n.d.)

*Table 4.2.3-3: Collierville Transmission Line Calaveras County Prevalent Soils RUSLE2 Components*

| Soil                           | Hydrologic Soil Group | T Factor | Kf Factor | Percent Sand  | Percent Silt  | Percent Clay  |
|--------------------------------|-----------------------|----------|-----------|---------------|---------------|---------------|
| Loafercreek-Gopheridge complex | Group C               | 2 tons   | 0.37      | 41.0 to 45.0% | 40.0 to 46.0% | 13.0 to 50.0% |
| Copperopolis-Whiterock complex | Group C/D             | 1 ton    | 0.28      | 40.0 to 45.0% | 40.0 to 41.0% | 15.0 to 16.0% |
| Loafercreek-Bonanza complex    | Group D               | 2 tons   | 0.28      | 45.0 to 52.0% | 35.0 to 40.0% | 13.0 to 15.0% |

Source: (USDA-NRCS, n.d.)

*Table 4.2.3-4: Spicer Meadow Transmission Line Prevalent Soils RUSLE2 Components*

| Soil                                        | Hydrologic Soil Group | T Factor | Kf Factor | Percent Sand | Percent Silt | Percent Clay |
|---------------------------------------------|-----------------------|----------|-----------|--------------|--------------|--------------|
| Gerle family, bouldery-rock outcrop complex | Group A               | 4 tons   | 0.1       | 80.2%        | 16.8%        | 3.0%         |
| Rock outcrop-Gerle family bouldery complex  | Group A               | 5 tons   | 0.15      | 66.8%        | 19.2.0%      | 14.0%        |
| Rock outcrop                                | NA*                   | NA*      | NA*       | NA*          | NA*          | NA*          |

Source: (USDA-NRCS, n.d.)

\* Exposed rock at the surface with no soils.

### 4.3 Water Resources (18 CFR § 5.6(d)(3)(iii))

The Collierville and Spicer Meadow Transmission Line Project transports power generated at the North Fork Stanislaus River Hydroelectric Project to the electric grid. The Transmission Lines are primarily within the Stanislaus River basin. However, no Project activities occur in or near the waterway. As a result, there are no waters, reservoirs, reservoir tributaries, bypass reaches or tailraces that are affected by the Project. Routine operations of this transmission only license have no potential to affect water use and little potential to affect water quality. Therefore, water quantity and quality parameters are not discussed further in this document. A brief summary of the Stanislaus River Basin is provided below.

#### 4.3.1 Stanislaus River Basin

The Stanislaus River originates in the Sierra Nevada Mountains and is one of the largest tributaries to the San Joaquin River. The Stanislaus River watershed includes an area of 1,195 square miles, and the river flows 161 miles from the Sierra Nevada Mountain range to its confluence with the San Joaquin River just west of Modesto, California (National Oceanic and Atmospheric Administration Fisheries, n.d.). The North Fork Stanislaus River originates near the crest of the Sierra Nevada at Mosquito Lake, at approximate elevation 8,060 feet and flows for 42 miles southwesterly to its confluence with the Middle Fork Stanislaus River at approximate elevation 1,220 feet (FERC, 1982). Runoff from snowmelt is the major source for water in the North Fork. The major surface runoff in the basin occurs during late spring and early summer.

There are six FERC hydroelectric projects and one USACE flood control dam within the Stanislaus River Basin. They are shown in **Table 4.3-1**.

*Table 4.3-1: FERC Hydroelectric Projects/USACE Dams within the Stanislaus River Basin*

| Hydroelectric Project / USACE Dam           | River                                        | Project No. | Authorized Capacity |
|---------------------------------------------|----------------------------------------------|-------------|---------------------|
| Upper Utica Project (storage only)          | North Fork Stanislaus River and Silver Creek | P-11563     | 0.0 MW              |
| North Fork Stanislaus Hydroelectric Project | North Fork Stanislaus River                  | P-2409      | 258.726 MW          |
| Phoenix Hydroelectric Project               | South Fork Stanislaus River                  | P-1061      | 1.6 MW              |
| Spring Gap Hydroelectric Project            | Middle Fork Stanislaus River                 | P-2130      | 90.75 MW            |
| Beardsley/Donnells Hydroelectric Project    | Middle Fork Stanislaus River                 | P-2005      | 83.7 MW             |
| Sand Bar Hydroelectric Project              | Stanislaus River                             | P-2975      | 16.2 MW             |
| New Melones Dam (USACE)                     | Stanislaus River                             | N/A         | 300 MW              |
| Tulloch Hydroelectric Project               | Stanislaus River                             | P-2067      | 24.1 MW             |

#### 4.4 Fish and Aquatic Resources (18 CFR § 5.6(d)(iv))

This section describes the Fish and Aquatic Resources in the Project vicinity. The Transmission Lines either span above (Collierville) or under (Spicer Meadow) any waterways within the Project boundary and are not in direct contact with aquatic resources. As a transmission only project, the Project does not manage any water or river flows. All poles are located outside of waterways.

##### 4.4.1 Fish and Aquatic Communities

While no specific impacts to fish and aquatic communities are anticipated due to continued operation of the Transmission Line only project, data regarding fish and aquatic communities in the vicinity of the Project are detailed in the following sections.

##### 4.4.1.1 Fisheries

The Draft Environmental Impact Statement (EIS) for Hydropower Licenses-Stanislaus River Projects identified fish species in the Stanislaus River Basin. This document is associated with the FERC Licensing of the Spring Gap-Stanislaus Hydroelectric Project (P-2130), Beardsley/Donnells Hydroelectric Project (P-2005), Donnells-Curtis Transmission Line Project (P-2118), and Tulloch Hydroelectric Project (P-2067). These projects are located on the Middle Fork Stanislaus River and on the main branch of the Stanislaus River. The species identified are likely to occur within the vicinity of the Collierville and Spicer Meadow Transmission Lines. The species identified in the EIS are included in **Table 4.4.1.1-1**.

Table 4.4.1.1-1: Fish Species Identified in Stanislaus River Projects EIS

| Fish Species                              | Scientific Name                      | Native or Introduced | Habitat        |
|-------------------------------------------|--------------------------------------|----------------------|----------------|
| Black crappie                             | <i>Pomoxis nigromaculatus</i>        | Introduced           | Foothills      |
| Bluegill                                  | <i>Lepomis macrochirus</i>           | Introduced           | Foothills      |
| Brown bullhead                            | <i>Ameiurus nebulosus</i>            | Introduced           | Foothills/High |
| Brown trout                               | <i>Salmo trutta</i>                  | Introduced           | Foothills/High |
| Brook trout                               | <i>Salvelinus fontinalis</i>         | Introduced           | High           |
| Carp                                      | <i>Cyprinus carpio</i>               | Introduced           | Foothills      |
| Chinook salmon                            | <i>Oncorhynchus tshawytscha</i>      | Native               | Foothills      |
| Channel catfish                           | <i>Ictalurus punctatus</i>           | Introduced           | Foothills      |
| Golden shiner                             | <i>Notemigonus crysoleucas</i>       | Introduced           | Foothills      |
| Green sunfish                             | <i>Lepomis cyanellus</i>             | Introduced           | Foothills      |
| Hardhead                                  | <i>Mylopharodon conocephalus</i>     | Native               | Foothills      |
| Largemouth bass                           | <i>Micropterus salmoides</i>         | Introduced           | Foothills      |
| Lahontan cutthroat trout                  | <i>Oncorhynchus clarkii henshawi</i> | Introduced           | High           |
| Mosquitofish                              | <i>Gambusia affinis</i>              | Introduced           | Foothills      |
| Pacific lamprey                           | <i>Lampetra tridentata</i>           | Native               | Foothills      |
| Prickly sculpin                           | <i>Cottus asper</i>                  | Native               | Foothills      |
| Rainbow trout (AKA coastal rainbow trout) | <i>Oncorhynchus mykiss irideus</i>   | Native               | Foothills/High |
| Eagle Lake rainbow trout                  | <i>Oncorhynchus mykiss aquilarum</i> | Introduced           | Foothills/High |
| Redeye bass                               | <i>Micropterus coosae</i>            | Introduced           | Foothills      |
| Rifle sculpin                             | <i>Cottus gulosus</i>                | Native               | Foothills/High |

| Fish Species             | Scientific Name                    | Native or Introduced | Habitat        |
|--------------------------|------------------------------------|----------------------|----------------|
| Sacramento hitch         | <i>Lavinia exilicauda</i> .        | Native               | Foothills      |
| Sacramento pikeminnow    | <i>Ptychocheilus grandis</i>       | Native               | Foothills      |
| Sacramento roach         | <i>Hesperoleucus symmetricus</i> . | Native               | Foothills      |
| Sacramento speckled dace | <i>Rhinichthys osculus</i> spp.    | Native               | Foothills      |
| Sacramento sucker        | <i>Catostomus occidentalis</i>     | Native               | Foothills/High |
| Sacramento tule perch    | <i>Hysterocarpus traskii</i>       | Native               | Foothills      |
| Sockeye salmon           | <i>Oncorhynchus nerka</i>          | Introduced           | Foothills      |
| Smallmouth bass          | <i>Micropterus dolomieu</i>        | Introduced           | Foothills      |
| Speckled dace            | <i>Rhinichthys osculus</i>         | Native               | Foothills      |
| Spotted bass             | <i>Micropterus punctulatus</i>     | Introduced           | Foothills      |
| Threadfin shad           | <i>Dorosoma petenense</i>          | Introduced           | Foothills      |
| White catfish            | <i>Ictalurus catus</i>             | Introduced           | Foothills      |
| White crappie            | <i>Pomoxis annularis</i>           | Introduced           | Foothills      |

#### 4.4.1.2 Aquatic Invasive Species

The State of California has developed an Aquatic Invasive Species Management Plan to address aquatic invasive species threats. It focuses on non-native algae, crabs, clams, fish, plants, and other species that invade California's waters (CDFW, 2008). Since the Project is a transmission only project and no waterway impacts are anticipated as a result of the continued operation of the Project, no impacts to aquatic invasive species are anticipated.

### 4.5 Wildlife and Botanical Resources (18 CFR § 5.6(d)(3)(v))

A USGS publication and map titled "Ecoregions of California" has been included in **Appendix 4.5-1**. Ecoregions are areas of general similarity in the type, quality and quantity of environmental resources, including items such as geology, physiography, vegetation, climate, soils, land use, wildlife and hydrology (USGS, 2016). California is divided into 13 level III ecoregions. The Collierville Transmission Line is located within the Central California Valley Ecoregion and Central California Foothills and Coastal Mountains Ecoregion. The Spicer Meadow Transmission Line is located within the Sierra Nevada Ecoregion (USGS, 2016).

#### 4.5.1 Botanical Resources

##### 4.5.1.1 Botanical Resources in the Central California Valley Ecoregion

This area is mainly rolling grasslands with annual grasses and forbs that are typically used for dryland range or pasture with a few areas of blue oak (*Quercus douglasii*) woodlands interspersed (USGS, 2016). A complete listing of native species compiled by the California Native Plant Society (CNPS) for the Great Valley Ecoregion is located in **Appendix 4.5.1.1-1**.

##### 4.5.1.2 Botanical Resources in the Central California Foothills Ecoregion

Typical botanical species within the Central California Foothills Ecoregion include needlegrass (*Stipa* spp.), California wild oats (*Avena fatua*), Ceonothus (*Ceonothus* spp.), Chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), poison oak (*Toxicodendron diversilobum*), blue oak, interior live oak (*Quercus wislizeni*), and foothill pine (*Pinus sabiniana*). Cottonwoods (*Populus deltoides*) and willows (*Salix* spp.) are also found near riparian areas (USGS, 2016). A complete

listing of native species compiled by the CNPS for the Central California Foothills Ecoregion is located in **Appendix 4.5.1.2-1**.

#### 4.5.1.3 Botanical Resources in the Sierra Nevada Ecoregion

Typical botanical species in the Sierra Nevada Ecoregion include white fir (*Abies concolor*), Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), black oak (*Quercus kelloggii*), tan oak (*Notholithocarpus densiflorus*), and canyon live oak (*Quercus chrysolepis*). A complete listing of native species compiled by the CNPS for the Sierra Nevada Ecoregion is located in **Appendix 4.5.1.3-1**.

#### 4.5.2 Wildlife

##### 4.5.2.1 Mammal Species

The iNaturalist online citizen science platform (iNaturalist.org) contains publicly sourced observations of flora and fauna throughout the world. A search of the iNaturalist site for Calaveras County, California indicated that the mammal species detailed in **Table 4.5.2.1-1** have previously been observed within the county (iNaturalist, n.d.c). Since Calaveras County contains all three of the ecoregions that the Transmission Lines are located in, the species are also likely to be found in the vicinity of Collierville and Spicer Meadow Transmission Lines within San Joaquin, Stanislaus, and Tuolumne Counties.

Table 4.5.2.1-1: Mammal Species in the Vicinity of Both Transmission Lines

| Mammal Species                 | Scientific Name                    |
|--------------------------------|------------------------------------|
| Beaver                         | <i>Castor canadensis</i>           |
| Bobcat                         | <i>Lynx rufus</i>                  |
| Big-eared woodrat              | <i>Neotoma macrotis</i>            |
| Black-tailed jackrabbit        | <i>Lepus californicus</i>          |
| Broad-footed mole              | <i>Scapanus latimanus</i>          |
| California vole                | <i>Microtus californicus</i>       |
| Canyon bat                     | <i>Parastrellus hesperus</i>       |
| Coyote                         | <i>Canis latrans</i>               |
| Desert cottontail              | <i>Sylvilagus audubonii</i>        |
| Eastern fox squirrel           | <i>Sciurus niger</i>               |
| Golden-mantled ground squirrel | <i>Callospermophilus lateralis</i> |
| House mouse                    | <i>Mus musculus</i>                |
| Humboldt's flying squirrel     | <i>Glaucomys oregonensis</i>       |
| Long eared myotis              | <i>Myotis evotis</i>               |
| Long-eared chipmunk            | <i>Neotamias quadrimaculatus</i>   |
| Mexican free-tailed bat        | <i>Tadarida brasiliensis</i>       |
| Mule deer                      | <i>Odocoileus hemionus</i>         |
| Muskrat                        | <i>Ondatra zibethicus</i>          |
| Pacific martin                 | <i>Martes caurina</i>              |
| Pallid bat                     | <i>Antrozous pallidus</i>          |
| Porcupine                      | <i>Erethizon dorsatum</i>          |
| Pinyon mouse                   | <i>Peromyscus truei</i>            |
| Mountain lion                  | <i>Puma concolor</i>               |

| Mammal Species           | Scientific Name                |
|--------------------------|--------------------------------|
| Raccoon                  | <i>Procyon lotor</i>           |
| Red fox                  | <i>Vulpes vulpes</i>           |
| Ringtail                 | <i>Bassariscus astutus</i>     |
| River otter              | <i>Lontra canadensis</i>       |
| Striped skunk            | <i>Mephitis mephitis</i>       |
| Townsend's big-eared bat | <i>Corynorhinus townsendii</i> |
| Virginia opossum         | <i>Didelphis virginiana</i>    |
| Western deer mouse       | <i>Peromyscus sonoriensis</i>  |

(iNaturalist, n.d.c)

#### 4.5.2.2 Bird Species

The bird species likely to be found in the vicinity of the Collierville and Spicer Meadow Transmission Lines are detailed in **Table 4.5.2.2-1** (Cornell eBird, n.d.a) (Cornell eBird, n.d.b).

Table 4.5.2.2-1: Bird Species in the Vicinity of Both Transmission Lines

| Bird Species            | Scientific Name                  |
|-------------------------|----------------------------------|
| Acorn woodpecker        | <i>Melanerpes formicivorus</i>   |
| American crow           | <i>Corvus brachyrhynchos</i>     |
| American dipper         | <i>Cinclus mexicanus</i>         |
| American goshawk        | <i>Accipiter gentilis</i>        |
| American kestrel        | <i>Falco sparverius</i>          |
| American pipit          | <i>Anthus rubescens</i>          |
| American robin          | <i>Turdus migratorius</i>        |
| American wigeon         | <i>Mareca americana</i>          |
| Anna's hummingbird      | <i>Calypte anna</i>              |
| Ash-throated flycatcher | <i>Myiarchus cinerascens</i>     |
| Bald eagle              | <i>Haliaeetus leucocephalus</i>  |
| Band-tailed pigeon      | <i>Patagioenas fasciata</i>      |
| Barn swallow            | <i>Hirundo rustica</i>           |
| Bell's sparrow          | <i>Artemisiospiza belli</i>      |
| Belted kingfisher       | <i>Megaceryle alcyon</i>         |
| Bewicks wren            | <i>Thryomanes bewickii</i>       |
| Black-headed grosbeak   | <i>Pheucticus melanocephalus</i> |
| Black phoebe            | <i>Sayornis nigricans</i>        |
| Blue-gray gnatcatcher   | <i>Polioptila caerulea</i>       |
| Brewer's blackbird      | <i>Euphagus cyanocephalus</i>    |
| Brown creeper           | <i>Certhia americana</i>         |
| Brown-headed cowbird    | <i>Molothrus ater</i>            |
| Bufflehead              | <i>Bucephala albeola</i>         |
| Bushtit                 | <i>Psaltiriparus minimus</i>     |
| California gull         | <i>Larus californicus</i>        |

| Bird Species             | Scientific Name                   |
|--------------------------|-----------------------------------|
| California quail         | <i>Callipepla californica</i>     |
| California scrub jay     | <i>Aphelocoma californica</i>     |
| California thrasher      | <i>Toxostoma redivivum</i>        |
| California tohee         | <i>Melospiza crissalis</i>        |
| Canada goose             | <i>Branta Canadensis</i>          |
| Canyon wren              | <i>Catherpes mexicanus</i>        |
| Cassin's finch           | <i>Haemorhous cassinii</i>        |
| Cedar waxwing            | <i>Bombycilla cedrorum</i>        |
| Clark's nutcracker       | <i>Nucifraga columbiana</i>       |
| Cliff swallow            | <i>Petrochelidon pyrrhonota</i>   |
| Common loon              | <i>Gavia immer</i>                |
| Common merganser         | <i>Mergus merganser</i>           |
| Common nighthawk         | <i>Chordeiles minor</i>           |
| Common poorwill          | <i>Phalaenoptilus nuttallii</i>   |
| Common raven             | <i>Corvus corax</i>               |
| Cooper's hawk            | <i>Accipiter cooperii</i>         |
| Dark-eyed junco          | <i>Junco hyemalis</i>             |
| Double-crested cormorant | <i>Phalacrocorax auritus</i>      |
| Downy woodpecker         | <i>Dryobates pubescens</i>        |
| Dusky flycatcher         | <i>Empidonax oberholseri</i>      |
| Eared grebe              | <i>Podiceps nigricollis</i>       |
| European starling        | <i>Sturnus vulgaris</i>           |
| Evening grosbeak         | <i>Coccothraustes vespertinus</i> |
| Fox sparrow              | <i>Passerella iliaca</i>          |
| Golden-crowned kinglet   | <i>Regulus satrapa</i>            |
| Golden-crowned sparrow   | <i>Zonotrichia atricapilla</i>    |
| Great blue heron         | <i>Ardea herodias</i>             |
| Great horned owl         | <i>Bubo virginianus</i>           |
| Green-tailed tohee       | <i>Pipilo chlorurus</i>           |
| Hairy woodpecker         | <i>Dryobates villosus</i>         |
| Hammond's flycatcher     | <i>Empidonax hammondii</i>        |
| Hermit thrush            | <i>Catharus guttatus</i>          |
| Hermit warbler           | <i>Setophaga occidentalis</i>     |
| House finch              | <i>Haemorhous mexicanus</i>       |
| Killdeer                 | <i>Charadrius vociferus</i>       |
| Lark sparrow             | <i>Chondestes grammacus</i>       |
| Lawrence's goldfinch     | <i>Spinus lawrencei</i>           |
| Lazuli bunting           | <i>Passerina amoena</i>           |
| Lesser goldfinch         | <i>Spinus psaltria</i>            |

| Bird Species           | Scientific Name                |
|------------------------|--------------------------------|
| MacGillivray's Warbler | <i>Geothlypis tolmiei</i>      |
| Mallard                | <i>Anas platyrhynchos</i>      |
| Merlin                 | <i>Falco columbarius</i>       |
| Mourning dove          | <i>Zenaida macroura</i>        |
| Mountain bluebird      | <i>Sialia currucoides</i>      |
| Mountain quail         | <i>Oreortyx pictus</i>         |
| Nashville warbler      | <i>Leiothlypis ruficapilla</i> |
| Northern flicker       | <i>Colaptes auratus</i>        |
| Northern house wren    | <i>Troglodytes aedon</i>       |
| Nuttall's woodpecker   | <i>Dryobates nuttallii</i>     |
| Oak titmouse           | <i>Baeolophus inornatus</i>    |
| Olive sided flycatcher | <i>Contopus cooperi</i>        |
| Osprey                 | <i>Pandion haliaetus</i>       |
| Orange-crowned warbler | <i>Leiothlypis celata</i>      |
| Pacific wren           | <i>Troglodytes pacificus</i>   |
| Peregrine falcon       | <i>Falco peregrinus</i>        |
| Phainopepla            | <i>Phainopepla nitens</i>      |
| Pied-billed grebe      | <i>Podilymbus podiceps</i>     |
| Pine siskin            | <i>Spinus pinus</i>            |
| Purple finch           | <i>Haemorphous purpureus</i>   |
| Red-breasted nuthatch  | <i>Sitta canadensis</i>        |
| Red-breasted sapsucker | <i>Sphyrapicus ruber</i>       |
| Red-shouldered hawk    | <i>Buteo lineatus</i>          |
| Red-tailed hawk        | <i>Buteo jamaicensis</i>       |
| Ring-billed gull       | <i>Larus delawarensis</i>      |
| Ring-necked duck       | <i>Aythya collaris</i>         |
| Rock pigeon            | <i>Columba livia</i>           |
| Rock wren              | <i>Salpinctes obsoletus</i>    |
| Ruby-crowned kinglet   | <i>Corthylio calendula</i>     |
| Rufous-crowned sparrow | <i>Aimophila ruficeps</i>      |
| Say's phoebe           | <i>Sayornis saya</i>           |
| Song sparrow           | <i>Melospiza melodia</i>       |
| Spotted sandpiper      | <i>Actitis macularius</i>      |
| Spotted tohee          | <i>Pipilo maculatus</i>        |
| Steller's Jay          | <i>Cyanocitta stelleri</i>     |
| Townsend's solitaire   | <i>Myadestes townsendi</i>     |
| Tree swallow           | <i>Tachycineta bicolor</i>     |
| Turkey vulture         | <i>Carthartes aura</i>         |
| Vaux's swift           | <i>Chaetura vauxi</i>          |

| Bird Species            | Scientific Name                  |
|-------------------------|----------------------------------|
| Violet-green swallow    | <i>Tachycineta thalassina</i>    |
| Warbling vireo          | <i>Vireo gilvus</i>              |
| Western bluebird        | <i>Sialia mexicana</i>           |
| Western flycatcher      | <i>Empidonax difficilis</i>      |
| Western grebe           | <i>Aechmophorus occidentalis</i> |
| Western Kingbird        | <i>Tyrannus verticalis</i>       |
| Western meadowlark      | <i>Sturnella neglecta</i>        |
| Western tanager         | <i>Piranga ludoviciana</i>       |
| Western wood pewee      | <i>Contopus sordidulus</i>       |
| White-breasted nuthatch | <i>Sitta carolinensis</i>        |
| White-crowned sparrow   | <i>Zonotrichia leucophrys</i>    |
| White-headed woodpecker | <i>Dryobates albolarvatus</i>    |
| Wild turkey             | <i>Meleagris gallopavo</i>       |
| White-throated swift    | <i>Aeronautes saxatalis</i>      |
| Williamson's sapsucker  | <i>Sphyrapicus thyroideus</i>    |
| Wilson's warbler        | <i>Cardellina pusilla</i>        |
| Wrentit                 | <i>Chamaea fasciata</i>          |
| Yellow-rumped warbler   | <i>Setophaga coronata</i>        |
| Yellow warbler          | <i>Setophaga petechia</i>        |

Source: (Cornell eBird, n.d.a) (Cornell eBird, n.d.b)

#### 4.5.2.3 Reptile and Amphibian Species

A search of the iNaturalist site for Calaveras County, California indicated that the reptile and amphibian species detailed in **Table 4.5.2.3-1** have previously been observed within Calaveras County (iNaturalist, n.d.a) (iNaturalist, n.d.b). Since Calaveras County contains all three ecoregions that the Project is located in, the species are also likely to be present in the vicinity of the Collierville and Spicer Meadow Transmission Lines within San Joaquin, Stanislaus, and Tuolumne Counties.

Table 4.5.2.3-1: Reptile and Amphibian Species in the Vicinity of both Transmission Lines

| Reptiles and Amphibians       | Scientific Name                 |
|-------------------------------|---------------------------------|
| American bullfrog             | <i>Lithobates catesbeianus</i>  |
| Arboreal salamander           | <i>Aneides lugubris</i>         |
| Blainville's horned lizard    | <i>Phrynosoma blainvillii</i>   |
| California kingsnake          | <i>Lampropeltis californiae</i> |
| California mountain kingsnake | <i>Lampropeltis zonata</i>      |
| California tiger salamander   | <i>Ambystoma californiense</i>  |
| Coast night snake             | <i>Hypsiglena ochrorhynchus</i> |
| Common gartersnake            | <i>Thamnophis sirtalis</i>      |
| Common sagebrush lizard       | <i>Sceloporous graciosus</i>    |
| Ensatina                      | <i>Ensatina eschscholtzii</i>   |

| Reptiles and Amphibians          | Scientific Name                |
|----------------------------------|--------------------------------|
| Foothill yellow-legged frog      | <i>Rana boylei</i>             |
| Gilbert's skink                  | <i>Plestiodon gilberti</i>     |
| Gopher snake                     | <i>Pituophis catenifer</i>     |
| Long-toed salamander             | <i>Ambystoma macrodactylum</i> |
| Northern alligator lizard        | <i>Elgaria coerulea</i>        |
| North American racer             | <i>Coluber constrictor</i>     |
| Northern rubber boa              | <i>Charina bottae</i>          |
| Pacific chorus frog              | <i>Pseudacris regilla</i>      |
| Pond slider                      | <i>Trachemys scripta</i>       |
| Ring-necked snake                | <i>Diadophis punctatus</i>     |
| Sharp-tailed snake               | <i>Contia tenuis</i>           |
| Sierra garter snake              | <i>Thamnophis couchii</i>      |
| Sierra newt                      | <i>Taricha sierrae</i>         |
| Striped racer                    | <i>Masticophis lateralis</i>   |
| Western fence lizard             | <i>Sceloporus occidentalis</i> |
| Western pond turtle              | <i>Actinemys marmorata</i>     |
| Western terrestrial garter snake | <i>Thamnophis elegans</i>      |
| Western toad                     | <i>Anaxyrus boreas</i>         |

Source: (iNaturalist, n.d.a) (iNaturalist, n.d.b)

#### 4.5.3 Noxious Weeds and Other Invasive Species

Noxious weeds are plants that have been defined as a pest by law or regulation. Biologists of the California Department of Food and Agriculture recommend plants for listing after consultation with outside experts and County Agriculture Commissioners (CACs). Plants are designated as noxious weeds if they are “troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species and difficult to control or eradicate (California Department of Food and Agriculture, n.d.).”

When a noxious weed is listed it also receives a rating of A, B, C, D, or Q. These ratings reflect the statewide importance of the pest, the likelihood that control efforts would be successful, and the present distribution in the state (California Department of Food and Agriculture, n.d.). Each rating is described below.

- “A” rated plants are either not established in the state or limited in distribution and are subject to state enforcement action.
- “B” rated plants are limited in distribution and subject to CACs enforcement action.
- “C” rated plants are usually widespread and enforcement action is at the discretion of the CACs and is limited to retard the spread of the species.
- “D” rated plants are not known to be of economic or environmental detriment. They are not subject to enforcement action.
- “Q” rated species are suspected to be of economic or environmental detriment but whose status is uncertain.

CACs and Collaborative Weed Management Areas have prioritized weed species that are considered Early Detection Rapid Response (EDRR) targets. This approach addresses new problem species before they become more widespread when containment and eradication remain viable and cost-effective options. Weed species that are present in less than 10% of the region are the targets for the EDRR approach. If the regional target is containment, no net spread of the species is allowed. If the regional target is control, the plant is controlled, but not enough for regionwide containment (California Department of Food and Agriculture, 2021).

In Calaveras and Tuolumne counties there are seven EDRR species. In San Joaquin and Stanislaus counties there are seven different EDRR species. The EDRR species for each county are detailed in **Table 4.5.3-1**.

*Table 4.5.3-1: EDRR Species Within Calaveras, San Joaquin, Stanislaus, and Tuolumne Counties*

| Common Name                | Scientific Name                    | Regional Target | Calaveras & Tuolumne Counties | San Joaquin & Stanislaus Counties |
|----------------------------|------------------------------------|-----------------|-------------------------------|-----------------------------------|
| Alligatorweed              | <i>Alternanthera philoxeroides</i> | Containment     |                               | X                                 |
| Capeweed                   | <i>Arctotheca prostrata</i>        | Containment     |                               | X                                 |
| Dyer's woad                | <i>Isatis tinctoria</i>            | Containment     | X                             |                                   |
| Fertile capeweed           | <i>Arctotheca calendula</i>        | Containment     |                               | X                                 |
| Giant salvinia             | <i>Salvinia molesta</i>            | Containment     |                               | X                                 |
| Gorse                      | <i>Ulex europaeus</i>              | Containment     | X                             |                                   |
| Plumeless thistle          | <i>Carduus acanthoides</i>         | Containment     | X                             |                                   |
| Purple loosestrife         | <i>Lythrum salicaria</i>           | Containment     | X                             |                                   |
| Purple mustard             | <i>Chorisorpa tenella</i>          | Containment     |                               | X                                 |
| Purple starthistle         | <i>Centaurea calcitrapa</i>        | Containment     | X                             |                                   |
| Scotch thistle             | <i>Onopordum acanthium</i>         | Containment     | X                             |                                   |
| South American spongeplant | <i>Limnobium spongia</i>           | Containment     |                               | X                                 |
| Spotted knapweed           | <i>Centaurea maculosa</i>          | Containment     |                               | X                                 |
| Wooly distaff thistle      | <i>Carthamus lanatus</i>           | Control         | X                             |                                   |

Source: (California Department of Food and Agriculture, 2021)

There is no documented information regarding noxious weeds or other invasive species within the Project boundary.

#### 4.6 Riparian, Wetlands, and Littoral Habitat (18 CFR § 5.6(d)(3)(vi))

##### 4.6.1 Riparian Habitat

Riparian habitat refers to river or reservoir margins where vegetation exists but is not regularly submerged. Riparian habitat in the Project vicinity is limited to small streams, rivers, and reservoirs crossed by the Transmission Lines. The overhead Collierville Transmission Line spans at least 60 feet above any stream or reservoir crossings. The underground Spicer Meadow Transmission Line is located below any stream crossings.

#### 4.6.2 Wetland Habitat

Wetland habitat includes terrestrial areas that are permanently, intermittently, or seasonally flooded. Wetlands help improve water quality and provide wildlife habitat, nutrient cycling and storage, aesthetics, and recreation. In riverine systems, wetland functions include flood water storage, filtration, sedimentation reduction, and wildlife habitat and corridors. The values of wetlands include flood peak mitigation, surface water quality enhancement, biodiversity preservation and enhancement, and recreational activities support and enhancement.

The USFWS National Wetland Inventory (NWI) classifies wetlands according to vegetation, cover type, hydrology, human influence factors, and special wetland characteristics. According to this classification system, wetland vegetation is divided into seven major classes or cover types with several more precisely defined subclasses.

Wetlands identified within the Project boundary of each Transmission Line are shown in **Figure 4.6.2-1** and **Figure 4.6.2-2** and in **Table 4.6.2-1**. More detailed maps displaying the wetlands in the vicinity of the Transmission Lines are included in **Appendix 4.6.2-1**.

*Table 4.6.2-1: Wetlands within the Collierville and Spicer Meadow Project Boundary*

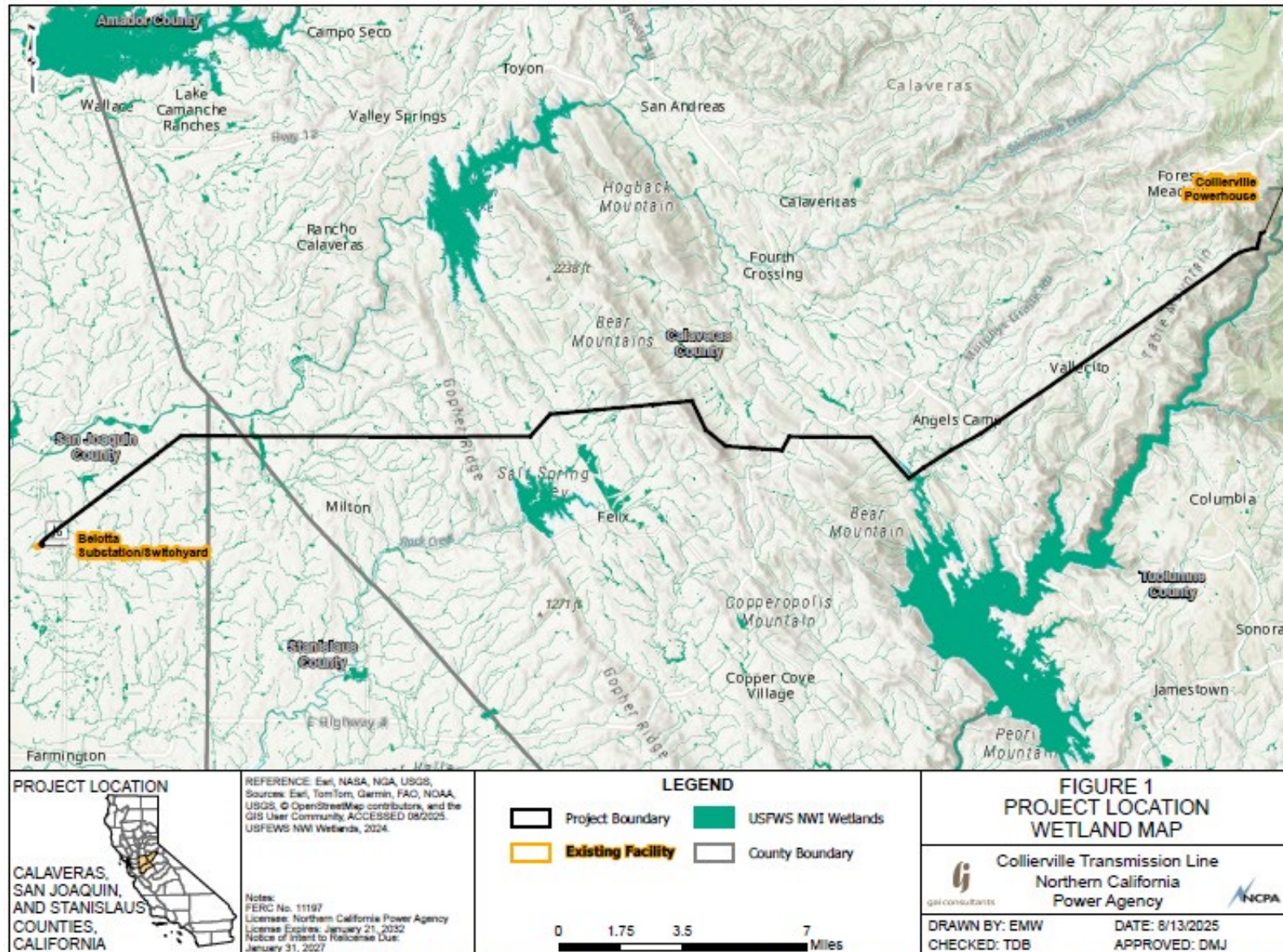
| NWI Classification              | Collierville Transmission Line |                                | Spicer Meadow Transmission Line |                                |
|---------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|
|                                 | Acres                          | Percentage of Project Boundary | Acres                           | Percentage of Project Boundary |
| Lacustrine                      | 1.5                            | 0.3%                           | 0                               | 0%                             |
| Freshwater Emergent             | 4.7                            | 0.8%                           | 0                               | 0%                             |
| Freshwater Forest/Shrub Wetland | 0.2                            | 0.03%                          | 0                               | 0%                             |
| Freshwater Pond                 | 0.8                            | 0.1%                           | 0                               | 0%                             |
| Riverine                        | 5.0                            | 0.8%                           | 0.08                            | 0.5%                           |
| Total                           | 12.2                           | 2.0%                           | 0.08                            | 0.5%                           |

Source: (GAI Consultants, 2025)

At the Collierville Transmission Line, the NWI review identified a total of 12.2 acres within the Project boundary (2.0% of all lands in the boundary). The two largest wetland classes identified were freshwater emergent and riverine wetlands. The remaining wetland classes identified included lake, freshwater pond, and freshwater forest/shrub wetlands (GAI Consultants, 2025).

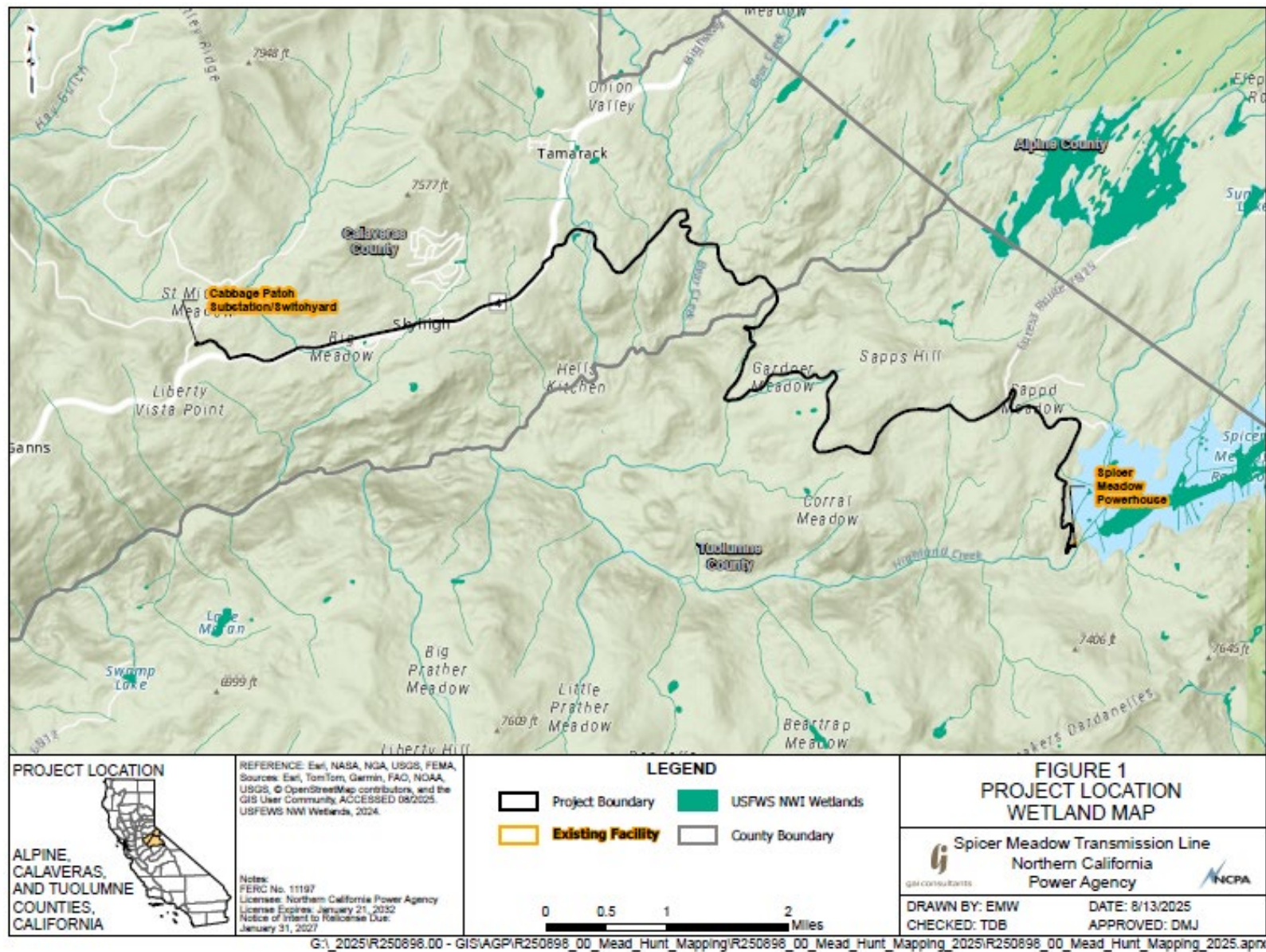
At the Spicer Meadow Transmission Line, the NWI review identified a total of 0.08 acres of wetlands within the Project boundary (0.5% of all lands in the boundary). Only one wetland class was identified: riverine wetlands (GAI Consultants, 2025).

Figure 4.6.2-1: Wetlands in the Vicinity of the Collierville Transmission Line



G:\2025\R250698.00 - GIS\AGP\R250698\_00\_Mead\_Hunt\_Mapping\R250698\_00\_Mead\_Hunt\_Mapping\_2025\R250698\_00\_Mead\_Hunt\_Mapping\_2025.aprx

Figure 4.6.2-2: Wetlands in the Vicinity of the Spicer Meadow Transmission Line



#### 4.6.3 Littoral Habitat

Littoral habitat is the transition between aquatic and terrestrial habitats and is prevalent along most reservoir margins. The project is a Transmission Line only project and is not associated with any water bodies or reservoirs. In riparian areas, the line spans at least 65 feet over the top of streams. No structures or other project facilities, other than ROW are located within wetlands, riparian, or littoral habitat. Littoral habitat is more prevalent within the reservoirs associated with the Collierville and Spicer Meadow Powerhouses. The reservoirs are located outside of the Project boundary.

#### 4.6.4 Vernal Pools

Vernal pools are seasonal depressional wetlands that occur in the Mediterranean climate conditions along the West Coast. They are covered by shallow water for variable periods from winter to spring but may be completely dry for most of the summer and fall (US Environmental Protection Agency, n.d.a). According to rare species identified in [Section 4.7.2](#), several species dependent upon vernal pools were identified in the vicinity of the Collierville Transmission Line. Although no vernal pools have been specifically identified, it is possible that there may be vernal pools within the Project boundary. They are most likely to be found in the gently sloping grasslands on the western end of the Collierville Transmission Line.

### 4.7 Rare, Threatened and Endangered Species (18 CFR § 5.6(d)(3)(vii))

#### 4.7.1 Overview

The United States Fish and Wildlife Service Information for Planning and Conservation (IPaC) website was accessed to develop IPaC Resource Lists for the Collierville and Spicer Meadow Transmission Lines Project. Also, a review of the California Natural Diversity Database (CNDDB) was completed for each Transmission Line to identify potential threatened, endangered, and special concern species located at the Project.

#### 4.7.2 IPaC Resource Lists

The IPaC Resource Lists identified thirteen (13) threatened, endangered, or candidate species and critical habitat for one species likely to occur within the vicinity of the Collierville Transmission Line and seven (7) threatened, endangered, or candidate species likely to occur within the vicinity of the Spicer Meadow Transmission Line. The species identified at each Transmission Line are shown in **Table 4.7.2-1** and **Table 4.7.2-2**, respectively and are described in the sections below. IPaC Resource Lists for both Transmission Lines are included in **Appendix 4.7.2-1** and **Appendix 4.7.2-2**, respectively.

*Table 4.7.2-1: Threatened, Endangered, or Candidate Species Identified in Collierville IPaC Species List*

| Species                     | Scientific Name                        | Group      | Federal Status * |
|-----------------------------|----------------------------------------|------------|------------------|
| California red-legged frog  | <i>Rana draytonii</i>                  | Amphibian  | THR              |
| California Tiger Salamander | <i>Ambystoma californiense</i>         | Amphibian  | THR              |
| Foothill yellow-legged frog | <i>Rana boylei</i>                     | Amphibian  | END              |
| California spotted owl      | <i>Strix occidentalis occidentalis</i> | Bird       | Proposed THR     |
| Conservancy fairy shrimp    | <i>Branchinecta conservatio</i>        | Crustacean | END              |
| Vernal pool fairy shrimp    | <i>Branchinecta lynchi</i>             | Crustacean | THR              |

| Species                           | Scientific Name                              | Group           | Federal Status * |
|-----------------------------------|----------------------------------------------|-----------------|------------------|
| Vernal pool tadpole shrimp        | <i>Lepidurus packardii</i>                   | Crustacean      | END              |
| Gray wolf                         | <i>Canis lupus</i>                           | Mammal          | END              |
| Giant garter snake                | <i>Thamnophis gigas</i>                      | Reptile         | THR              |
| Northwestern pond turtle          | <i>Actinemys marmorata</i>                   | Reptile         | Proposed THR     |
| Monarch butterfly                 | <i>Danaus plexippus</i>                      | Insect          | Proposed THR     |
| Valley elderberry longhorn beetle | <i>Desmocerus californicus dimorphus</i>     | Insect          | THR              |
| Fleshy owls-clover                | <i>Castilleja campestris ssp. succulenta</i> | Flowering plant | THR              |

Source: (USFWS, 2025a)

\*END = Endangered, THR = Threatened

**Table 4.7.2-2: Threatened, Endangered, or Candidate Species Identified in Spicer Meadow IPaC Species List**

| Species                          | Scientific Name                        | Group     | Federal Status * |
|----------------------------------|----------------------------------------|-----------|------------------|
| Sierra Nevada yellow-legged frog | <i>Rana sierrae</i>                    | Amphibian | END              |
| California spotted owl           | <i>Strix occidentalis occidentalis</i> | Bird      | Proposed THR     |
| Gray wolf                        | <i>Canis lupus</i>                     | Mammal    | END              |
| North American wolverine         | <i>Gulo gulo luscus</i>                | Mammal    | THR              |
| Sierra Nevada red fox            | <i>Vulpes vulpes necator</i>           | Mammal    | END              |
| Northwestern pond turtle         | <i>Actinemys marmorata</i>             | Reptile   | Proposed THR     |
| Monarch butterfly                | <i>Danaus Plexippus</i>                | Insect    | Proposed THR     |

Source: (USFWS, 2025b)

\*END = Endangered, THR = Threatened

#### **4.7.2.1 California Red-Legged Frog**

The California red-legged frog is listed as a federally threatened species. It is the largest native frog in the western United States. The frog spends most of its life near water sources including streams and stock ponds, which are used for breeding. The frog moves to adjacent upland areas for food and shelter when stream flows are high. In summer, they seek relief from the heat by hiding under rocks, boulders, leaf litter, and in animal burrows (USFWS, n.d.a). There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a).

#### **4.7.2.2 California Tiger Salamander**

The California tiger salamander is listed as a federally threatened species. It requires both aquatic and upland habitat throughout its life cycle. They use standing bodies of freshwater that hold water for at least 12 weeks to support larvae development. They also utilize small animal burrows for shelter, food, and protection (USFWS, n.d.b). There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a).

#### **4.7.2.3 Foothill Yellow-Legged Frog**

The foothill yellow-legged frog is listed as a federally endangered species. It lives in foothill and mountain streams in the Sierra Nevada mountains up to approximately 5,000 feet in elevation. It occurs in a variety of habitat types, including valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, ponderosa pine, mixed conifer, mixed chaparral, and wet meadow. The frog is associated with streams and is rarely found far from the water's edge (USFWS, n.d.c). There is proposed critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a).

#### **4.7.2.4 Sierra Nevada Yellow-Legged Frog**

The Sierra Nevada yellow-legged frog is listed as a federally endangered species. It is found in California's Sierra Nevada Mountains. The frogs prefer lakes, ponds, marshes, meadows, and streams between elevations of 4,500 and 12,000 feet (USFWS, n.d.d). There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025b).

#### **4.7.2.5 California Spotted Owl**

The California spotted owl is a subspecies that occurs throughout the Sierra Nevada Mountains. It has been proposed to be listed as a federally threatened species. The owls generally inhabit older forests that contain nesting, roosting, and foraging habitat. The majority occur within mid-elevation ponderosa pine, mixed conifer, white fir, and mixed evergreen forest types. Fewer owls occur in lower elevation oak woodlands in the western foothills (USFWS, n.d.e). There is no designated critical habitat for this species.

#### **4.7.2.6 Conservancy Fairy Shrimp**

The conservancy fairy shrimp is listed as a federally endangered species. The shrimp are only found in California's Central Valley. They live primarily in large turbid freshwater vernal pools ranging in elevation from 16 to 5,577 feet (USFWS, n.d.f). There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a).

#### **4.7.2.7 Vernal Pool Fairy Shrimp**

The vernal pool fairy shrimp is listed as a federally threatened species. The shrimp are found in vernal pools in California and southern Oregon. The species has a lifespan of approximately 91 days. They can be found in vernal pools from November and generally complete their entire life cycle by early May (USFWS, n.d.g). There is designated critical habitat for this species. The Collierville Transmission Line passes over this area (USFWS, 2025a).

#### **4.7.2.8 Vernal Pool Tadpole Shrimp**

The vernal pool tadpole shrimp is listed as a federally endangered species. The shrimp are found in vernal pools in California. They have a hard shell that is large, flattened and arched like a shield over its back giving it a tadpole-like appearance. They are only found in ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands (USFWS, n.d.h). There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a).

#### **4.7.2.9 Gray Wolf**

The gray wolf is a federally threatened mammal species that lives in family groups or packs and is a habitat generalist that can have territories ranging from 25 to 1,500 square miles. Ungulates are the typical prey of wolves, but they will also readily scavenge (USFWS, n.d.i). The gray wolf population in California has grown in the number of packs, breeding pairs, year-end population, and total occupied area within the state. As of the end of 2024, CDFW's minimum population count was 50 individuals with seven known packs spanning portions of eight counties in northern California (CDFW, 2025).<sup>3</sup> There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a) (USFWS, 2025b).

#### **4.7.2.10 North American Wolverine**

The North American wolverine is listed as a federally endangered species. It is a medium-sized carnivore that is the largest member of the weasel (Mustelidae) family. It is found in the Northern Rocky Mountains and North Cascade Mountains in the contiguous United States. Wolverines are snow adapted, territorial animals with large home ranges (USFWS, n.d.j). There is no designated critical habitat for this species. The species is likely only to occur as a transient occurrence as it moves to areas of suitable habitat (USFWS, 2025b).

#### **4.7.2.11 Sierra Nevada Red Fox**

The Sierra Nevada red fox distinct population segment was listed as federally endangered in 2021. The species is vulnerable to wildfire, drought, competition with coyotes, decreases in prey numbers and widespread hybridization with non-native fox. Sightings have been limited to federal land within Alpine, Fresno, Inyo, Madera, Mono, and Tuolumne counties (USFWS, n.d.k). There is no designated critical habitat for this species.

#### **4.7.2.12 Giant Garter Snake**

The giant garter snake is one of the largest garter snakes, reaching a length of over 60 inches. The snake prefers the edges of large flood basins, freshwater marshes, and tributaries in California's Central Valley. They are known to live in a variety of agricultural, managed, and natural wetlands (USFWS, n.d.l). There is no designated critical habitat for this species.

#### **4.7.2.13 Northwestern Pond Turtle**

The northwestern pond turtle has been proposed to be added to the endangered species list as a federally threatened species. The turtles are semi-aquatic. Terrestrial habitats are used for nesting, warm season dormancy, basking, and dispersal. Aquatic environments are required for breeding, feeding, overwintering, sheltering and dispersal (USFWS, 2023). There is no designated critical habitat for this species.

#### **4.7.2.14 Monarch Butterfly**

The monarch butterfly has been proposed to be added to the endangered species list as a federally threatened species. The monarch butterfly is one of the most recognized North American butterflies with its striking orange and black wings and its reliance on milkweed as its host plant. Western monarchs are migratory, overwintering in Coastal California and fanning out across the west from Arizona to Idaho to breed (CDFW, n.d.f). There is a proposed critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a) (USFWS, 2025b).

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<sup>3</sup> No wolves were identified within the four counties where the Transmission Lines are located.

#### 4.7.2.15 Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle is listed as a federally threatened species. The beetle lives throughout California's Central Valley. The species is dependent on its host plant, the elderberry, which is typically found in riparian areas and foothill oak woodlands (USFWS, n.d.n). There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a).

#### 4.7.2.16 Fleshy Owls Clover

Fleshy owl's clover (aka succulent owl's clover) is listed as a federally threatened and State of California endangered species. It is a small herbaceous plant found in vernal pools in the San Joaquin Valley of the southern Sierra Foothills Vernal Pool Region (CDFW, n.d.g). The plant is distributed throughout five counties in the eastern San Joaquin Valley (USFWS, n.d.o). The Collierville Transmission Line passes through two of those counties: San Joaquin County and Stanislaus County. There is designated critical habitat for this species. The Project boundary does not overlap this area (USFWS, 2025a).

### 4.7.3 California Natural Diversity Database Review

A review of the California Natural Diversity Database via the CNDDB Quickview Tool was conducted on July 21, 2025. A list of rare species located within each of the USGS quads where the Transmission Lines are located was obtained.

#### Collierville Transmission Line

For the Collierville Transmission Line, rare species lists within the Linden, Valley Springs SW, Jenny Lind, Salt Spring Valley, Angels Camp, Columbia, and Murphys quads were obtained. This review identified a total of seven (7) state-listed threatened or endangered species that are likely to occur within the Collierville Transmission Line vicinity (CDFW, n.d.a).<sup>4</sup> These species are shown below in **Table 4.7.3-1** and described in the following paragraphs.

*Table 4.7.3-1: Threatened and Endangered Species Likely to Occur in the Vicinity of the Collierville Transmission Line*

| Species              | Scientific Name                 | Group  | Federal Status* | State Status**   |
|----------------------|---------------------------------|--------|-----------------|------------------|
| Bald eagle           | <i>Haliaeetus leucocephalus</i> | Bird   | Eagle Act       | END              |
| Burrowing owl        | <i>Athene cunicularia</i>       | Bird   | None            | THR              |
| Swainson's hawk      | <i>Buteo swainsoni</i>          | Bird   | None            | THR              |
| Tricolored blackbird | <i>Agelaius tricolor</i>        | Bird   | None            | THR              |
| Longfin smelt        | <i>Spirinchus thaleichthys</i>  | Fish   | None            | THR              |
| Western bumble bee   | <i>Bombus occidentalis</i>      | Insect | None            | Candidate<br>END |
| Delta button-celery  | <i>Eryngium racemosum</i>       | Plant  | None            | END              |

Source: (CDFW, n.d.a)

\*Eagle Act=Bald and Golden Eagle Protection Act

\*\*END=Endangered, THR=Threatened

<sup>4</sup> Federal species identified in the CNDDB review were not included here, since a more focused search of the specific APE was conducted during the IPaC review. The CNDDB list includes all species within the applicable USGS quads where the Transmission Lines are located.

### Spicer Meadow Transmission Line

For the underground Spicer Meadow Transmission Line, rare species lists within the Calaveras Dome, Tamarack, and Spicer Meadow Reservoir quads were obtained. This review identified a total of eleven (11) state-listed threatened or endangered species that are likely to occur within the Spicer Meadow Transmission Line vicinity (CDFW, n.d.a). They are shown below in **Table 4.7.3-2** and described in the following paragraphs.

*Table 4.7.3-2: Threatened and Endangered Species Likely to Occur in the Vicinity of the Spicer Meadow Transmission Line*

| Species                          | Scientific Name                 | Group     | Federal Status* | State Status* |
|----------------------------------|---------------------------------|-----------|-----------------|---------------|
| Sierra Nevada yellow-legged frog | <i>Rana sierrae</i>             | Amphibian | END             | THR           |
| Bald eagle                       | <i>Haliaeetus leucocephalus</i> | Bird      | Eagle Act       | END           |
| Great grey owl                   | <i>Strix nebulosa</i>           | Bird      | None            | END           |
| Gray wolf                        | <i>Canis lupus</i>              | Mammal    | END             | END           |
| North American wolverine         | <i>Gulo gulo luscus</i>         | Mammal    | THR             | THR           |

Source: (CDFW, n.d.a)

\*Eagle Act=Bald and Golden Eagle Protection Act, END=Endangered, THR=Threatened

#### **4.7.3.1 Sierra Nevada Yellow-Legged Frog**

The Sierra Nevada yellow-legged frog is listed as a federally endangered and State of California threatened species. See description above in [Section 4.7.2.4](#).

#### **4.7.3.2 Bald Eagle**

The bald eagle is listed as endangered within the State of California. The bald eagle may be found throughout most of the state near water bodies including lakes, reservoirs, and rivers during the winter months. The species utilizes mountain and foothill forests near these waterbodies for breeding and nesting. Most breeding territories are in the northern part of the state, but they are also found in the central and southern Sierra Nevada Mountains and foothills (CDFW, n.d.b). The bald eagle is also protected by the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Lacey Act (USFWS, n.d.m).

#### **4.7.3.3 Great Gray Owl**

The great gray owl is listed as endangered within the State of California. They commonly nest in dense forest stands adjacent to mountain meadows where they hunt for rodents. Most of the state's population is found in the Yosemite area (University of California-Davis, n.d.).

#### **4.7.3.4 Swainson's Hawk**

The Swainson's hawk is listed as threatened within the State of California. They are found in the Central Valley and Great Basin areas of Northeastern California and often nest near riparian systems. The species is adapted to open grasslands but has become more dependent upon agriculture with the conversion of many native grasslands into agricultural use (CDFW, n.d.c). NCPA currently

coordinates with CDFW to minimize impacts to Swainson's Hawk associated with Collierville Transmission Line vegetation management activities.

#### **4.7.3.5 Tricolored Blackbird**

The tricolored blackbird is listed as threatened within the State of California. They are birds of open habitats that forage mainly on the ground for seeds and invertebrates. Suitable foraging habitat includes grazed grasslands, irrigated pastures, shallow wetlands, and agricultural fields, particularly fields with seed crops (CDFW, n.d.d).

#### **4.7.3.6 Longfin Smelt**

The longfin smelt is listed as threatened within the State of California. It is an anadromous fish that is found along the San Francisco Estuary and the Sacramento/San Joaquin Delta and uses a variety of habitats from nearshore waters, estuaries and the lower portions of freshwater streams (CDFW, n.d.e).

#### **4.7.3.7 Western Bumble Bee**

The western bumble bee is a candidate to be added as an endangered species in California. It historically occurred from sea level to elevations over 8,000 feet and was found in a variety of habitat types including shrublands chaparral, gardens, and urban areas. It is now observed in high elevation meadows, forests, and riparian areas within the Sierra Nevada Mountains (CDFW, 2022).

#### **4.7.3.8 Gray Wolf**

The gray wolf is listed as a federally endangered and State of California endangered species. See description above in [Section 4.7.2.9](#).

#### **4.7.3.9 North American Wolverine**

The North American wolverine is listed as a federally threatened and State of California threatened species. See description above in [Section 4.7.2.10](#).

#### **4.7.3.10 Delta Button-Celery**

Delta button-celery is listed as endangered within the State of California. It is known to occur from the Sacramento-San Joaquin River Delta Region of the Central Valley up to the rise of the Sierra Nevada foothills. It is a plant of vernal wet and flooded areas near waterways (Calscape, n.d).

#### **4.7.4 Summary**

The Licensee is not proposing any new facilities or changes to the current operations for either Transmission Line. As such, continued operation of the Project is not expected to result in any new impacts on any rare, threatened, or endangered species in the area.

## 4.8 Recreation and Land Use (18 CFR § 5.6(d)(3)(viii))

### 4.8.1 Existing Project Recreation Facilities and Opportunities

The Collierville Transmission Line is located primarily on privately owned lands on a 120-foot-wide ROW. The Spicer Meadow Transmission Line is located within a 10-foot-wide ROW, primarily adjacent to roads within the Stanislaus National Forest. There are no FERC-approved recreation sites or facilities associated with either Transmission Line.

### 4.8.2 Non-Project Recreation Opportunities in the Project Vicinity

While there are no designated FERC-approved recreation sites managed by NCPA within the Project, there are several other recreation opportunities in the Project vicinity which are described in the following sections.

#### 4.8.2.1 New Melones Reservoir (Lake)

The New Melones Dam and Reservoir (Lake) are owned and managed by the Bureau of Reclamation. The Collierville Transmission Line crosses a portion of the reservoir. **Figure 4.8.2.1-1** shows an aerial view of the reservoir.

*Figure 4.8.2.1-1: Aerial View of New Melones Lake*



Source: (Bureau of Reclamation, n.d.b)

The reservoir has 100 miles of shoreline, a water surface area of 12,500 acres, and two recreation areas, the Gloryhole Recreation Area and the Tuttletown Recreation Area (Bureau of Reclamation, n.d.a). Recreation amenities available at each recreation area are detailed below.

**Gloryhole Recreation Area Amenities** (Bureau of Reclamation, n.d.a)

- 2 campgrounds (144 campsites)
- 3 day-use areas
- 30 miles of hiking trails
- Swim beach
- 2 boat launches
- Full-service marina
- Fish cleaning station

**Tuttletown Recreation Area Amenities** (Bureau of Reclamation, n.d.a)

- 3 campgrounds (161 campsites)
- 2 day-use areas
- Boat launch
- RV dump station
- Fish cleaning station

**4.8.2.2 Calaveras Big Trees State Park**

The Calaveras Big Trees State Park is located between the Collierville and Spicer Meadow Transmission Lines. The park was established in 1931 to protect two groves of giant sequoias. In addition to the giant sequoias, the park includes a mixed conifer forest, ancient volcanic formations, and natural meadows (California State Parks, n.d.a). The park offers numerous recreational amenities to the public, which are listed below:

***Calaveras Big Tree State Park Recreational Amenities*** (California State Parks, n.d.a)

- Environmental Campsites
- Family Campsites
- Group Campsites
- Restrooms
- Showers
- Historic/cultural Site
- Picnic Areas
- Environmental Learning Center
- Interpretive Exhibits
- Museum
- Bike Trails
- Hiking Trails
- Swimming Beach

*Figure 4.8.2.2-1: Giant Sequoias at Calaveras Big Trees State Park*



#### **4.8.2.3 Stanislaus River Campground**

The Stanislaus River Campground is located on the North Fork of the Stanislaus River along Spicer Reservoir Road about three miles east of Highway 4. It has 25 campsites with picnic tables, hand pumped water, and vault toilets (USFS, n.d.b). The Spicer Meadow Transmission Line runs adjacent to Spicer Reservoir Road past the campground.

#### **4.8.2.4 Spicer Reservoir Campground and Boat Launch**

The Spicer River Group Campground and boat launch are located along the northwest side of the Spicer Meadow Reservoir on Spicer Reservoir Road. The site has campsites, a covered shelter with tables, fireplaces, a primitive amphitheater, parking, and a paved boat launch. The Spicer Meadow Transmission Line runs adjacent to Spicer Reservoir Road past the recreation site. The boat launch is shown in **Figure 4.8.2.4-1**.

*Figure 4.8.2.4-1: Spicer Reservoir Boat Launch*



#### **4.8.2.5 Wheats Meadow Trailhead (Spicer Dam Side)**

The Wheats Meadow Trailhead is located along the western side of Spicer Meadow Reservoir at the end of Spicer Road below the dam. There are portable toilets and parking available at the site. The trail may be used for biking, hiking, and horseback riding (USFS, n.d.a). The trailhead is shown in **Figure 4.8.2.5-1**.

*Figure 4.8.2.5-1: Wheats Meadow Trailhead*



### **4.8.3 Recreational Needs Identified in Management Plans**

#### **4.8.3.1 State of California**

The 2021 to 2025 Statewide Comprehensive Outdoor Recreation Plan (SCORP) was released in 2025. The SCORP identified five statewide actions (California State Parks, 2015).

- 1) Inform decision-makers and communities of the importance of parks.
- 2) Improve the use, safety, and condition of existing parks.
- 3) Use GIS mapping technology to identify park deficient communities and neighborhoods.
- 4) Increase park access for Californians, including residents in underserved communities.
- 5) Share and distribute success stories to advance park and recreation services.

#### **4.8.3.2 Calaveras County, California**

The Calaveras County Parks & Recreation Master Plan dated March 14, 2025, identified several recommendations to improve recreation within the county. Recommendations include making improvements to existing parks to make them safe and more accessible for all users, making Americans with Disabilities Act-compliant upgrades, focusing on a different recreation organizational structure, and developing park maintenance standards so all parks are maintained to a proper standard (Calaveras County, n.d.). No other specific needs identified in the plan are located within the Project vicinity.

#### **4.8.3.3 San Joaquin County, California**

The San Joaquin County General Plan has several references to recreation in Chapter 3, the Natural and Cultural Resources Element of the plan. The plan indicates that the county should coordinate with other entities to develop regional parks, continue to support efforts of community-based organizations in providing recreation programs, publicizing recreation programs, and continue to develop and operate parks for the county's residents. There are no specific plans to develop any parks within the Project boundary.

#### **4.8.3.4 Stanislaus County, California**

There are no county parks within the vicinity of the Project. The closest park is the Woodward Reservoir Park, located approximately 13 miles south of the Transmission Line. A review of the Stanislaus County Parks and Recreation website did not identify any existing recreation plan.

#### **4.8.3.5 Tuolumne County, California**

The Tuolumne County General Plan Volume II: Technical Background Report-August 2018, contains a chapter regarding parks and recreation within the county. The plan notes that the county maintains a total of 341.25 acres of county-owned parks. The county is also in the process of developing a regional trail system for use by pedestrians, bikers, hikers, and equestrians. The trails link the county's main population centers with other local, state, and federal recreational facilities. There are no specific plans to develop the regional trail system within the Project boundary.

## 4.9 Aesthetic Resources (18 CFR § 5.6(d)(3)(ix))

### 4.9.1 Visual Character of the Project

#### 4.9.1.1 Collierville Transmission Line

The Bellota Switchyard and Substation marks the western extent of the Collierville Transmission Line. It is located within the Central California Valley ecoregion in a primarily agricultural area that is relatively flat, as shown in **Figure 4.9.1.1-1**.

*Figure 4.9.1.1-1: View of the Bellota Switchyard and Substation*



The western portion of the Transmission Line is located in agricultural lands, dominated primarily by orchards. A typical view along the Transmission Line in this area is shown in **Figure 4.9.1.1-2**.

*Figure 4.9.1.1-2: Typical View in Orchard Area*



As you move east along the Transmission Line, the topography becomes more rolling hills and is dominated by grasslands, typically used for grazing. A typical view of this area is shown **Figure 4.9.1.1-3**.

*Figure 4.9.1.1-3: Typical View in Grassland/Pasture Area*



As you continue east along the Transmission Line, it enters the Central California Foothills and Coastal Mountains ecoregion. This area contains a mix of grassland, chaparral, and oak woodlands as shown in **Figure 4.9.1.1-4** and **Figure 4.9.1.1-5**.

*Figure 4.9.1.1-4: Typical View Within Central California Foothills*



*Figure 4.9.1.1-5: Scenic View Within Central California Foothills*



On the eastern end of the Transmission Line, the topography becomes more rugged and more dominated by oak woodlands as it approaches the Sierra Nevada ecoregion. **Figure 4.9.1.1-6** shows the line near the eastern end of the Project before it runs down the mountain towards the Collierville Powerhouse.

*Figure 4.9.1.1-6: Typical View on Eastern End of Collierville Transmission Line*



The Collierville Powerhouse Switchyard is the eastern extent of the Project. The Collierville Powerhouse and tailrace are shown in **Figure 4.9.1.1-7**.

*Figure 4.9.1.1-7: Collierville Powerhouse and Tailrace*



#### **4.9.1.2 Spicer Meadow**

The underground Spicer Meadow Transmission Line is located entirely within the mountainous Sierra Nevada ecoregion. The vegetation within the Project vicinity is dominated by pines and fir. The PG&E Cabbage Patch Switchyard and Substation mark the western extent of the Transmission Line as shown in **Figure 4.9.1.2-1**.

*Figure 4.9.1.2-1: Cabbage Patch Switchyard and Substation*



The majority of the Transmission Line runs adjacent to Highway Road and Spicer Meadow Road. A short section of line runs off-road to the Cabbage Patch Switchyard and Substation. It is shown in **Figure 4.9.1.2-2** and **Figure 4.9.1.2-3**.

*Figure 4.9.1.2-2: Typical View of Off-road Section*



*Figure 4.9.1.2-3: View of an Electric Vault on Off-road Section*



The eastern end of the Transmission Line is located at the Spicer Meadow Powerhouse Switchyard as shown in **Figure 4.9.1.2-4**, and the Stanislaus River downstream of the Spicer Meadow Dam is shown in **Figure 4.9.1.2-5**.

*Figure 4.9.1.2-4: Spicer Meadow Powerhouse Switchyard (Dam in Background)*



*Figure 4.9.1.2-5: Highland Creek, Downstream of Dam (Looking Upstream)*



While the Spicer Meadow Reservoir is not located within the Project boundary, it is nearby and provides a scenic view. It is shown in **Figure 4.9.1.2-6**.

*Figure 4.9.1.2-6: Spicer Meadow Reservoir*



The Hell's Kitchen Vista is located along Highway 4 across the road from the Spicer Meadow Transmission Line. It is located approximately 1,000 feet above the North Fork of the Stanislaus River. During the Ice Age, glacier formations left moraines, erractic boulders and rounded glaciated granite formations called "rouche moutonnee" (Ebbetts Pass National Scenic Byway, n.d.). This area is shown in **Figure 4.9.1.2-7**.

*Figure 4.9.1.2-7: Hell's Kitchen Vista*



#### 4.10 Cultural and Historical Resources (18 CFR § 5.6(d)(3)(x))

The California Office of Historic Preservation maintains a California Historical Resources Information System (CHRIS) that maintains a wide range of documents and materials relating to historical resources including buildings, structures, objects, historic and archaeological sites, landscapes and districts (California State Parks, n.d.b). The existing Project boundaries were established during the last licensing process as the area of potential effect (APE) in regard to cultural and historic resources.

##### 4.10.1 Collierville Transmission Line

On behalf of NCPA, Mead and Hunt requested historic and cultural resource information available from CHRIS within the Collierville Transmission Line APE on August 15, 2025. A total of twenty-seven (27) cultural and historic resources that intersected the APE were identified by this request. They are detailed in **Table 4.10.1-1**. Maps showing the location of these resources are located in **Appendix 4.10.1-1**, which is filed with FERC as privileged information.

*Table 4.10.1-1: Previously Identified Cultural and Historic Resources within the Collierville Transmission Line APE*

| Site Number (P-Number) | Site Name                                                            | Site Type                                                                                | County    | Within APE? |
|------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------|-------------|
| P-05-00042             | CCWD Isolate #1;<br>CAL I-17H                                        | Historic remnant cuts and berms of a railroad line                                       | Calaveras | Yes         |
| P-05-000358            | CA-CAL-0022;<br>CAL-X6                                               | Prehistoric village site and bedrock mortar cups                                         | Calaveras | Yes         |
| P-05-000359            | CA-CAL-0023;<br>CAL-X8                                               | Prehistoric village site                                                                 | Calaveras | Yes         |
| P-05-000360            | CA-CAL-0024;<br>CAL-X9                                               | Prehistoric burning and burial ground                                                    | Calaveras | Yes         |
| P-05-000468            | CA-CAL-133/H;<br>Waterman Place Site<br>(Formerly Old Bridge Site)   | Historic Waterman Place and prehistoric site with bedrock mortar cups and midden         | Calaveras | Yes         |
| P-05-000970            | CA-CAL-652;<br>M2                                                    | Prehistoric chert scatter and outcrops with bedrock mortar cups                          | Calaveras | Yes         |
| P-05-000973            | CA-CAL-655/H;<br>M5                                                  | Prehistoric bedrock mortar cups in association with historic refuse and wooden structure | Calaveras | Yes         |
| P-05-0001393           | CA-CAL-1077;<br>CCWD 3                                               | Prehistoric quarry site                                                                  | Calaveras | Yes         |
| P-05-0001394           | CA-CAL-1078;<br>Bear Mountain 14 VMP #4;<br>Heiser Canyon;<br>CCWD 4 | Prehistoric major village site with 24 bedrock mortar stations and possible house pits   | Calaveras | Yes         |
| P-05-0001395           | CA-CAL-1079H;<br>CCWD 5                                              | Historic building-extant mud mortar and stone subterranean winery                        | Calaveras | Yes         |

| Site Number<br>(P-Number) | Site Name                                                                                        | Site Type                                                                                | County         | Within APE?                                      |
|---------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------|--------------------------------------------------|
| P-05-001396               | CA-CAL-1080;<br>CCWD 6;<br>Bear Mountain 14 VMP #5;<br>Tower BRM                                 | Prehistoric bedrock<br>outcrops with mortar cups                                         | Calaveras      | Yes                                              |
| P-05-001398               | CA-CAL-1082;<br>CCWD 8                                                                           | Prehistoric bedrock<br>outcrops with mortar cups                                         | Calaveras      | Yes                                              |
| P-05-001399               | CA-CAL-1083;<br>CCWD 9                                                                           | Prehistoric bedrock outcrop<br>with mortar cups                                          | Calaveras      | Yes                                              |
| P-05-001401               | CA-CAL-001085;<br>CCWD 11                                                                        | Prehistoric quarry                                                                       | Calaveras      | Yes                                              |
| P-05-001805               | CA-CAL-1501H<br>Whited 1; Bowling Green<br>Placer Mine                                           | Historic waste rock piles<br>from historic mine                                          | Calaveras      | Yes                                              |
| P-05-002075               | New Melones Historical<br>District;<br>New Melones<br>Archaeological District<br>NR No. 91000327 | District contains 627<br>prehistoric and historic era<br>sites                           | Calaveras      | Yes                                              |
| P-05-002325               | Vallecito; CHL#273;<br>Town of Vallecito                                                         | Town of Vallecito is<br>designated as a California<br>historical landmark                | Calaveras      | Line passes<br>through Town<br>of Vallecito      |
| P-05-002334               | Town of Angels<br>Camp/Altaville;<br>Angels Camp HL #287                                         | Town of Angels<br>Camp/Altaville is<br>designated as a California<br>historical landmark | Calaveras      | Line passes<br>through Town<br>of Angels<br>Camp |
| P-05-223540               | FS- 05-16-51-1175;<br>BLM-CA-018-AC-291;<br>CA-CA: 212H<br>Ponderosa Way Fuelbreak               | Historic fuelbreak<br>constructed by Civilian<br>Conservation Corps                      | Calaveras      | Yes                                              |
| P-05-003634               | CA-CAL-0215H<br>CULT-CAL-35                                                                      | Historic granite and<br>quartzite stone wall or<br>foundation structure                  | Calaveras      | Yes                                              |
| P-05-003999               | CA-CAL-002333H<br>SMR-12                                                                         | Historic homestead site                                                                  | Calaveras      | Yes                                              |
| P-05-004000               | CA-CAL-002334H<br>SMR-010                                                                        | Historic ditch complex                                                                   | Calaveras      | Yes                                              |
| P-05-004016               | Copperopolis & Jenny Lind<br>Road                                                                | Historic road                                                                            | Calaveras      | Yes                                              |
| P-39-000044               | CCWD Isolate 8                                                                                   | Historic bifacially-worked<br>core chopper tools                                         | San<br>Joaquin | Yes                                              |
| P-39-000045               | CCWD Isolate 9                                                                                   | Historic bifacially-reduced<br>core chopper                                              | San<br>Joaquin | Yes                                              |
| P-39-000313               | CA-SJO-0197;<br>M8                                                                               | Prehistoric oval midden<br>mound                                                         | San<br>Joaquin | Yes                                              |
| P-39-005477               | Belotta Substation<br>(Belotta Junction)                                                         | Historic substation                                                                      | San<br>Joaquin | Yes                                              |

#### 4.10.2 Spicer Meadow Transmission Line

Mead and Hunt requested historic and cultural resource information available from CHRIS within the Spicer Meadow Transmission Line APE on August 15, 2025. A total of four (4) cultural and historic resources that intersected the APE were identified by this request. They are detailed in **Table 4.10.2-1**. Maps showing the location of these resources are located in **Appendix 4.10.2-1**, which is filed with FERC as privileged information.

*Table 4.10.2-1: Previously Identified Cultural and Historic Resources within the Spicer Meadow Transmission Line APE*

| Site Number (P-Number) | Site Name                                                                              | Site Type                                      | County    | Within APE? |
|------------------------|----------------------------------------------------------------------------------------|------------------------------------------------|-----------|-------------|
| P-05-000127            | FS-05-16-52-788;<br>CA-CAL-1549H                                                       | Historic dump                                  | Calaveras | Yes         |
| P-05-003382            | FS-05-16-52-0191;<br>Big Meadow<br>Recreation Tract,<br>Stanislaus Forest Lot<br>No. 2 | Historic cabins and<br>outbuildings            | Calaveras | Yes         |
| P-05-003552            | Ebbetts Pass Route;<br>CHL # 318;<br>Big Trees Hwy                                     | Remnants of the Historic<br>Ebbetts Pass Route | Calaveras | Yes         |
| P-55-010247            | Spicer Sand Flat Trail                                                                 | Historic pack and saddle trail                 | Tuolumne  | Yes         |

#### **4.10.3 Tribal Cultural Resources (18 CFR § 5.6(d)(3)(xii))**

Native Americans occupied the area now known as California for thousands of years. The federal government currently recognizes twenty-eight (28) tribes in the east central region of California (California Area Indian Health Service, n.d.). The federally recognized tribes are shown in **Table 4.10.3-1**.

*Table 4.10.3-1: Federally Recognized Tribes in the East Central Region of California*

| <b>Federally Recognized Tribes in the East Central Region of California</b>                           |
|-------------------------------------------------------------------------------------------------------|
| Berry Creek Rancheria of Maidu Indians of California                                                  |
| Big Pine Paiute Tribe of the Owens Valley                                                             |
| Big Sandy Rancheria of Western Mono Indians of California                                             |
| Bishop Paiute Tribe                                                                                   |
| Bridgeport Indian Colony                                                                              |
| Buena Vista Rancheria of Me-Wuk Indians of California                                                 |
| California Valley Miwok Tribe, California                                                             |
| Chicken Ranch Rancheria of Me-Wuk Indians of California                                               |
| Cold Springs Rancheria of Mono Indians of California                                                  |
| Enterprise Rancheria of Maidu Indians of California                                                   |
| Fort Independence Indian Community of Paiute Indians of the Fort Independence Reservation, California |
| Ione Band of Miwok Indians of California                                                              |
| Jackson Band of Miwok Indians                                                                         |
| Lone Pine Paiute-Shoshone Tribe                                                                       |
| Mechoopda Indian Tribe of Chico Rancheria, California                                                 |
| Mooretown Rancheria of Maidu Indians of California                                                    |
| North Fork Rancheria of Mono Indians of California                                                    |

| Federally Recognized Tribes in the East Central Region of California                                      |
|-----------------------------------------------------------------------------------------------------------|
| Picayune Rancheria of Chukchansi Indians of California                                                    |
| Santa Rosa Indian Community of the Santa Rosa Rancheria, California                                       |
| Shingle Springs Band of Miwok Indians of California, Shingle Springs Rancheria (Verona Tract), California |
| Table Mountain Rancheria                                                                                  |
| Tejon Indian Tribe                                                                                        |
| Timbisha Shoshone Tribe                                                                                   |
| Tule River Indian Tribe of the Tule River Reservation, California                                         |
| Tuolumne Band of Me-Wuk Indians of the Tuolumne Rancheria of California                                   |
| United Auburn Indian Community of the Auburn Rancheria of California                                      |
| Utu Utu Gwaitu Paiute Tribe of the Benton Paiute Reservation, California                                  |
| Wilton Rancheria                                                                                          |

Source: (California Area Indian Health Service, n.d.)

The California High-Speed Rail Authority developed a map illustrating the traditional tribal territories in California in the area where California's high-speed-rail development is located. This map overlaps the Collierville and Spicer Meadow Transmission Line Project vicinity. The map shows that there are three traditional tribal territories within the Project vicinity. They include the Miwok, Washoe, and Yokut tribes (California High-Speed Rail Authority, 2022). The map is shown in **Figure 4.10.3-1**. A short history of each of the three tribes is included in the following sections. Although not shown on the map, NCPA has also included a short history of the Maidu tribe, which is a consulting party related to the Transmission Lines.

#### **4.10.3.1 Maidu**

The Maidu people lived in the Sierra Nevada and adjacent valleys in northern California. They were semi-nomadic, hunting and living in wigwams in the summer. In the winter they lived in semi-subterranean pit houses or earth lodges (Native American Tribes, n.d.). Settlers came to the area with the opening of the Oregon and California trails and with the gold rush. The Maidu population diminished dramatically after white settlers arrived due to European diseases including malaria, smallpox, measles, and influenza. In 1863 the Maidu people were forced onto the Round Valley Reservation (Native American Tribes, n.d.).

#### **4.10.3.2 Miwok**

The Miwok people (also known as Miwuk, Mi-Wuk, and Me-wuk) lived along the Sierra Nevada foothills up into the mountains below the heavy snow line. They also lived in the San Joaquin Valley. In mountain areas, homes were made of bark slabs leaning against each other in a cone shape. In the lower foothills and plains, houses were made around a frame of poles covered with grass or reeds. The Miwok were hunter-gatherers that depended upon acorns from the black oak. The Sierra Miwok depended on deer as their main source of meat. The Plains Miwok depended upon elk and antelope (Legends of America, n.d.a).

#### **4.10.3.3 Washoe**

The Washoe Tribe originally lived around Lake Tahoe and the Great Basin. They were semi-sedentary hunters and gatherers whose territory extended west to the western slope of the Sierra Nevada Mountains (Legends of America, n.d.b). They spent their summers in the Sierra Nevadas, fall in the ranges to the east, and in the winter and spring in the valleys between the two. Their main food base was pinyon pine nuts, roots, seeds, berries, and game (Legends of America, n.d.b).

#### **4.10.3.4 Yokuts**

The Yokuts lived in a strip about 250 miles long on the floor of the San Joaquin Valley and the adjacent lower foothills of the Sierra Nevada Mountains up to a few thousand feet in altitude (Legends of America, n.d.c). Men primarily did the hunting, fishing, and building while women gathered, maintained the home, and raised the children. Their staple food was derived from acorns. The Yokuts utilized tule reeds to make flour, baskets, and canoe-shaped rafts and homes. They were not nomadic, living in permanent homes with roofs and walls covered in tule-reed mats (Legends of America, n.d.c). In 1854 the Yokuts tribe was forced to move to the Fort Tejon Reservation. Most of the inhabitants were killed during a vigilante raid and the reservation was abandoned in 1859. The Tule River Reservation was established in 1873, providing a home for many Yokuts (Legends of America, n.d.c).

Figure 4.10.3.-1: California Traditional Tribal Territories



Source: (California High-Speed Rail Authority, 2022)

#### 4.10.4 Tribal Representatives Consulted with Questionnaires

In June 2025, a questionnaire was sent to tribal representatives requesting any known information or potential impacts from operations of the Collierville and Spicer Meadow Transmission Line Project. The tribal representatives who were sent the questionnaires are listed in **Table 4.10.4-1**.

Lawrence Wilson with the California Valley Miwok Tribe called NCPA after receiving the relicensing survey, indicating that the California Valley Miwok Tribe intended to participate in the relicensing process. No other questionnaire responses were received. A discussion of all questionnaire responses is included in [Section 6](#).

*Table 4.10.4-1: Tribal Representatives Consulted Through Questionnaires*

| Name                            | Organization                              |
|---------------------------------|-------------------------------------------|
| Adam Lewis                      | Calaveras Band of Mi-Wuk Indians          |
| Cosme Valdez                    | Nashville Enterprise Miwok-Maidu-Nishinam |
| Debra Gimes                     | Calaveras Band of Mi-Wuk Indians          |
| Grayson Coney                   | Tsi Akim Maidu                            |
| Jereme Dutschke                 | Ione Band of Miwok Indians                |
| Jesus Galvan                    | Buena Vista Rancheria                     |
| Kevin Day                       | Tuolumne Band of Mi-Wuk Indians           |
| Lawrence Wilson                 | California Valley Miwok Tribe             |
| Joseph Mathiesen-Powell         | Chicken Ranch Rancheria of Me-Wuk Indians |
| Patrick De?il  legi? Burt, M.A. | Washoe Tribe of Nevada and California     |
| Sara Dutschke                   | Ione Band of Miwok Indians                |
| William Garfield                | Tule River Indian Tribe (Yokuts)          |

#### 4.11 Socioeconomic Resources (18 CFR   5.6(d)(3)(xi))

This section outlines historical population patterns and employment information for San Joaquin, Stanislaus, Calaveras, and Tuolumne counties, all in California.

##### 4.11.1 Population, Race, and Housing Patterns

NCPA reviewed the US Census Bureau (USCB) US Census Data website to gather population, race, and housing data in each of the four counties where the Project is located.

##### Population Data

The 2023 estimated population of Calaveras County was 45,995; San Joaquin County was 800,695; Stanislaus County was 551,430; and Tuolumne County was 54,873. Between 2010 and 2023 the population of Calaveras County increased by 0.1%, San Joaquin County increased by 16.9%, Stanislaus County increased by 7.2%, and Tuolumne County decreased by 0.1%. Historical population information is in **Table 4.11.1-1**.

*Table 4.11.1-1: Historic Population Data*

| Date                             | Calaveras County | San Joaquin County | Stanislaus County | Tuolumne County |
|----------------------------------|------------------|--------------------|-------------------|-----------------|
| 2010 census population           | 45,578           | 685,306            | 514,453           | 55,365          |
| 2020 census population           | 45,292           | 779,233            | 552,878           | 55,620          |
| 2023 5-year estimated population | 45,995           | 800,965            | 551,430           | 54,873          |
| Percent Change 2010 to 2023      | 0.1%             | 16.9%              | 7.2%              | (0.1%)          |

Source: (USCB, 2020) (USCB, 2023a) (USCB, 2023b)

The California Department of Finance projects a 13.3% population decrease in Calaveras County, a 28.4% population increase in San Joaquin County, a 10.4% population increase in Stanislaus County, and a 5.7% population decrease in Tuolumne County between 2023 and 2050 (State of California Department of Finance, n.d.). Population forecasts can be found in **Table 4.11.1-2**.

*Table 4.11.1-2: Population Forecast Data*

| Year               | 2023 5-year estimates | 2030    | 2040    | 2050      | % Change 2023-2050 |
|--------------------|-----------------------|---------|---------|-----------|--------------------|
| Calaveras County   | 45,995                | 43,485  | 41,901  | 39,865    | (13.3%)            |
| San Joaquin County | 800,965               | 836,082 | 936,977 | 1,028,505 | 28.4%              |
| Stanislaus County  | 551,430               | 557,349 | 582,934 | 608,614   | 10.4%              |
| Tuolumne County    | 54,873                | 52,437  | 51,987  | 51,751    | (5.7%)             |

Source: (State of California Department of Finance, n.d.)

#### Race Data

The breakdown of population by race for each of the four counties the Project is located in is shown in **Table 4.11.1-3**. The populations of Calaveras and Tuolumne Counties have limited (less than 20% of overall population) minority populations. In San Joaquin and Stanislaus counties, the minority population accounts for 68.8% and 59.2% of the overall population, respectively.

*Table 4.11.1-3: Race Data*

| Race                                               | Calaveras County | San Joaquin County | Stanislaus County | Tuolumne County |
|----------------------------------------------------|------------------|--------------------|-------------------|-----------------|
| Total population (all races)<br>2023 5-yr estimate | 45,995           | 800,965            | 551,430           | 54,873          |
| White                                              | 80.8%            | 31.2%              | 40.8%             | 82.6%           |
| Black (African American)                           | 1.2%             | 6.8%               | 3.0%              | 1.7%            |
| Native American and Alaska Native                  | 1.5%             | 1.8%               | 1.2%              | 1.8%            |
| Asian                                              | 2.3%             | 19.3%              | 6.3%              | 1.3%            |
| Native Hawaiian and other Pacific Islander         | 0.1%             | 0.6%               | 0.9%              | 0.5%            |
| Some other race                                    | 3.0%             | 21.8%              | 19.3%             | 3.4%            |
| Two or more races                                  | 11.2%            | 18.4%              | 28.6%             | 8.7%            |

Source: (USCB, 2023b)

#### Housing Data

The 2020 census identified a total of 27,422 housing units in Calaveras County, resulting in a density of 26.9 housing units per square mile (USCB, n.d.a). In San Joaquin County, there were a total of 251,453 housing units resulting in a density of 180.6 housing units per square mile (USCB, n.d.b). In Stanislaus County, there were 183,140 housing units resulting in a density of 122.4 housing units per square mile (USCB, n.d.c). In Tuolumne County, there were a total of 31,415 housing units, resulting in a density of 14.1 housing units per square mile (USCB, n.d.d).

#### **4.11.2 Economic Patterns**

In the US Census American Community Survey 2023 5-year estimates, the median household income in Calaveras County was \$77,877, in San Joaquin County was \$88,531, in Stanislaus County was \$79,661, and in Tuolumne County was \$72,259 (USCB, 2023a).

The top employment sector in all four counties is educational services, health care, and social assistance. Employment status based on industry sector, estimated number of jobs, and percentage of jobs is summarized in **Table 4.11.2-1** for Calaveras County, **Table 4.11.2-2** for San Joaquin County, **Table 4.11.2-3** for Stanislaus County, and **Table 4.11.2-4** for Tuolumne County (USCB, 2023a). Percentages may not add up to 100% due to rounding.

*Table 4.11.2-1: Employment Status for Calaveras County, California*

| Industry Sector                                                                            | Est. # of Jobs | % Jobs |
|--------------------------------------------------------------------------------------------|----------------|--------|
| Civilian employed population 16 years and over                                             | 17,973         | -      |
| Agriculture, forestry, fishing and hunting, and mining                                     | 625            | 3.5    |
| Construction                                                                               | 2,240          | 12.5   |
| Manufacturing                                                                              | 1,186          | 6.6    |
| Wholesale trade                                                                            | 387            | 2.2    |
| Retail trade                                                                               | 2,256          | 12.6   |
| Transportation, warehousing, and utilities                                                 | 1,111          | 6.2    |
| Information                                                                                | 275            | 1.5    |
| Finance and insurance, and real estate and rental and leasing                              | 957            | 5.3    |
| Professional, scientific, and management, and administrative and waste management services | 2,003          | 11.1   |
| Educational services, health care, and social assistance                                   | 3,198          | 17.8   |
| Arts, entertainment, and recreation, and accommodation and food services                   | 1,242          | 6.9    |
| Other services except public administration                                                | 811            | 4.5    |
| Public administration                                                                      | 1,682          | 9.4    |

Source: (USCB, 2023a)

*Table 4.11.2-2: Employment Status for San Joaquin County, California*

| Industry Sector                                                                            | Est. # of Jobs | % Jobs |
|--------------------------------------------------------------------------------------------|----------------|--------|
| Civilian employed population 16 years and over                                             | 345,069        | -      |
| Agriculture, forestry, fishing and hunting, and mining                                     | 15,102         | 4.4    |
| Construction                                                                               | 29,267         | 8.5    |
| Manufacturing                                                                              | 33,777         | 9.8    |
| Wholesale trade                                                                            | 8,625          | 2.5    |
| Retail trade                                                                               | 40,451         | 11.7   |
| Transportation, warehousing, and utilities                                                 | 31,198         | 9.0    |
| Information                                                                                | 4,969          | 1.4    |
| Finance and insurance, and real estate and rental and leasing                              | 14,947         | 4.3    |
| Professional, scientific, and management, and administrative and waste management services | 36,028         | 10.4   |
| Educational services, health care, and social assistance                                   | 71,037         | 20.6   |
| Arts, entertainment, and recreation, and accommodation and food services                   | 27,152         | 7.9    |
| Other services except public administration                                                | 14,969         | 4.3    |
| Public administration                                                                      | 17,547         | 5.1    |

Source: (USCB, 2023a)

*Table 4.11.2-3: Employment Status for Stanislaus County, California*

| Industry Sector                                                                            | Est. # of Jobs | % Jobs |
|--------------------------------------------------------------------------------------------|----------------|--------|
| Civilian employed population 16 years and over                                             | 240,228        | -      |
| Agriculture, forestry, fishing and hunting, and mining                                     | 12,081         | 5.0    |
| Construction                                                                               | 21,314         | 8.9    |
| Manufacturing                                                                              | 29,473         | 12.3   |
| Wholesale trade                                                                            | 6,545          | 2.7    |
| Retail trade                                                                               | 27,450         | 11.4   |
| Transportation, warehousing, and utilities                                                 | 18,366         | 7.6    |
| Information                                                                                | 2,171          | 0.9    |
| Finance and insurance, and real estate and rental and leasing                              | 8,190          | 3.4    |
| Professional, scientific, and management, and administrative and waste management services | 20,237         | 8.4    |
| Educational services, health care, and social assistance                                   | 52,650         | 21.9   |
| Arts, entertainment, and recreation, and accommodation and food services                   | 19,982         | 8.3    |
| Other services except public administration                                                | 11,877         | 4.9    |
| Public administration                                                                      | 9,892          | 4.1    |

Source: (USCB, 2023a)

*Table 4.11.2-4: Employment Status for Tuolumne County, California*

| Industry Sector                                                                            | Est. # of Jobs | % Jobs |
|--------------------------------------------------------------------------------------------|----------------|--------|
| Civilian employed population 16 years and over                                             | 21,057         | -      |
| Agriculture, forestry, fishing and hunting, and mining                                     | 550            | 2.6    |
| Construction                                                                               | 1,963          | 9.3    |
| Manufacturing                                                                              | 1,134          | 5.4    |
| Wholesale trade                                                                            | 265            | 1.3    |
| Retail trade                                                                               | 2,152          | 10.2   |
| Transportation, warehousing, and utilities                                                 | 1,223          | 5.8    |
| Information                                                                                | 194            | 0.9    |
| Finance and insurance, and real estate and rental and leasing                              | 649            | 3.1    |
| Professional, scientific, and management, and administrative and waste management services | 2,243          | 10.7   |
| Educational services, and health care and social assistance                                | 5,050          | 24.0   |
| Arts, entertainment, and recreation , and accommodation and food services                  | 2,881          | 13.7   |
| Other services except public administration                                                | 1,092          | 5.2    |
| Public administration                                                                      | 1,661          | 7.9    |

Source: (USCB, 2023a)

NCPA is not proposing any new facilities or changes to the current operation of either Transmission Line. As such, continued operation of the Project is not expected to adversely impact the socioeconomic resources in the area.

## **5. Preliminary Concerns and Studies List (18 CFR § 5.6(d)(4))**

The PAD must include a list of concerns pertaining to the identified resources outlined in [Section 4](#), potential studies, or information gathering requirements associated with the identified concerns, relevant qualified federal and state or tribal comprehensive waterway plans, and relevant resource management plans.

### **5.1 Known or Potential Negative Impacts to the Identified Resources**

For the purposes of this relicensing process, potential negative impacts are new impacts to the resources that are documented to occur, believed to be occurring, or believed will occur because of the continued operation of each Transmission Line through issuance of a subsequent license.

#### **5.1.1 Geology and Soils**

##### ***5.1.1.1 Collierville Transmission Line***

Since there is no current information indicating that significant adverse impacts occur due to erosion within the Collierville Transmission Line Project boundary and no new construction activities are proposed, no new impacts related to geology and soil resources are anticipated.

##### ***5.1.1.2 Spicer Meadow Transmission Line***

Since there is no current information indicating that significant adverse impacts occur due to erosion within the Spicer Meadow Transmission Line Project boundary and no new construction activities are proposed, no new impacts related to geology and soil resources are anticipated.

#### **5.1.2 Water Resources**

##### ***5.1.2.1 Collierville Transmission Line***

No water resources concerns were identified from the responses to the relicensing questionnaire.

There are no planned changes to the operations or maintenance of the Collierville Transmission Line that would result in adverse impacts on water resources.

##### ***5.1.2.2 Spicer Meadow Transmission Line***

No water resource concerns were identified from the responses to the relicensing questionnaire.

There are no planned changes to the operations or maintenance of the Spicer Meadow Transmission Line that would result in adverse impacts on water resources.

#### **5.1.3 Fish and Aquatic Resources**

##### ***5.1.3.1 Collierville Transmission Line***

No fish or aquatic resource concerns were identified in the questionnaire responses.

There are no planned changes to the operations or maintenance of the Collierville Transmission Line that would result in new impacts on fish and aquatic resources.

##### ***5.1.3.2 Spicer Meadow Transmission Line***

No fish or aquatic species resource concerns were identified in the questionnaire responses.

There are no planned changes to the operations or maintenance of the Spicer Meadow Transmission Line that would result in new impacts on fish and aquatic resources.

#### **5.1.4 Terrestrial Wildlife and Botanical Resources**

##### ***5.1.4.1 Collierville Transmission Line***

No terrestrial wildlife or botanical resource concerns were identified from the relicensing questionnaire.

There are no planned construction activities or changes to the operations or maintenance of the Collierville Transmission Line that would result in new impacts on terrestrial, wildlife, or botanical resources.

##### ***5.1.4.2 Spicer Meadow Transmission Line***

No terrestrial wildlife or botanical resource concerns were identified from the relicensing questionnaire.

There are no planned construction activities or changes to the operations or maintenance of the Spicer Meadow Transmission Line that would result in new impacts to terrestrial, wildlife, or botanical resources.

#### **5.1.5 Wetlands, Riparian, and Littoral Habitat**

##### ***5.1.5.1 Collierville Transmission Line***

No wetland, riparian, or littoral habitat concerns were identified in the relicensing questionnaire responses.

There are no planned changes to the operation or maintenance of the Collierville Transmission Line that would result in adverse impacts on wetlands, riparian, and littoral habitat.

##### ***5.1.5.2 Spicer Meadow Transmission Line***

No wetland, riparian, or littoral habitat concerns were identified in the relicensing questionnaire responses.

There are no planned changes to the operation or maintenance of the Spicer Meadow Transmission Line that would result in adverse impacts on wetlands, riparian, and littoral habitat.

#### **5.1.6 Critical Habitat and Threatened and Endangered Species**

##### ***5.1.6.1 Collierville Transmission Line***

Several state-listed and federal-listed species were identified in the vicinity of the Collierville Transmission Line. The Licensee will need to consult with the USFWS and CDFW to determine potential impacts to threatened and endangered species from continued Project operations. No specific concerns were identified from the questionnaire. However, a portion of the Transmission Line passes through the designated critical habitat area for the Vernal Pool Fairy Shrimp.

##### ***5.1.6.2 Spicer Meadow Transmission Line***

Several state-listed and federal-listed species were identified in the vicinity of the Spicer Meadow Transmission Line. The Licensee will need to consult with the USFWS and CDFW to determine potential impacts to threatened and endangered species from continued Project operations. No specific concerns were identified from the questionnaire.

### **5.1.7 Recreation and Land Use**

#### **5.1.7.1 Collierville Transmission Line**

No recreation and land use resource concerns were identified in response to the relicensing questionnaire.

There are no FERC-approved recreation sites associated with the Collierville Transmission Line and no new recreation facilities are being proposed. Continued operation of the Project is expected to have no impact on recreation in the Project vicinity.

#### **5.1.7.2 Spicer Meadow Transmission Line**

No recreation and land use resource concerns were identified in response to the relicensing questionnaire.

There are no FERC-approved recreation sites associated with the Spicer Meadow Transmission Line and no new recreation facilities are being proposed. Continued operation of the Project is expected to have no impact on recreation in the Project vicinity.

### **5.1.8 Aesthetic Resources**

#### **5.1.8.1 Collierville Transmission Line**

No aesthetic resource concerns were identified in response to the relicensing questionnaire.

There are no new Project facilities or changes to the current operations or maintenance of the Collierville Transmission Line proposed that would result in adverse impacts on aesthetic resources.

#### **5.1.8.2 Spicer Meadow Transmission Line**

No aesthetic resource concerns were identified in response to the relicensing questionnaire.

There are no new Project facilities or changes to the current operations or maintenance of the Spicer Meadow Transmission line proposed that would result in adverse impacts on aesthetic resources.

### **5.1.9 Cultural and Tribal Resources**

#### **5.1.9.1 Collierville Transmission Line**

No specific cultural or tribal resource concerns were identified from the relicensing questionnaire. The Licensee will need to reach out to local tribal representatives to again confirm if there are potential impacts to traditional cultural properties.

#### **5.1.9.2 Spicer Meadow Transmission Line**

No cultural or tribal resource concerns were identified from the relicensing questionnaire. The Licensee will need to reach out to local tribal representatives to again confirm if there are potential impacts to traditional cultural properties.

### **5.1.10 Socioeconomic Resources**

#### **5.1.10.1 Collierville Transmission Line**

No socioeconomic resource concerns were identified from the relicensing questionnaire.

There are no proposed changes to the operations or maintenance of the Collierville Transmission Line that would result in adverse impacts on socioeconomic resources.

#### **5.1.10.2 Spicer Meadow Transmission Line**

No socioeconomic resource concerns were identified from the relicensing questionnaire.

There are no proposed changes to the operations or maintenance of the Spicer Meadow Transmission Line that would result in adverse impacts on socioeconomic resources.

### **5.2 Potential Studies or Information Gathering**

This section identifies potential studies or information gathering that may be needed to analyze the preliminary resource concerns identified in [Section 5.1](#). In accordance with 18 CFR § 16.8(b)(5), within 60 days of the Joint Agency Meeting, each interested resource agency, Native American, and member of the public must provide any and all study requests to the Licensee, as described in [Section 2.1](#).

All study requests must comply with the following criteria:

- Identify its determination of necessary studies to be performed or the information to be provided by the potential applicant.
- Identify the basis for its determination.
- Discuss its understanding of resource concerns and its goals and objectives for these resources.
- Explain why each recommended study methodology is more appropriate than any other available methodology alternatives, including those identified by the potential applicant.
- Document each recommended study methodology is a generally accepted practice.
- Explain how the requested studies and information will be useful to the agency, Native American tribe, or member of the public in furthering its resource goals and objectives that are affected by the proposed project.

The following sections identify potential studies and information gathering that may be needed to analyze the resource concerns identified in [Section 5.1](#).

#### **5.2.1 Geology and Soils**

##### **5.2.1.1 Collierville Transmission Line**

The Licensee is not proposing any studies specific to geologic or soil resources.

##### **5.2.1.2 Spicer Meadow Transmission Line**

The Licensee is not proposing any studies specific to geologic or soil resources.

#### **5.2.2 Water Resources**

##### **5.2.2.1 Collierville Transmission Line**

The Licensee is not proposing any studies specific to water resources.

##### **5.2.2.2 Spicer Meadow Transmission Line**

The Licensee is not proposing any studies specific to water resources.

### **5.2.3 Fish and Aquatic Resources**

#### **5.2.3.1 Collierville Transmission Line**

The Licensee is not proposing any studies specific to fish and aquatic resources.

#### **5.2.3.2 Spicer Meadow Transmission Line**

The Licensee is not proposing any studies specific to fish and aquatic resources.

### **5.2.4 Terrestrial Wildlife and Botanical Resources**

#### **5.2.4.1 Collierville Transmission Line**

The Licensee is not proposing any studies specific to terrestrial wildlife and botanical resources.

#### **5.2.4.2 Spicer Meadow Transmission Line**

The Licensee is not proposing any studies specific to terrestrial wildlife and botanical resources.

### **5.2.5 Wetlands, Riparian, and Littoral Habitat**

#### **5.2.5.1 Collierville Transmission Line**

The Licensee is not proposing any studies specific to wetlands, riparian, and littoral habitat.

#### **5.2.5.2 Spicer Meadow Transmission Line**

The Licensee is not proposing any studies specific to wetlands, riparian, and littoral habitat.

### **5.2.6 Critical Habitat and Threatened and Endangered Species**

#### **5.2.6.1 Collierville Transmission Line**

The Licensee proposes to conduct a tabletop study to identify the location of vernal pools within the designated critical habitat area for the Vernal Pool Fairy Shrimp. Should the consultation process outlined in [Section 5.1.6](#) not identify any adverse effects from continued Project operations, more specifically to either critical habitat or threatened or endangered species, the Licensee will not propose any additional studies.

#### **5.2.6.2 Spicer Meadow Transmission Line**

Should the consultation process outlined in [Section 5.1.6](#) not identify any adverse effects from continued Project operations, more specifically to either critical habitat or threatened or endangered species, the Licensee will not propose any studies.

### **5.2.7 Recreation and Land Use**

#### **5.2.7.1 Collierville Transmission Line**

Since continued operation of the Project is expected to have no impact on recreation, the Licensee is not proposing any studies specific to recreation or land use.

#### **5.2.7.2 Spicer Meadow Transmission Line**

Since continued operation of the Project is expected to have no impact on recreation, the Licensee is not proposing any studies specific to recreation or land use.

## **5.2.8 Aesthetic Resources**

### **5.2.8.1 Collierville Transmission Line**

The Licensee is not proposing any studies specific to aesthetic resources.

### **5.2.8.2 Spicer Meadow Transmission Line**

The Licensee is not proposing any studies specific to aesthetic resources.

## **5.2.9 Historical and Cultural Resources**

### **5.2.9.1 Collierville Transmission Line**

The Licensee will reach out to local tribal representatives to again confirm if there are potential impacts to traditional cultural properties.

### **5.2.9.2 Spicer Meadow Transmission Line**

The Licensee will reach out to local tribal representatives to again confirm if there are potential impacts to traditional cultural properties.

## **5.2.10 Socioeconomic Resources**

### **5.2.10.1 Collierville Transmission Line**

The Licensee is not proposing any studies specific to socioeconomic resources.

### **5.2.10.2 Spicer Meadow Transmission Line**

The Licensee is not proposing any studies specific to socioeconomic resources.

## **5.2.11 Tribal Resources**

### **5.2.11.1 Collierville Transmission Line**

NCPA will continue to provide process documentation to tribal stakeholders and address, as necessary, any concerns they may have.

The Licensee is not proposing any studies related to tribal resources.

### **5.2.11.2 Spicer Meadow Transmission Line**

NCPA will continue to provide process documentation to tribal stakeholders and address, as necessary, any concerns they may have.

The Licensee is not proposing any studies related to tribal resources.

## **5.3 Mitigation Enhancement**

### **5.3.1 Collierville Transmission Line**

The Licensee is proposing to continue the following mitigation and enhancement measures associated with the Collierville Transmission Line:

- Continue to utilize the Transmission Vegetation Management Program to ensure electric reliability by preventing outages caused by vegetation located within or adjacent to the ROW.
- Continue to implement NCPA's 2024 Wildfire Mitigation Plan to reduce fire hazards associated with the Project.

- Continue to coordinate with CDFW regarding potential vegetation management impacts to the Swainson's Hawk.
- Continue to avoid maintenance activities within any vernal pools and avoid any new vernal pools identified within the designated critical habitat area for the Vernal Pool Fairy Shrimp.

The existing information available for the Project did not identify any significant concerns or new adverse effects upon the resources associated with the continued operation of the Collierville Transmission Line. Additionally, no changes to Project operation are proposed. As a result, the Licensee does not propose any additional protection, mitigation, or enhancement measures for the purposes of this relicensing process.

### **5.3.2 Spicer Meadow Transmission Line**

The Licensee is proposing to continue the following mitigation and enhancement measures associated with the Spicer Meadow Transmission Line:

- NCPA's current Wildfire Mitigation Plan will continue to be implemented to reduce the risk of wildfires that could be ignited or propagated by NCPA's electrical equipment or facilities in high fire threat locations.

The existing information available for the Project did not identify any significant concerns or adverse effects upon the resources associated with the continued operation of the Spicer Meadow Transmission Line. Additionally, no changes to Project operation are proposed. As a result, the Licensee does not propose any additional protection, mitigation, or enhancement measures for the purposes of this relicensing process.

## **5.4 Federal, State, or Tribal Comprehensive Waterway Plans**

Section 10(a)(2) of the Federal Power Act requires the FERC to consider the extent to which a project is consistent with existing federal or state comprehensive plans, as defined in § 2.19 under Part 2 of Chapter 1, Title 18, Code of Federal Regulations. According to FERC Order No. 481-A, issued on April 27, 1998 which revised Order No. 481, issued on October 26, 1997, the FERC will provide comprehensive plan status to any federal or state plan that is a comprehensive study of one or more beneficial uses of a waterway(s), specifies standards, data and methodology used, and is filed with the FERC Secretary.

A current listing of FERC-approved comprehensive plans that may be applicable to relicensing of the Collierville and Spicer Meadow Transmission Lines Project is presented below. If an updated version of a plan is available, the updated plan is listed (FERC, 2020).

A list of current FERC-approved comprehensive plans includes the following:

- Bureau of Land Management. Standards and Guidelines for Management of Habitat for Late-successional and Old-growth Forest related Species within the Range of the Northern Spotted Owl. Washington DC. April 13, 1994.
- California Department of Fish and Game. California Wildlife: Conservation Challenges, California's Water Action Plan. Sacramento, California. 2007.

- California Department of Fish and Wildlife. California Aquatic Invasive Species Management Plan. Sacramento, California. 2008.
- California Parks and Recreation. California Statewide Comprehensive Outdoor Recreation Plan. Sacramento, California. 2025.
- California State Water Resources Control Board. Water quality Control Plan for Sacramento and San Joaquin River Basin and Appendices. Sacramento, California. May 2018.
- National Park Service. The Nationwide Rivers Inventory. US Department of the Interior. 1993.
- US Fish & Wildlife Service. Canadian Wildlife Service. North American Waterfowl Management Plan. 2012.
- US Fish & Wildlife Service. Central Valley Habitat Joint Venture Implementation Plan: A component of the North American waterfowl management plan. February 1990.
- US Fish & Wildlife Service. Fisheries USA: The Recreational Fisheries Policy of the US Fish & Wildlife Service. No date.
- US Forest Service. Stanislaus National Forest Land and Resource Management Plan. Department of Agriculture, Sonora, California. 1991.

## 5.5 Relevant Resource Management Plans

In addition to the plans listed in [Section 5.4](#), other resource management plans have been developed by other entities to provide guidance with managing specific resources.

The following plans are also believed to be relevant to the Projects:

- Calaveras County General Plan. 2020.
- San Joaquin County General Plan. 2016.
- Stanislaus County General Plan. 2016.
- Tuolumne County General Plan. 2018.

## 6. Consultation in Preparation of the PAD (18 CFR § 5.6(d)(5))

NCPA began consultation in preparation of the PAD by developing a questionnaire with a fact sheet for each Transmission Line and providing it to pertinent stakeholders included on the FERC Mailing List and Service List for the Collierville Spicer Meadow Transmission Lines Project and any other entities thought to be potential stakeholders via email on June 23, 2025. On July 11, 2025, a letter was sent via certified mail to all the property owners within the Collierville Transmission Line ROW informing them that the Project was undergoing relicensing, providing a fact sheet about the Project, and requesting that they provide an email address if they wanted to receive future relicensing notifications. A copy of the Project questionnaire, fact sheet, and stakeholder lists are enclosed in **Appendix 6-1**.

NCPA received several written responses and one phone response to the questionnaire. The information contained in the responses is incorporated into the PAD as appropriate. Responses are also included in **Appendix 6-1**.

A summary of the responses is provided below:

- The Utica Power and Water Authority responded to the questionnaire on June 23, 2025 indicating that they had received it. No additional information or comments were provided.
- The California Valley Miwa Tribe responded to the questionnaire via telephone. They expressed interest in participating in the relicensing process.
- The California Department of Fish and Wildlife responded to the questionnaire on July 11, 2025 indicating that they did not have any specific information, but that they would like to be included in any future meetings or emails regarding the relicensing and the development of study plans.
- The Central Valley Regional Water Quality Control Board responded to the questionnaire on July 17, 2025. They provided information regarding the Water Quality Control Plan for the Sacramento and San Joaquin River Basins and described permits that would be required for disturbing one or more acres of land, dredge or fill of wetlands, discharges to waters of the state, Section 401 water quality certification, and dewatering.
- The Calaveras County Water District responded to the questionnaire on July 18, 2025. They provided contact information, expressed an interest in participating in relicensing and indicated that potential information needs include the adequacy of the Transmission Line to continue providing power from FERC Project 2409 to the California electric grid.

## **7. Public Utilities Regulatory Policies Act (18 CFR § 5.6(e))**

The Project does not have any generation facilities that could benefit from the Public Utilities Regulatory Act. Therefore, this section is not applicable.

## 8. Works Cited

- Bureau of Reclamation. (n.d.a). *New Melones Lake*. Retrieved July 22, 2025, from Recreation.gov: <https://www.recreation.gov/gateways/25>
- Bureau of Reclamation. (n.d.b). *New Melones*. Retrieved July 23, 2025, from Bureau of Reclamation: <https://www.usbr.gov/mp/ccao/newmelones/>
- Calaveras County. (2020). *Calaveras County General Plan-2. Land Use Element*. Retrieved July 30, 2025, from  
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