# LA PLATA ELECTRIC ASSOCIATION, INC. SUNNYSIDE PHASE II STORAGE AND GENERATION PROJECT

***La Plata County, Colorado***

Prepared for:

La Plata Electric Association, Inc.
45 Stewart Street
Durango, CO 81303

Prepared by:

EN Engineering
1630 Robin Circle
Forest Hill, Maryland 21050
Office: 443.652.6147

# Table of Contents

# Appendix



# List of Tables

# List of Acronyms

| | |
|---|---|
| AC | Alternating Current |
| AOI | Area of Influence |
| BMP | Best Management Practices |
| CEQ | Council of Environmental Quality |
| CO | Colorado |
| CR | County Road |
| CWA | Clean Water Act |
| DC | Direct Current |
| DOD | Department of Defense / Depth of Discharge |
| DOT | Department of Transportation |
| EA | Environmental Assessment |
| ENE | EN Engineering |
| EPA | Environmental Protection Agency |
| FPPA | Farmland Protections Policy Act |
| HWY | Highway |
| IPaC | Information for Planning and Consultation |
| KW | Kilowatts |
| LOI | Letter of Interest |
| LPEA | La Plata Electrical Association |
| MBTA | Migratory Bird Treaty Act |
| MW | Megawatts |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NOFO | Notice of Funding Opportunity |
| NPA | Nationwide Programmatic Agreement |
| NPL | National Priorities List |
| NRCS | Natural Resources Conservation Service |
| NREL | National Renewable Energy Laboratory |
| OAHP | Office of Archaeology and Historic Preservation |
| O&M | Operations and Maintenance |
| PACE | Powering Affordable Clean Energy |
| RD | Rural Development |
| RER | Renewable Energy Resource |
| SHPO | State Historic Preservation Officer |
| TDAT | Tribal Directory Assessment Tool |
| THPO | Tribal Historical Preservation Officer |
| USFWS | United States Fish and Wildlife Service |

# 1.0 Introduction

La Plata Electric Association (LPEA) is proposing to expand an existing solar panel array in La-Plata County, CO to provide additional cost-effective and sustainable energy to their surrounding service area. The adjacent property contains the existing solar array referred to hereon as Phase I. The proposed expansion will be referred to as LPEA Sunnyside Phase II Storage and Generation Project (Project) or Phase II. The exact location and site characteristics for the Project can be found in **Appendix A**. The site has been identified as parcel 595106400312 with a physical address of the project as 299 CR 218, Durango, CO 81303. Total site area is approximately 51 acres.

To support the Project, LPEA is applying for financial assistance from the Powering Affordable Clean Energy (PACE) Program. The United States Department of Agriculture's (USDA) Rural Utilities Service (RUS), pursuant to the Notice of Funding Opportunity (NOFO) published in the Federal Registered May 16, 2023. LPEA submitted a Letter of Interest (LOI) and received from RUS on October 20, 2023. The term of LPEA's PACE loan is expected to be twenty (20) years.

ENE has prepared this environmental assessment (EA) in accordance with 7 CFR Part 1970 – Environmental Policies and Procedures to fully comply with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. §§ 4321-4347). The purpose of this EA is to determine existing environmental resources that may or may not exist within the project scope, assess potential impacts associated with the proposed project, and evaluate the project's potential impact on these resources. Alternatives to the proposed action, as well as the chosen action, have been considered and evaluated in the following sections of the EA. The chosen alternative was analyzed using guidelines established in 7 CFR 1970 Subpart C.

## 1.1. Project Purpose and Need

The Rural Development department of USDA, and specifically RUS, provide funding in an effort to expand crucial utility infrastructure in rural communities and develop new infrastructure where applicable. The goal of this funding program is to help provide economic opportunity and increase accessibility to local utilities in rural areas. RUS's action is the decision to provide financial assistance for the Proposed Action though the Electric Infrastructure Loan and Loan Guarantee Program. Under the Rural Electrification Act of 1936, as amended, the Secretary of Agriculture is authorized and empowered to make loans to nonprofit cooperatives and others for rural electrification for, in this case, the operation of generating plants for improving service to persons in rural areas (7 U.S.C. §§ 901-950cc-2).

LPEA is seeking financial assistance from RUS to expand upon Phase I of the solar facility project as mentioned in Section 1.0. The Project will help achieve LPEA's strategic goal of reducing their carbon footprint by 50% from 2018 levels by the year 2030. This effort will help reduce the cost of electricity by approximately 30% comparatively. This project will provide more affordable, sustainable, and renewable energy throughout LPEA's service area thereby improving the natural and human environment.

By displacing a portion of the existing electrical demand from fossil fuel generation, this project aims to reduce air and water pollutants, decrease land mass required for energy production, and sustain required and expanded energy needs without detrimental impacts to the environment. Additionally, no secondary fuel source is required to operate the proposed Phase II facility reducing the Project's dependency on imported fuels.

# 2.0 Alternatives Evaluated and Proposed Action

## 2.1. Alternatives Considered but Dismissed

During the planning for the Project, LPEA considered other renewable energy generation alternatives including windmill facilities and geothermal technology. The construction and operation for a windmill facility was found to be too costly and would not meet the needs for the power consumption already being generated from the existing site's operation.

It was also found that geothermal energy generation would be a more expensive solution than PV solar panels. Digging and trenching within the Rocky Mountains is costly, which will increase unit price per MWh. In addition, research by National Renewable Energy Laboratory (NREL) showed that geothermal generation in Colorado is only viable for specific, small-scale uses (National Renewable Energy Laboratory, 2006). NREL's research indicated that generation capability would likely peak at 5MW. LPEA determined that we will need a minimum of 5MW.

Phase I of the solar facility exists directly south of the proposed Phase II project site on the same parcel. The parcel, owned by LPEA, contains a substation used for distribution of electricity from Phase I. Alternative sites for development of another solar facility would require a second substation to be constructed in addition to the related underground or overhead electric infrastructure. The chosen site does not contain important water resources or sensitive environmental concerns; therefore, the proposed action and alternative are expected to have the lowest environmental impact in both short- and long-term perspectives.

## 2.2. No Action Alternative

Under the "No Action" alternative, funding would not be obtained, and work would not be completed to develop and construct the project. The overall objective of the project is to provide clean energy to reduce the environment impact of fossil fuel emissions. This "No-Action" alternative would not take advantage of the environmental benefit. The City of Durango would also not receive the additional distributed power as an "add-on" to the already existing Phase I solar array. This "No-Action" alternative does not achieve the project's purpose and need This alternative has been assessed regarding each affected environment.

## 2.3. Proposed Action

As previously mentioned, the Project is an extension of Phase I, although it will be funded separately. LPEA is proposing to construct a grid connected solar photovoltaic system with 10,264 PV modules to deliver 6,251 kW DC and 50 inverters providing 5,000 kW AC on the 51 acre parcel of LPEA co-op owned land. This system is also equipped with 10,872 battery units, storing 39, 176 kWh at 80% Depth of Discharge (DOD). For discharging the batteries, an extra 5 MW inverter is required to supply an additional combined 10 MW of power to the grid. The project is expected to generate approximately 4,600 MWh annually. The onsite battery energy storage system (BESS) will allow any excess energy produced to be stored and dispatched during periods of high demand. All energy produced is expected to be consumed by local cooperative owners and will not be exported. Site layout and location can be found in **Appendix A**.

This project's construction will follow through the typical steps of overall site preparation, driven posts, racking assemblies, subsurface trenching, transformer and switchgear installation, module and inverter installations, final site finishing, perimeter fencing installation to enclose the arrays, vegetative buffer planting, and commissioning. The project proposes a gravel access road to provide construction and maintenance vehicles access to the project site. To reduce the amount of excavation and minimize overall earth disturbance, PV cells will be installed on metal posts directly driven into the ground. There will be no need for individual concrete footings or pads related to the PV cells. The construction phase of this Project is expected to last 9 to 12 months.

### 2.3.1. Operations, Maintenance and Decommissioning

Required maintenance of the project upon completion will be minimal and preventative. The photovoltaic solar panels along with the lithium-ion battery units are self-sustaining and would only require routine semi-annual maintenance. The lifetime of the photovoltaic solar panels and the lithium-ion battery units is anticipated to be between 25 and 30 years. The anticipated lifecycle considers typical annual degradation rates for both the PV units and battery storage units. Decommissioning of the project can be reevaluated after the project's lifecycle. The estimated construction time will take 9-12 months to complete.

After completion of this Project, the long-term operation and maintenance (O&M) activities for the solar panels, modules, inverters, and battery units are the responsibility of LPEA. LPEA has O&M arrangements with Konisto, which have operational, maintenance, and management experience. This Project would be inspected annually to verify the condition of the solar arrays, inverters, and instrumentation controls. Any damaged or less than adequate solar modules would be scheduled for repair and replaced as needed. On-site lighting will be present during construction only. No lights will be needed after construction is completed. Day to day facility operation will be monitored by LPEA. Daily, semi-annual, and annual preventative tasks will be included in the O&M process, including temperature monitoring, battery performance, visual component inspections, corrosion inspections, and cleaning and maintenance.

Less consistent routine maintenance will include software updates, staff training, and emergency response if needed. All maintenance activities are in place to increase the longevity of the solar facility components and provide reliable energy for a longer period.

# 3.0 Affected Environments

According to 7 CFR 1970 Subpart C, Exhibit B, EAs are to include all potential environmental resources which may be impacted by the proposed project. ENE has established that several resources as listed in Subpart C do not apply to the project. These resources will be discussed in Section 3.1. Each affected resource has been examined as it relates to the Proposed Action and has been given an impact rating depending on severity. The impact ratings are as follows:

**Negligible** – Resource will be minimally impacted, or impacts will be a non-factor because of the Proposed Action.

**Minor** – Resource will be impacted enough to cause a noticeable change to existing conditions or the resource itself.

**Major** – Resource will be substantially changed or impacted by the Proposed Action.

It is important to note that some effects will have varying degrees within these categories, but overall impacts were averaged to best describe the site impacts.

## 3.1. Methodology and Resources Eliminated from Consideration

ENE performed comprehensive research using publicly available information and mapping to develop a categorical list of potentially affected environmental resources consistent with 7 CFR 1970 Subpart C. A list of references and sources used to supplement research can be found in Section 7.

Several environmental resources were considered but dismissed because the Proposed Action had no impact on them. The area in which research was completed is known hereon as the study area or project area interchangeably. Resource areas that were eliminated from further study and the rationale for elimination are presented below:

- **Floodplains** – The Federal Emergency Management Agency (FEMA) maintains a web database of national flood hazard layers (NFHL) throughout the U.S. According to the NFHL viewer, there are no floodplains that exist within the project area (see **Appendix A**). The area is listed as Zone X, or area of minimal flood hazard, according to FEMA. The closest FEMA regulated floodplain is that of the Florida River east of the project site. The Proposed Action will have no impact on floodplains.

- **Wetlands and Waterways.** According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping, several environmental resources are mapped within the project area (see **Appendix A**). An unconsolidated bottom pond is shown to exist near the northern end of the parcel, and a riverine structure runs along the site, presumably carrying water from the pond. An on-site investigation was performed in December of 2024 by ENE's wetland scientist to determine the presence or absence of potentially jurisdictional wetlands or waterways within the project area. It was determined that no resources exist on site. Historical aerial imagery shows that the ponds shown in NWI mapping may have been stormwater detention facilities associated with previous houses. However, buildings no longer exist within the parcel and the basins have dried, removing all presence of wetland hydrology, hydrophytic vegetation, and riparian habitat. The complete wetland report can be found in **Appendix C**. The Proposed Action will have no impact on wetlands or waterways and will therefore not require and U.S. Army Corps of Engineering permitting.

- **Water Resources** – According to available aerially imagery and U.S. Geological Survey (USGS) mapping, the project site contains a potentially intermittent or ephemeral channel and a ponded area. ENE's site visit determined that there are no hydrologic resources on site. Wells provide the main source of potable and drinkable water in the area. According to the Colorado Division of Water Resources Well Map (**Appendix G**), two wells exist within the project area: one at the northern edge of the site near the old building site and one near the existing substation east of the access road. The well at the northern end of the site is owned by LPEA and labeled as domestic use. The second well is owned by Simcoe, LLC and is labeled as industrial use. LPEA does not intend to impact the Simcoe, LLC owned well at any point of the proposed construction. The LPEA owned well will be. According to the U.S. Department of Agriculture Web Soil Survey (**Appendix B**), the site has a general water table depth of approximately 80 inches or deeper. A soil analysis will be performed prior to construction. Any excavation

related to project construction will be temporarily, and eventually permanently, stabilized. On-site best management practices and perimeter controls will be in place during the construction phase to limit stormwater runoff and protect surrounding resources. The Proposed Action will not impact groundwater tables or existing water sources.

A residential well exists at the north end of the Projects' property and was constructed on May 10th, 2001. The well was left in dry designation and presumed abandoned in May of 2005. The final inspection closure report from December of 2006 states that they were unclear and no confirmation on if the well was properly plugged, capped, marked as dry, or abandoned. A follow up with the state engineer or well driller has not been determined as essential. More information will be updated to this section as new field data is received.

- **Coastal Resources** – Colorado has no coastal zones or barrier reefs. The Proposed Action will have no impact on coastal resources.

- **Human Health and Safety –** The primary concern regarding radiation in solar and battery storage projects is electromagnetic radiation (EMF), which remains at very minimal levels and is not considered harmful to human health. The EMF exposure from solar inverters and BESS components is significantly lower than regulatory safety limits. Regarding battery safety, lithium-ion BESS technology presents potential risks, including thermal runaway, chemical off-gassing, and degradation over time. These risks are mitigated through robust battery management systems (BMS), fire suppression mechanisms, and thermal monitoring. Proper site design and routine inspections further ensure safety and longevity of the system. There will be engagement and involvement with local fire departments to address safety concerns regarding the batteries. Outreach has been made to the Durango Fire Protection District and the local fire marshal and will be updated accordingly. The local fire department, Durango Fire Protection District, and the local fire marshal will be acquainted with the project and its components to maximize efficiency in the event of a fire or other emergency. According to the Durango Fire Protection District, there are no known files, applications, or permits for the subject property for this Project. There is not anticipated to be any significant hazards for this Project. However, this section will be updated as more information from the fire department or fire marshal is obtained.

  An article from the Renewable Energy Program Office states that EMFs and electromagnetic interference (EMI) from PV installations is low risk overall (Ong, 2017). The article also states that because PV cabling and transformers are low frequency (approximately 60 Hz), no EMI will be emitted. Additionally, inverters operate at levels below those associated with cables and transformers, thus posing even less of a possibility of emitting EMI.

  Thermal and fire related issues associated with PV BESS systems pose additional risks for potential stakeholders. The primary fire hazard related to PV facilities comes from electrical faults, overheating, or battery failure. Full fire suppression systems and regular system maintenance will be heavily implemented on the Project to prevent and remove any threat of thermal or fire related issues. The local fire department, Durango Fire Protection District, and the local fire marshal will be acquainted with the project and its components to maximize efficiency in the event of a fire or other emergency. Additionally, BESS units have the ability to generate heat during charge and recharge cycles, potentially impacting ambient temperatures. To combat this, the Project will

incorporate HVAC cooling systems with the intent to reduce or prevent overheating. The layout and vegetation surrounding the site has been carefully considered to further minimize and avoid urban heat island effects, regulate temperature, and dissipate heat radiation effectively. According to the Durango Fire Protection District, there are no known files, applications, or permits for the subject property for this Project. There is not anticipated to be any significant hazards for this Project. Outreach has been made to the local fire department and the local fire marshal and will be updated accordingly.

- **Corridor Analysis** – The proposed Project includes the installation of a solar facility within a defined and limited parcel. There are no linear elements and therefore a corridor analysis has not been completed.

- **Formally Classified Lands –** The USDA RD developed an environmental resource directory including a list of potential formally classified lands including national parks, national landmarks, national wilderness areas, wild and scenic rivers, national forests, national wildlife refuges, and national historically significant sites (Colorado Environmental Resource Directory, 2017). According to available mapping and site resources, there are no formally classified lands within the project parcel. Research completed regarding formally classified lands yielded no results; therefore, no impacts are expected.

## 3.2. Land Use

### 3.2.1. General Land Use

Affected Environment

The USDA promotes adherence to existing site uses where possible so that development or work on a site does not change the land use and, as a result, negatively impact important land resources. The proposed project site is contained fully within an existing 51-acre parcel with a physical address of 299 CR 218, Durango, CO 81303. The land is owned by LPEA and will therefore not require additional land acquisition. National Land Cover Database mapping shows the Project parcel designation as pasture/hay land cover with neighboring portions designated as cultivated crop lands (Multi Resolution Land Characteristics, n.d.).

According to the Colorado Bureau of Land Management (BLM) Interactive Map, the project site is not located on BLM lands (Bureau of Land Management, n.d.).

Based on Google Earth historical aerial imagery, the site contained a house and an associated building near the northern end of the parcel (Google Earth, 2025). A stormwater detention facility and associated forebay were present near both buildings but have since been drained and are no longer in use. Both buildings have been demolished and removed from the site.

Environmental Consequences – No Action

The no action alternative will not impact or change land use within the Project site.

Environmental Consequences – Proposed Action

The project contains one dead tree which will need to be removed to accommodate the proposed PV facility layout. Site grading will be required for the areas where solar panels are proposed over the existing stormwater basins. It is assumed that fill material will not be imported to accomplish site grading. Land use will not be changed as a result of the Project; however, land cover could be considered commercial due to the production of a public utility. Vegetation onsite will be minimally impacted because proposed PV panels will be installed on metal posts and will not require additional grading or impervious surface implementation. Impacts to land use associated with the Project are considered negligible.

### 3.2.2. Important Farmland

Affected Environment

The Forest Protection Policy Act (FPPA) outlines requirements and limitations set forth to protect important farmland from irreversible conversion to nonagricultural uses. As such, available data and mapping from the Natural Resource Conservation Service (NRCS) was reviewed to determine the presence of important farmland within the Project area. According to the NRCS Web Soil Survey (Soil Survey Staff, n.d.) (**Appendix B**), the site is comprised of two soil types: 26 – Falfa Clay Loam, 1-3% slopes and 27 – Falfa Clay Loam, 3-8% slopes. Soil map unit (SMU) 26 is present along the eastern edge of the project parcel and constitutes approximately 10% of the overall soil makeup. This soil is considered “Prime Farmland If Irrigated,” meaning that the soil does not normally receive sufficient rainfall to be considered prime farmland. Soil map unit 27 does not hold any designation. Although SMU 26 is not prime farmland, it is still labeled “Farmland of Statewide Importance” and may be significant for agricultural production.

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural use. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. For the purpose of the FPPA, all aspects of this project will occur without the permanent conversion of farmland and is not subject to the FPPA.

Environmental Consequences – No Action

The no action alternative will not impact or change important farmland within the Project site.

Environmental Consequences – Proposed Action

LPEA does not intend to irrigate the site and therefore, the site will remain as prime farmland if irrigated. SMU 27 does not hold an important designation but will also be minimally impacted by the Project. Soil disturbance will occur primarily during the construction phase of the project and will be associated with construction vehicle access, concrete pad installation for the BESS system and associated buildings, and PV pole installation. SMU 26 will be minimally impacted by PV panel installation. Once the project is decommissioned at the end of the 25 to 30-year lifecycle, the parcel will once again be available for agricultural use. Impacts to existing prime farmland associated with the Project are considered minor during the operational lifecycle of the panels.

There is an official NRCS Correspondence Letter and email attached dated May 20th, 2025 (see **Appendix H**). After consulting with Lalita Limpichart, CPSS, the Assistant State Soil Scientist for the USDA in Colorado. There is no need to fill out the AD-1006 form, the photovoltaic panels installation will not result in permanent conversion and the concrete pad installation will be located in areas that are not prime farmland.

For the purpose of the FPPA, all aspects of this project will occur without the permanent conversion of farmland and is not subject to the FPPA.

## 3.3. Biological Resources

### 3.3.1. Fish, Wildlife, and Vegetation Resources

Affected Environment

Colorado Parks and Wildlife states that elk, deer, and other various animals migrate throughout Colorado seasonally in search for plant growth as a food source. Animals move from higher to lower elevations during the colder months and the opposite during the warmer months. Based on data from Colorado Parks and Wildlife's "2020 Big Game Winter Range and Migration Corridors Report" animals that may be present on or around the proposed project site include mule deer, elk, pronghorn and bighorn sheep. However, a large majority of the pronghorn population is located in the southeastern portion of Colorado and will likely not be affected by the proposed Project. The scrub/shrub vegetation on site that is proposed to be cleared may affect a potential food source for elk, mule deer and bighorn sheep. Due to the lack of forested area on the proposed project site it is an unlikely food source for moose and pronghorn. There are no water resources associated with this project. A throughway for wildlife will be built through the project area, to ensure that migration patterns and wildlife travel is not interrupted due to the proposed Project.

Environmental Consequences – No Action

The no action alternative will not impact any wildlife or vegetative resources within the Project site.

Environmental Consequences – Proposed Action

The site does not contain any forested areas and there are no water resources on site. Potential impacts due to this project stem from the clearing of vegetation. The vegetation onsite that is proposed to be cleared may have a slight effect on wildlife in terms of reducing a potential food source. A wildlife through will be built to through the project to ensure wildlife travel and migration is not impeded. Impacts to fish, wildlife, and vegetation due to the proposed project are considered negligible.

### 3.3.2. Rare, Threatened Species (ESA Section 7)

Affected Environment

ENE utilized the United States Fish and Wildlife Services (USFWS) Information for Planning and Consultation (IPaC) interactive mapper to determine if any Endangered Species Act (ESA) listed species could be within the project area. The report identified nine species which might be found

within the project area. **Table 1** below summarizes the IPAC results and the potential impact on the species. Each species possesses and effect determination based on USFWS criteria. The determinations are listed below:

**No Effect**: project will have no impact on species and/or habitat

**May Affect, Not Likely to Adversely Affect (NLAA)**: suitable habitat may exist, but project will not significantly impact species

**May Affect, Likely to Adversely Affect**: species, critical and/or suitable habitat will be significantly impacted by project.

The official IPaC report can be found in **Appendix E**.

**Table 1**
**IPAC Results**

| Common Name | Species | Presence/Absence | Effect Determination | Species ESA Status | Reasoning for Effect |
|---|---|---|---|---|---|
| **Mammals** | | | | | |
| Gray Wolf | *Canis lupus* | Unknown | No Effect | Experimental Population, Non-Essential | Experimental population; No suitable or critical habitat on site |
| New Mexico Meadow Jumping Mouse | *Zapus hudsonius luteus* | Unknown | No Effect | Endangered | No riparian habitat on site; No suitable or critical habitat on site |
| **Birds** | | | | | |
| Mexican Spotted Owl | *Strix occidentalis lucidia* | Unknown | No Effect | Threatened | No trees or forest on site or surrounding areas; No suitable or critical habitat on site |
| Yellow-billed Cuckoo | *Coccyzus americanus* | Unknown | No Effect | Threatened | No trees or forest on site or surrounding areas; No suitable or critical habitat on site |
| **Fishes** | | | | | |
| Colorado Pikeminnow | *Ptychocheilus lucuis* | Absent | No Effect | Endangered | No water resources on the proposed site; No impacts to adjacent water resources which may contribute to fish populations |
| Razorback Sucker | *Xyrauchen texanus* | Absent | No Effect | Endangered | No water resources on the proposed site; No impacts to adjacent water resources which may contribute to fish populations |
| **Insects** | | | | | |
| Monarch Butterfly | *Danaus plexippus* | Unknown | No Effect | Proposed Threatened | No suitable or critical habitat on site; No obligate milkweed for breeding/hosting; Proposed critical habitat does not overlap project site |
| Suckley's Cuckoo Bumble Bee | *Bombus suckleyi* | Unknown | May Affect, Not Likely to Adversely Affect | Proposed Endangered | Suitable habitat may exist, but no critical habitat exists on site; consultation guidance for species in development within USFWS as of 02/20/2025 |

Environmental Consequences – No Action

The no action alternative will not impact any listed species or its habitat.

Environmental Consequences – Proposed Action

According to the IPaC listing for the above mammals, birds, fishes and insects, this project site does not contain any species critical or suitable habitats. Due to the lack of water resources on the proposed project site no threatened or endangered fishes will be affected by the proposed Project. A formal field survey for remaining rare, threatened, and endangered mammal, bird and insect species has not been completed and definitive information has not been gathered. Impacts to federally listed rare, threatened, and endangered species due to the proposed project are considered to have no effect. All species listed in the table above are anticipated to be no effect with the exception of Suckley's Cuckoo Bumble Bee. Because suitable habitat may exist, this species has been determined to be may affect, but not likely to adversely affect.

### 3.3.3. Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act

Affected Environment

The USFWS Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) outlines requirements for the protection and prohibitions associated with migratory bird species. The USFWS IPaC Official Species report lists a total of eleven different species under the MBTA, which can be found the official IPaC report located in **Appendix E**. The USFWS IPaC Official Species report also lists two Species under the BGEPA the Bald (*Haliaeetus leucocephalus*) and Golden Eagles (Aquila chrysaetos), again the official IPaC report can be found in **Appendix E**. The probability of presence and the breeding season for each of the 11 species listed can be found in the official IPaC report, the species that is most likely to be present is the bald eagle which has a breeding season from December 1$^{st}$ to August 31$^{st}$ and has a chance of being present for a large majority of the year.

According to the data uploaded by the Conservation Biology Institute from the Colorado Division of Wildlife depicted on the interactive map on DataBasin.org, there are two potential bald eagle nests that are approximately 3,650 ft away from the project site in the north-west direction. The proposed project site is open consisting of mainly low-lying scrub/shrub vegetation. Potential nesting locations near or on the site consist of with a few existing utility poles and sparse trees surrounding the site. It is more likely that a nest would be built by one of these species in the wood areas approximately 1,600' to the west or 2,700' to the east.

Environmental Consequences – No Action

The no action alternative will not impact migratory birds, Bald Eagles, or Golden Eagles.

Environmental Consequences – Proposed Action

There are very few viable locations for a nest to be built on or around the immediate proposed project site. The bald eagle is the most likely species to be found near the site, and the closets mapped nest location is 3,600' feet away. However, ENE recommends that prior to construction a qualified biologist confirms that there are no Bald Eagle nesting sites within or near the project site. Impacts to migratory birds, bald and golden eagles due to the proposed Project are considered negligible.

## 3.4. Historical and Cultural Resources (HPA Section 106)

### 3.4.1. State Historic Preservation Office (SHPO) and Tribal Historic Preservation Office (THPO)

Affected Environment

ENE performed a desktop analysis of the National Register of Historic places database in relation to the proposed project site. Based on ENEs desktop analysis there are no historic sites that will be affected by the proposed Project. SHPO is a database of historic sites located within each state. To verify ENEs analysis ENE reached out to Office of Archeology and Historic Preservation (OAHP) which is an office that operates within Colorado SHPO. Colorado OAHP responded to a review request from ENE stating that no sites of historical or cultural importance exist within the project boundary (see **Appendix D**). Additionally, OAHP informed ENE that three historic/archaeological surveys were conducted for the projects listed below, which were located near the proposed Project and they all found no historic/archeological resources.

- U.S. Highway 550 South: Bondad Hill to County Road 220 at Farmington Hill; Archeological Resources Inventory,
- U.S. Highway 550 South: Bondad Hill to Farmington Hill, Historic Resources Inventory,
- A Cultural Resources Survey of the proposed Hesperus 115 KV Transmission Line.

RUS notified Tribal Consulting Parties, identified through the Tribal Directory Assessment Tool (TDAT), seeking their input with respect to any specific historic properties or important tribal resources in the APE and their recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. Section 106 of the NHPA was initiated with the following Tribes on December 4th, 2024:

- Apache Tribe of Oklahoma; Chairman
- Fort Belknap Indian Community with Fort Belknap Reservation of Montana; President/THPO
- Navajo Nation, Arizona, New Mexico, and Utah; President/THPO
- Southern UTE Indian Tribe of the Southern UTE Reservation, Colorado; Chairman/THPO
- UTE Mountain UTE Tribe; Chairman/THPO

Consultation was specifically conducted with the Southern Ute THPO, as the proposal occurs on Fee land owned by La Plata Electric Association, Inc., within the exterior boundaries of the Southern Ute Reservation of Colorado. The Southern Ute THPO indicated that the area had been previously surveyed, and no historic properties or sites of traditional, cultural, religious significance were found. Additionally, they noted the field to the north had been previously disturbed.

Environmental Consequences – No Action

The no action alternative will not impact or change cultural, archeological, or historical resources within the Project site.

Environmental Consequences – Proposed Action

A desktop analysis of the National Register of Historic Places database by ENE, a search of the Colorado Inventory of Cultural Resources by OAHP, and a review by Southern Ute THPO of all relevant documentation corroborated the proposed project will have no effect. A Finding of No Historic Properties Affected was sent to all Consulting Parties, including the CO SHPO, on April 9th, 2025, with concurrence from the Southern Ute THPO.

The Southern Ute THPO recommends if subterranean cultural resources or human remains are encountered, all land-altering activities shall cease within fifty (50) feet of the discovery and the Southern Ute Tribe, Cultural Preservation Department's NAGPRA Coordinator, Mr. Xavier Watts at (970) 563- 2992, and Cultural Preservation Director, Crystal Rizzo, at (970) 563-2306 shall be notified immediately for consultation on the treatment of the discovery. Treatment may include monitoring by a tribal monitor or qualified archeologist. Activities may resume once appropriate mitigation has been executed in consultation with THPO.

## 3.5. Aesthetics

Affected Environment

As mentioned in the formally classified lands portion of Section 3.1, there are no nationally significant resources within the project area, nor are there any adjacent that would be directly impacted by the Project. Areas of high scenic value were not observed during research phases of the Project. The project site is currently not in use for agriculture or farming and does not contain any housing. There are five residential buildings surrounding the site that have existing views of the project parcel. Phase I implemented a vegetative buffer along the border between the constructed solar facility and the existing Sunnyside Elementary School and the existing houses along Colorado County Road 218. Vistas and viewsheds from the site offer views of the surrounding landscape and very distant mountainscapes. Vertical elements within and adjacent to the project parcel include wooden utility poles for existing overhead electric cables.

Environmental Consequences – No Action

The no action alternative will not impact or change aesthetic views or scenery within or adjacent to the Project site.

Environmental Consequences – Proposed Action

The addition of the Phase II solar facility will change the land cover of the parcel but impacts to the surrounding landscape and any existing viewsheds are not expected increase as a result. Proposed solar panels will extend between 48"-96" above grade depending on the angle of the sun and the panel's reactive location. The tallest components of the facility will be the BESS units at an approximate height of 96" above grade. A perimeter fence will be installed for protection and security of the site and will have an approximate height of 108" above grade. This fence will consist of wooden posts and supports with a wire fence material. This combination of materials will help the fencing blend in with the surrounding landscape and continue to permit views through the site.

All necessary components of Phase II will be intermittent in design and will not obscure views from the surrounding residences or highway and local roads. Additional vegetative screening

along the perimeter of the site will also be used to soften up views and help mimic existing landscape features. Impacts to existing site aesthetics associated with the Project are considered minor in the short term, while long term impacts will be considered negligible due to decommissioning of the site.

## 3.6. Air Quality

Affected Environment

The Clean Air Act (CAA) (1970) provides regulatory guidelines and thresholds which establish National Ambient Air Quality Standards (NAAQS) in the U.S. It authorizes the EPA to uphold these standards to protect public health and safety. The EPA NEPAssist tool provides comprehensive mapping for areas designated as nonattainment areas i.e. those areas that do not meet NAAQS criteria. According to the NEPAssist mapping, there are no nonattainment areas within or adjacent to the project site. The closest maintenance area for NAAQS is approximately 27 miles to the east (Archuleta County) and is associated with PM-10 pollutants, or inhalable particles 10 micrometers and smaller.

Other local sources of air quality impacts include vehicle emissions from highway and local road travel and construction equipment emissions from the nearby drilling company business to the east of the site.

Environmental Consequences – No Action

The no action alternative will have no impact on air quality.

Environmental Consequences – Proposed Action

Proposed construction during the initial phases of the Project is anticipated to produce the greatest quantity of criteria pollutants. Specifically, construction will lead to disturbance of dust and particulate matter as well as temporarily increased vehicle emissions. Use of construction vehicles will be limited to periods where emissions and dust will be least influenced by local weather and climate i.e., average temperatures and rainfall. Although construction timelines are yet to be decided, extension of the existing gravel entrance and moving of PV panels are anticipated to have the longest lead times, resulting in prolonged use of construction and passenger vehicles. The operation and maintenance phase of the Project will have minimal to no impact on criteria pollutants in the area. Sources of pollutants during this phase will be associated with passenger vehicle access into the site and potential dust created for access during drier periods.

In the long term, air quality is expected to improve compared to existing conditions, as the renewable energy source used for Phase II will reduce overall dependence on fossil fuel use for transportation and energy consumption. Short term impacts to air quality associated with the Project are expected to be negligible to minor depending on existing conditions at the time of construction. Long term impacts to air quality are expected to be negligible and potentially beneficial due to the replacement of fossil fuels with renewable energy.

## 3.7. Socioeconomic

Affected Environment

ENE performed a desktop analysis for socioeconomic by reviewing information from the U.S. Census Bureau for La Plata County, Colorado in the year 2023. The census data shows that the median household income for La Plata County, Colorado is approximately $85,647. The per capita income for La Plata County, Colorado is approximately $46,822. The approximate percentage of high school graduates or higher is 97.5%. The approximate percentage of bachelor's degree or higher is 55%.

ENE also used the Colorado Department of public Health and Environment "Colorado Enviro Screen." However, the site states that our project area is within an area under tribal jurisdiction and data is not displayed. Because of this ENE reviewed the 2023 census data for the Southern Ute Reservation. However, it should be noted that the Southern Ute Reservation spans across multiple counties not just La Plata County. According to this data the project site is in an area where 10.7 percent of the population is below the poverty line. This Project will involve the new construction of a solar farm on previously undeveloped land and therefore will not displace existing residence.

Environmental Consequences – No Action

The no action alternative will have no impact on socioeconomics in the area.

Environmental Consequences – Proposed Action

The proposed Project is not expected to have any negative social or economic environmental impacts to the surround communities. This proposed Project intends to provide clean renewable energy while also lowering the greenhouse gas emissions with the addition of solar energy. No adverse socioeconomic conditions were found at the project site or surrounding communities. The Project will potentially include an educational building for the local public with education opportunities related to clean renewable energies. This facility can specifically educate the local public on the design and maintenance of the solar farm, as well as job opportunities that may be available to those that would want to contribute to the Project's providing electrical power to the grid. Impacts to socioeconomic due to the proposed project are considered negligible.

## 3.8. Noise

Affected Environment

The proposed Project is situated on a triangular parcel of land surrounded by U.S. Hwy 550 to the east, local roads to the east, and C.R. 218 to the south. Noise affecting the area is typically associated with highway travel and intermittent construction activities. The closest airport is approximately eight miles east of the site and does not affect the project site. Noise levels associated with highway traffic are expected to be at or greater than 70 dB on average, with large freight trucks reaching at or above 80 dB and motorcycles reaching at or above 100 dB (*Common Noise Levels,* 2000).

The U.S. Department of Housing and Urban Development developed standards for new development noise levels (USDHUD, n.d.). According to the Noise Abatement and Control guidelines, the acceptable noise zone during the day-night cycle is not to exceed 65 dB.

Environmental Consequences – No Action

The no action alternative will have no impact on ambient noise levels within or adjacent to the project site.

Environmental Consequences – Proposed Action

The noise level during the construction phase of the solar facility is expected to remain around 80 dB due to the use of heavy machinery and excavation of exiting material. Construction is proposed to be completed within typical working hours and will not require the use of imported lighting or generator use after hours. Once the site is operational, the noise level produced within this project site is not expected to exceed current ambient noise levels in the area and will be negligible for areas outside of the perimeter fence. Proposed inverters and BESS units will emit low levels of noise equivalent to or less than that of the ambient noise level. Vegetation management proposed for perimeter landscaping will also provide noise attenuation both into and out of the project site. Short term impacts to ambient noise levels associated with the Project are negligible to minor. Long term impacts to noise levels are expected to be negligible.

## 3.9. Transportation

Affected Environment

Roads surrounding the proposed project site are comprised of U.S. Highway (Hwy) 550 along the western edge, Fremont Lane along a portion of the eastern edge, and County Road 218 along the southern edge. Traffic in these areas is predominantly vehicular, although farm equipment may use all roads for agricultural entry and exit. Notification to the Colorado's Department of Transportation (DOT) regarding this Project construct near Hwy 550 was completed. DOT responded that there are no current plans to widen Hwy 550.
According to NEPAssist mapping, the project site is located approximately 8 miles from the nearest regional airport: Durango-La Plata County Airport. No proximity concerns exist as a result.

Environmental Consequences – No Action

The no action alternative will have no impact on transportation routes or traffic within or adjacent to the project site.

Environmental Consequences – Proposed Action

Reflectivity and glare are the most common concern surrounding PV facilities. Specifically, issues that may impact drivers on adjacent roadways. The proposed PV panels will feature a modern, anti-glare coating and be oriented to take advantage of optimal panel tilt. Both characteristics will help reduce glare from the panels and will result in the Project not impacting surrounding vehicle traffic.

Entry to the site will be from County Road 218 along the southern edge of the project site. Phase I currently uses a gravel entrance road from County Road 218. This gravel road will also be used to access Phase II. Traffic volume and patterns will not increase on any of the surrounding roads during either the construction phase or the operations and maintenance phase. Impacts to transportation associated with the Project are considered negligible.

## 3.10. Cumulative Impacts

Because the "No Action" alternative will not have an impact on any of the affected environments, it was not assigned an impact rating and therefore not included in the affected resource cumulative impact table below.

| Affected Resource | Impact Rating |
|---|---|
| General Land Use | Negligible impacts as overall land use will not change in the long term. Project will be compatible with existing use. |
| Important Farmland | Minor during operational phase of project, although no actual Important Farmland exists (only if irrigated). |
| Fish, Wildlife, and Vegetation Resources | Negligible due to lack of critical habitats listed in resources and lack of potential nesting/roosting areas onsite. Invasive species to be controlled through maintenance. |
| Rare, Threatened, and Endangered Species | Negligible due to lack of critical habitats listed in resources and lack of potential nesting/roosting areas onsite. Invasive species to be controlled through maintenance. |
| Migratory Bird Treaty Act and Golden Eagle Protection Act | Negligible due to lack of priority nesting sites. Existing utility poles do not offer adequate nesting/roosting sites. Current, documented nesting sites are over 3,650 feet away from site. |
| SHPO Resources | Negligible. Colorado OAHP confirmed no sites are within project parcel. |
| THPO Resources | Currently negligible. Ongoing communication with Southern Ute tribe. LPEA owns the parcel, but the tribe may have interest in the project. |
| Aesthetics | Minor impacts during construction and operational phases of the Project. Negligible/no impacts once decommissioned as no equipment will remain. |
| Air Quality | Minor impacts during construction due to dust and emissions. Negligible or potentially beneficial during operational phase due to reduced reliance on fossil fuels. |
| Socioeconomic | Negligible. Health, safety, and wellbeing of the public will be unaffected. Utility costs will decrease due to renewable sources and proximity of available resources. |
| Noise | Minor impacts during construction phase, although current noise levels from U.S. Hwy 550 far exceed potential construction noise. Negligible during operational and decommissioned phases. |
| Transportation | Negligible. No increase in local or through traffic is expected. Panels used will have minimal glare and minimal impact on traffic. |

Cumulative impacts associated with the Project are overwhelmingly negligible, while some may have beneficial impacts due to the introduction of renewable energy and reduction of reliance on fossil fuels for energy. Most of the minor impacts associated with the Project will occur during the construction phase when the site experiences the most vehicle traffic, soil disturbance, and equipment emissions. As such, minor impacts are expected to only affect noise, air quality, and aesthetics. According to available data regarding rare, threatened, and endangered species,

and based on existing conditions, there are no critical habitats within the project parcel and no species are expected to be impacted by the Project. Resource of cultural, historical, or archeological value were not found within the Project site, however, correspondence is ongoing with the Southern Ute tribe regarding its potential interest in the Project and the site. The solar facility will be screened from the surrounding residences using native vegetation and fencing that will mimic that of Phase I and surrounding fields or residences.

No major or significant impacts are expected as a result of the Project in either the short term (construction and layout phases) or the long term (operation, maintenance, and decommissioning phases).

# 4.0 Summary of Mitigation

LPEA intends to mitigate all proposed impacts to the maximum extent practicable. During the construction phase, perimeter and interior sediment controls will be installed before site grading or earth moving can occur. These controls are meant to prevent stormwater runoff leaving the site and filter any material that may enter the nearby roadside ditch along U.S. Hwy 550. Installation of the PV supporting equipment will use posts as opposed to concrete slabs or footings to minimize site grading required. The facility will be vegetatively maintained throughout the life of the Project to decrease invasive species and promote a stable site. During decommissioning, all solar equipment will be removed from the site, at which point the site will be returned to pre-existing conditions, thus retaining its prior land use and land cover.

# 5.0 Coordination, Consultation, and Correspondence

The following agencies or groups were consulted to provide documentation or confirmation of data for the Project:

- Apache Tribe of Oklahoma, Chairman
- Apache Tribe of Oklahoma, EPA Administrative Assistant
- Colorado Department of Transportation (CDOT), Records Request Officer
- Durango Fire Department, Administrative Assistant
- Fort Belknap Indian Community, President
- Fort Belknap Indian Community, THPO
- NAGPRA Coordinator, Xavier Watts, THPO
- Navajo Nation, President
- Navajo Nation, THPO
- Office of Archaeology and Historic Preservation (OAHP), SHPO
- RUS Colorado, Archaeologist
- Southern UTE, Chairman
- Southern UTE, THPO
- UTE Mountain, Chairman
- UTE Mountain, THPO

# 6.0 References

Bureau of Land Management. (n.d.). *BLM ArcGIS Web AppViewer*. U.S. Department of the Interior. https://blm-egis.maps.arcgis.com/apps/webappviewer/index.html?id=59bfb9b9406d4a409e2f510bda9e409f

Census Reporter. (n.d.). *Durango CCD, La Plata County, CO* [Profile]. Census Reporter. https://censusreporter.org/profiles/06000US0806791083-durango-ccd-la-plata-county-co/

Census Reporter. (n.d.). *Southern Ute Reservation* [Profile]. Census Reporter. https://censusreporter.org/profiles/25000US3925-southern-ute-reservation/

Conservation Biology Institute. (n.d.). *Data Basin: Mapping and analysis platform*. https://databasin.org/maps/new/#datasets=c5427b0d50014ebc8cf9ad3efce534eb

Colorado Department of Public Health and Environment. (n.d.). *Colorado Enviroscreen 2.0: Environmental Health Data* [Interactive map]. Colorado Department of Public Health and Environment. https://www.cohealthmaps.dphe.state.co.us/COEnviroscreen_2/#data_s=id%3Awidget_304_output_config_1%3A0%2Cid%3AdataSource_1-1930c792877-layer-66%3A4052

Colorado Division of Water Resources. (n.d.). *Map viewer*. Colorado Department of Natural Resources. https://maps.dnrgis.state.co.us/dwr/Index.html?viewer=mapviewer

Colorado Parks and Wildlife. (2020). *2020 Big game winter range and migration corridors report*. Colorado Parks and Wildlife. https://cpw.widencollective.com/assets/share/asset/zpje94igo0

Colorado Parks & Wildlife. (n.d.). *Threatened and endangered wildlife*. Colorado Department of Natural Resources. https://cpw.state.co.us/threatened-and-endangered-wildl

Federal Emergency Management Agency. (n.d.). *National risk index map viewer*. U.S. Department of Homeland Security. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd

Google Earth. (2025). *Google Earth* (Version 7.3.6.10201) [Computer software]. Google. https://www.google.com/earth/

La Plata County. (n.d.). *La Plata County GIS map viewer*. Retrieved March 3, 2025, from https://gis.laplata.co.us/laplatajs/

La Plata Electric Association, Inc. Project, Date of Summary; November 20, 2023. RUS PACE Engineering & Costs Study

Multi-Resolution Land Characteristics Consortium. (n.d.). *MRLC viewer*. U.S. Geological Survey. https://www.mrlc.gov/viewer/

National Renewable Energy Laboratory. (2006). *A guide to community solar power: From concept to execution* (NREL/TP-620-38241). Retrieved March 3, 2025, from https://www.nrel.gov/docs/fy06osti/38241.pdf

Ong, S., Campbell, C., Denholm, P., Margolis, R., & Heath, G. (2017). *Land-use requirements for solar power plants in the United States* (NREL/TP-6A20-67440). National Renewable Energy Laboratory. https://www.nrel.gov/docs/fy17osti/67440.pdf

Purdue University Department of Chemistry. (2000). *Noise Sources and Their Effects.* Purdue University. Retrieved March 6, 2025, from https://www.chem.purdue.edu/chemsafety/Training/PPETrain/dblevels.htm

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online. Accessed March 3, 2025

U.S. Department of Agriculture, Rural Development. (n.d.). *Business and industry guaranteed loan program: Regulations and instructions* (Form RD 1970-C). Retrieved March 3, 2025, from https://www.rd.usda.gov/files/1970c.pdf

U.S. Department of Agriculture, Rural Development. (2017). *Environmental resource directory for Colorado* [PDF]. U.S. Department of Agriculture. https://www.rd.usda.gov/files/ColoradoERD.pdf

U.S. Environmental Protection Agency. (n.d.). *NEPAssist*. U.S. EPA. https://nepassisttool.epa.gov/nepassist/nepamap.aspx

U.S. Fish & Wildlife Service. (n.d.). *IPaC: Information for planning and consultation*. U.S. Department of the Interior. https://ipac.ecosphere.fws.gov/

U.S. Fish and Wildlife Services: Threatened and Endangered Species New Hampshire, last accessed March 18, 2021. https://ecos.fws.gov/ecp/

U.S. Geological Survey. (n.d.). *Wetlands mapper*. U.S. Department of the Interior. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

U.S. Government Publishing Office. (n.d.). *Title 7: Agriculture, Part 1970—Business and Industry Guaranteed Loans.* Electronic Code of Federal Regulations. Retrieved March 3, 2025, from https://www.ecfr.gov/current/title-7/part-1970

U.S. Department of Agriculture. (n.d.). *Colorado economic resource digest*. U.S. Department of Agriculture, Rural Development. https://www.rd.usda.gov/files/ColoradoERD.pdf

U.S. Department of Housing and Urban Development. (n.d.). *Noise abatement and control.* HUD Exchange. Retrieved [date], from https://www.hudexchange.info/programs/environmental-review/noise-abatement-and-control/

U.S. Department of Housing and Urban Development. (n.d.). *Tax credit allocation data*. U.S. Department of Housing and Urban Development. https://egis.hud.gov/TDAT/

# 7.0 List of Preparers

EN Engineering, LLC Personnel:

- Shawn Smyth, PLA, PWS – Senior Project Specialist
- Ben Oelke, WPIT – Project Specialist
- Pat Canumay – Technical Lead
- Ryan Byrne – Senior Designer