

APPENDIX C - THREATENED AND ENDANGERED SPECIES REPORT



April 10, 2024

Rob LeForce
Environmental Project Manager
Associated Electric Cooperative, Inc.
2814 S Golden Ave
Springfield, MO 65801

Re: Habitat Assessment Report for Ripley Energy Center
Burns & McDonnell Project No. 141827

Dear Mr. LeForce:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by Associated Electric Cooperative, Inc. (AECI) to provide habitat assessment services for the proposed Ripley Energy Center (Project). The proposed Project and results of the habitat assessment effort are described below.

INTRODUCTION

AECI plans to construct a simple-cycle combustion turbine in Payne County, Oklahoma. The proposed Project would include construction of a simple-cycle combustion turbine, transmission line rebuild, transmission lead line, water line, distribution line, and other appurtenant facilities. The project is located approximately 8 miles east of Stillwater, Oklahoma.

Burns & McDonnell conducted a habitat assessment survey for the Project to evaluate the potential for the Project to impact state and federally protected species and designated critical habitats. This habitat assessment letter report includes the results of the desktop analysis of species known or likely to occur in the area and the results of a field survey conducted within the proposed Project layout (Survey Area). The Survey Area included in this report and displayed in the accompanying figures is based on the latest Project design and encompasses approximately 228 acres.

EXISTING DATA REVIEW

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool and the Oklahoma Department of Wildlife Conservation (ODWC) listed species and known critical habitat for Payne County, Oklahoma, were utilized to identify federally and state-protected species that may occur within the Survey Area (Appendix B). Data provided by the Oklahoma Natural Heritage Inventory (ONHI) was also used to identify known occurrences of protected species in Payne County, Oklahoma.

According to the USFWS IPaC tool, 7 species that are protected, or anticipated to be protected, under the Endangered Species Act (ESA) are known or likely to occur in Payne County in Oklahoma (Table 1). The Project was also reviewed for potential impacts to the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), which are federally protected by the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act

(MBTA). Designated critical habitat for peppered chub (*Macrhybopsis tetranema*) occurs in Payne County, but not within the Survey Area. Known occurrences of the bald eagle, piping plover (*Charadrius melodus*), and the monarch butterfly (*Danaus plexipus*) exist in Payne County.

In addition to the IPaC, ONHI for Payne County was reviewed (Table 1). Only the yellow-billed cuckoo (*Coccyzus americanus*) and the Arkansas river shiner (*Notropis girardi*) were found in the ONHI but not the IPaC. Although the yellow-billed cuckoo appears on this list, it should not be categorized as protected under the ESA and is not discussed in depth later. The yellow-billed cuckoo is a summer resident and common migrant within Oklahoma; this species is protected under the ESA only within the western Distinct Population Segment designated by the USFWS. Oklahoma is not within the western Distinct Population Segment. Thus, the yellow-billed cuckoo is not protected under the ESA in Oklahoma.

Table 1: Federally Protected Species Known or Likely to Occur in Payne County, Oklahoma

Common Name	Scientific Name	Status ¹
Mammals		
Tricolored bat	<i>Perimyotis subflavus</i>	FPE, SGCN*
Birds		
Piping plover	<i>Charadrius melodus</i>	FT
Red knot	<i>Calidris canutus rufa</i>	FT
Reptiles		
Alligator snapping turtle	<i>Macrochelys temminckii</i>	FPT, SGNC*
Fish		
Peppered chub	<i>Macrhybopsis tetranema</i>	FE
Arkansas river shiner	<i>Notropis girardi</i>	FT
Insects		
American burying beetle	<i>Nicrophorus americanus</i>	FT
Monarch butterfly	<i>Danaus plexippus</i>	FC

Source: USFWS IPaC; <http://ecos.fws.gov/ipac>, accessed 10/31/2023; ODWC Field Guide; <https://www.wildlifedepartment.com/wildlife/field-guide>, accessed 07/12/2023; ONHI T/E Species: <http://www.oknaturalheritage.ou.edu/content/biodiversity-info/endangered-species/index.php>, accessed 10/31/2023.

*State designated Species of Greatest Conservation Need

¹FC: Federal Candidate Species for Listing; FE: Federally Endangered; FPE: Federally Proposed for Listing as Endangered; FPT: Federally Proposed for Listing as Threatened; FT: Federally Threatened.

FIELD ASSESSMENT

A field-based habitat assessment was conducted by Burns & McDonnell environmental scientists on June 21-22, 2023, July 25-26, 2023, and October 24 to 26, 2023. The habitat assessment field survey was conducted on foot within the Survey Area and encompassed approximately 228

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acres. Habitat conditions were recorded using a sub-meter accurate Global Positioning System (GPS) and an iPad camera. Natural color photographs taken onsite are included in Appendix C.

RESULTS

The Survey Area is dominated by grassland/herbaceous land (Figures A-1). Common vegetation in the Survey Area included Johnson grass (*Sorghum halepense*), cheatgrass (*Bromus tectorum*), big bluestem (*Andropogon gerardii*), Carolina joint-tail grass (*Coelorachis cylindrica*), prairie bundle-flower (*Desmanthus illinoensis*), coral-berry (*Symphoricarpos orbiculatus*), rough-leaf dogwood (*Cornus drummondii*), saw-tooth blackberry (*Rubus argutus*), common persimmon (*Diospyros virginiana*), flat-stem spike-rush (*Eleocharis compressa*), blunt spike-rush (*Eleocharis obtusa*), eastern cottonwood (*Populus deltoides*), false daisy (*Eclipta prostrata*), little bluestem (*Schizachyrium scoparium*), American germander (*Teucrium canadense*), and green ash (*Fraxinus pennsylvanica*). The hay fields are subject to regular disturbance through agricultural practices and haying. Representative ground photographs from the field assessment are included in Appendix C.

The following paragraphs provide Burns & McDonnell's evaluation of the Project's potential effect on the protected species as identified in Table 1. The effects determinations of Burns & McDonnell follow effects determinations as put forth by the USFWS and may be categorized as *may affect and is likely to adversely affect*; *may affect but is not likely to adversely affect*; or *no effect*.

Tricolored Bat

The tricolored bat is proposed for listing as endangered under the ESA. This bat species hibernates in caves or abandoned mines during the winter. During the spring, summer, and fall, tricolored bats roost among live and dead leaf clusters in the trees of hardwood forested habitats. Additionally, the summer roosts of the tricolored bat may include pine trees, eastern red cedar trees, and structures such as barns, sheds, under bridges, or in other buildings that have little human disturbance. Female tricolored bats form maternity colonies, while male tricolored bats tend to roost singly or in small groups. Foraging habitat for the tricolored bat includes forest edges and riparian corridors where small insects such as caddisflies, moths, beetles, wasps, flying ants and flies are concentrated.

The tricolored bat occurs in Oklahoma and is an Oklahoma Species of Greatest Conservation Need. The field assessment did note leaf clusters and cedar trees suitable for tricolored bat roosts. Critical habitat has not been designated by ODWC for the tricolored bat within Payne County. Although the Project has been sited to minimize the amount of tree clearing that is necessary, some trees will need to be cleared along the ROW. The USFWS has not established

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conservation recommendations for the tricolored bat. Conducting tree clearing during the bats' inactive season is a generally recommended conservation measure for protecting bats. The USFWS has established the inactive season dates for the tricolored bat in Oklahoma is November 16 – March 14. If tree clearing for the Project is restricted to this timeframe, it is anticipated that the Project **may affect but is not likely to adversely affect** the tricolored bat. The Project may also conduct presence/absence surveys for tricolored bats. If the survey results indicate probable absence of the species, seasonal tree clearing would likely not be necessary.

Alligator Snapping Turtle

The alligator snapping turtle is proposed for listing as threatened under the ESA. The species range occupies the eastern third of Oklahoma but has low potential of appearing in the Project. The alligator snapping turtle is a large aquatic turtle that occurs in perennial water bodies such as large rivers, canals, reservoirs, oxbows, and ponds near running water. The Project and its structures have been routed to reduce direct impacts to wetland habitat. Direct impacts to alligator snapping turtles are not anticipated; therefore, the Project as proposed is anticipated to have **no effect** on alligator snapping turtles.

Piping Plover and Red Knot

The piping plover forages in shallow wetlands, lakes, and rivers and nests on sandbars and gravel bars. Lake Carl Blackwell has recent records of piping plovers approximately 20 miles west of the Project; however, the Survey Area does not include habitat associated with piping plovers. The red knot is a small migratory shorebird that may migrate through the Project area but is not a known nesting species in the State of Oklahoma. Generally, red knots are migrants that use open salt flats, sandbars, beaches, and shallow wetlands associated with major waterways and reservoirs, such as the Cimarron River, to the south of the Project. The Project will not span the Cimarron River and will not impact sandbars, beaches, and shallow wetland habitat associated with the Cimarron River. These habitat types are not anticipated to be impacted by the Project and impacts to the piping plover and red knot are not anticipated; therefore, the Project as proposed is anticipated to have **no effect** on the piping plover and red knot.

Peppered Chub and Arkansas River Shiner

The peppered chub and Arkansas river shiner are relatively small, streamlined minnows, which occur in large rivers with sandy substrates. The USFWS has designated critical habitat in Payne County in the Cimarron River for the peppered chub; however, the Project will not cross or impact designated critical habitat. There is no designated critical habitat within Payne County for the Arkansas river shiner. Impacts to the peppered chub or Arkansas river shiner are not anticipated; therefore, the Project as proposed is anticipated to have **no effect** on the peppered chub or Arkansas river shiner.

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American Burying Beetle

The American burying beetle is a large insect generally found in upland grassland prairies with an abundance of carrion. They typically occur in loose sandy or clay loam soils that are suitable for excavation and construction of brood chambers. According to the USFWS, the Project occurs within an area of historic occurrence of this species in Oklahoma. The proposed Project Area contains open grassy areas associated with hayfields. Based on the results of the habitat assessment and the location of the Project, Burns & McDonnell has determined that the Project as proposed would have **no effect** on the American burying beetle.

Monarch butterfly

Monarch butterfly is a federal candidate for listing under the ESA. This species feeds on nectar from a variety of flowering plants and requires milkweed to complete its life cycle. Preferred habitat for this species includes prairies, savannas, rights-of-way, and field edges with abundant flowering plants. The Project is located within a hay field with native wildflowers and grasses, including milkweed species. The hay fields are subject to regular disturbance through agricultural practices and haying during the migration of the monarch butterfly. These land uses and disturbances eliminate or minimize suitable habitat for the monarch butterfly in these areas. There would be permanent impacts to potential monarch butterfly habitat as a result of the installation of a simple cycle combustion turbine and the Project could result in the fragmentation of suitable habitat. Therefore, the Project **may affect but is not likely to adversely affect** the monarch butterfly.

Other Federally Protected Species

The MBTA prohibits the take of migratory birds and their eggs, young, or active nests. Recommended conservation measures include conducting tree clearing or unmowed grassland disturbance outside the migratory bird nesting period for Oklahoma (May 1 – July 1). Due to the existing disturbance and the relatively small amount of potential woodland and shrubland nesting habitat that would be affected by the Project, the Project as proposed not anticipated to impact migratory bird populations.

The BGEPA prohibits take of bald eagles and golden eagles. The project is within the range of the bald eagle and the winter range of the golden eagle. Golden eagles may occur in the Project vicinity but would likely be temporary visitors to the area and should not impact proposed Project activities. No bald eagle nests were observed within the vicinity of the Survey Area during the habitat assessment. If an active bald eagle nest is observed during construction activities, AECI should work with the USFWS to minimized potential impacts. The Project as proposed is anticipated to have no adverse effects on bald and golden eagles.



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CONCLUSIONS

Based on the results of this habitat assessment, the Project as proposed is anticipated to have **no effect** on the alligator snapping turtle, American burying beetle, piping plover, red knot, peppered chub, bald and golden eagles, and migratory birds. The Project **may affect but is not likely to adversely affect** the tricolored bat and monarch butterfly.

If you have any questions regarding the proposed Project or the contents of this habitat assessment report, you may contact me at (980) 875-1271 or crogers@burnsmcd.com at your convenience.

Sincerely,

A handwritten signature in black ink that reads "Cara Rogers". The script is fluid and cursive, with the first letters of each word being capitalized and larger than the rest of the letters.

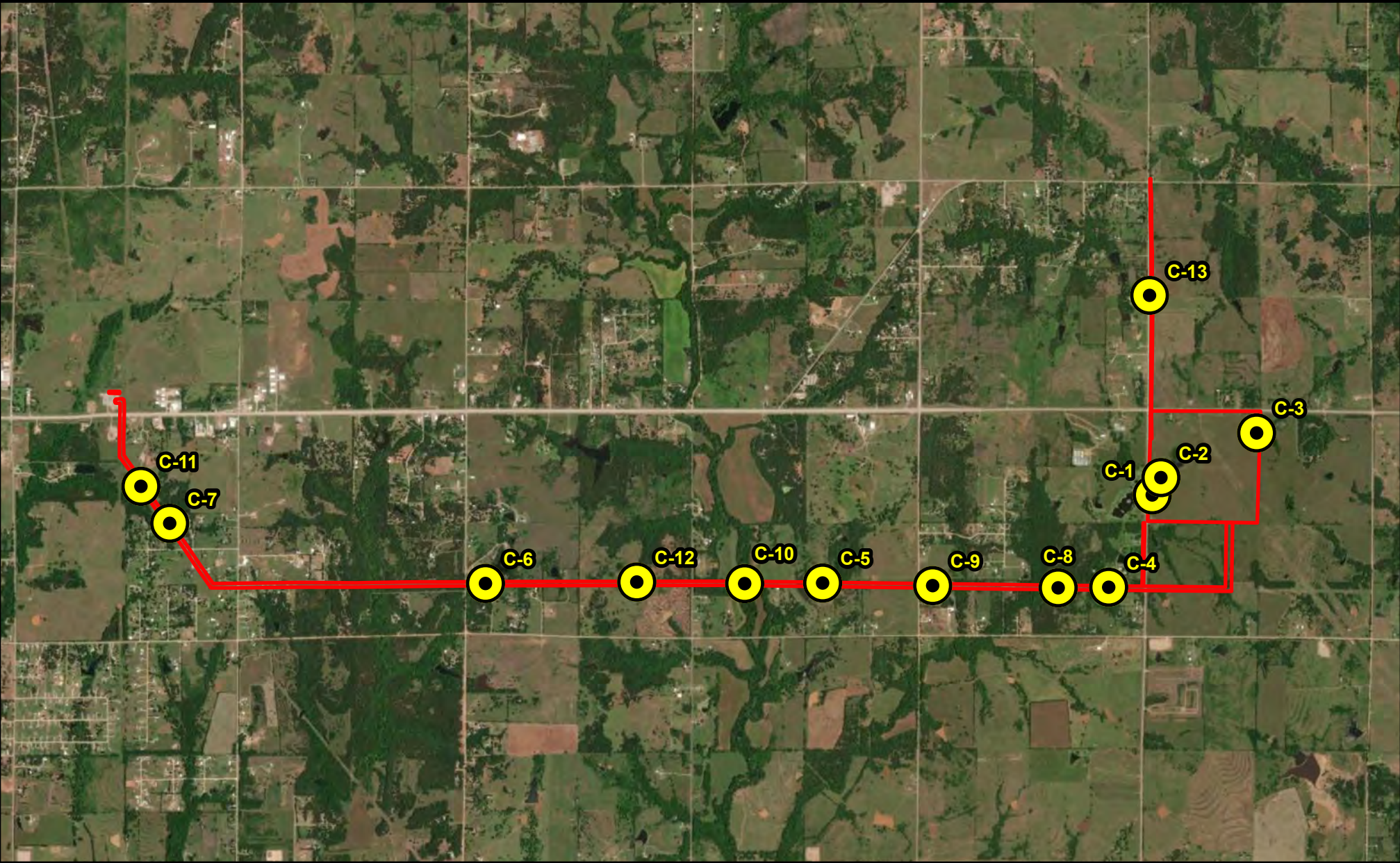
Cara Rogers
Biologist



Attachments:

Appendix A – Figures
Appendix B – Agency Species Lists
Appendix C – Site photographs

cc: Chris Howell, Burns & McDonnell

APPENDIX A – FIGURES



-  Survey Area
-  Photo Points

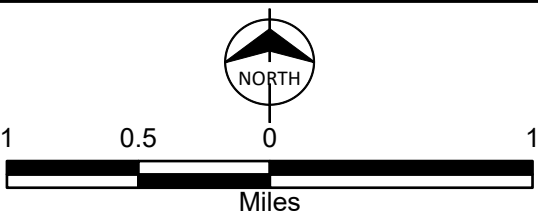


Figure A-1
Habitat Assessment Map
Ripley Energy Center
AECI
Payne County, OK

APPENDIX B – AGENCY SPECIES LISTS



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467



In Reply Refer To:
Project Code: 2024-0074616
Project Name: Ripley Energy Center

04/09/2024 16:42:22 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office

9014 East 21st Street

Tulsa, OK 74129-1428

(918) 581-7458

PROJECT SUMMARY

Project Code: 2024-0074616

Project Name: Ripley Energy Center

Project Type: New Constr - Above Ground

Project Description: Simple-cycle combustion turbine energy center looking to be built with associated lines.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.1177355,-96.98983442123642,14z>



Counties: Payne County, Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
<p>Tricolored Bat <i>Perimyotis subflavus</i></p> <p>No critical habitat has been designated for this species.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> This species only needs to be considered if the project includes wind turbine operations. <p>Species profile: https://ecos.fws.gov/ecp/species/10515</p>	<p>Proposed Endangered</p>

BIRDS

NAME	STATUS
<p>Piping Plover <i>Charadrius melodus</i></p> <p>Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/6039</p>	<p>Threatened</p>
<p>Rufa Red Knot <i>Calidris canutus rufa</i></p> <p>There is proposed critical habitat for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1864</p>	<p>Threatened</p>

REPTILES

NAME	STATUS
<p>Alligator Snapping Turtle <i>Macrochelys temminckii</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/4658</p>	<p>Proposed Threatened</p>

FISHES

NAME	STATUS
<p>Peppered Chub <i>Macrhybopsis tetranema</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/532</p>	<p>Endangered</p>

INSECTS

NAME	STATUS
<p>American Burying Beetle <i>Nicrophorus americanus</i></p> <p>Population: Wherever found, except where listed as an experimental population</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/66</p>	<p>Threatened</p>
<p>Monarch Butterfly <i>Danaus plexippus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/9743</p>	<p>Candidate</p>

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

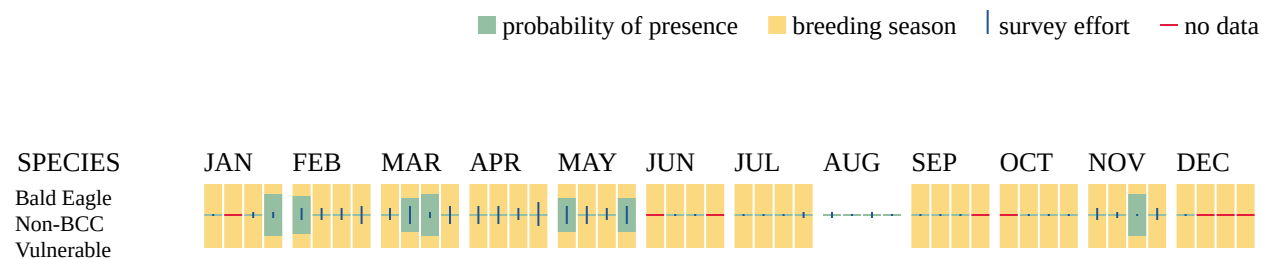
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Little Blue Heron <i>Egretta caerulea</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9477	Breeds Mar 10 to Oct 15
Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere

NAME	BREEDING SEASON
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

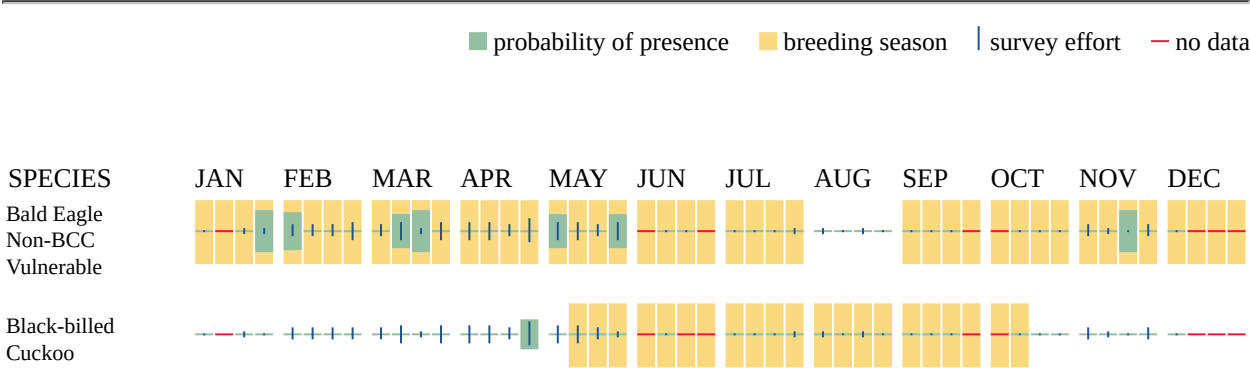
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



BCC Rangewide (CON)



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PSS1A

FRESHWATER POND

- PUSAh
- PUBFh
- PUBHh
- PUSCh

RIVERINE

- R5UBF
- R4SBC

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Cara Rogers
Address: 9450 Ward Parkway
City: Kansas City
State: MO
Zip: 64114
Email: crogers@burnsmcd.com
Phone: 9808751271

Federal and State Endangered, Threatened, and Candidate Species by County

Payne

Category	Federal	State	Scientific Name	Common Name
Beetle	Listed Threatened	null	Nicrophorus americanus	American Burying Beetle
Bird	Listed Threatened	null	Coccyzus americanus	Yellow-billed Cuckoo
Bird	Listed Endangered	null	Grus americana	Whooping Crane
Fish	Listed Endangered	null	Macrhybopsis tetranema	Arkansas River Speckled Chub
Fish	Listed Threatened	null	Notropis girardi	Arkansas River shiner

APPENDIX C – SITE PHOTOGRAPHS



Photograph C-1: View of pond in southwest corner of main property, facing north.



Photograph C-2: View of pond on western side of main property, facing northwest.

Associated Electric Cooperative,
Inc.
Ripley Energy Center



Ground Photographs
June 21-22, July 25-26,
October 24-26, 2023
Payne County, OK



Photograph C-3: View of pond on northeastern corner of main property, facing north.



Photograph C-4: View of pond within transmission line ROW, facing south.

Associated Electric Cooperative,
Inc.
Ripley Energy Center



Ground Photographs
June 21-22, July 25-26,
October 24-26, 2023
Payne County, OK



Photograph C-5: View of reservoir within transmission line ROW, facing southwest.



Photograph C-6: View of pond within transmission line ROW, facing northwest.

Associated Electric Cooperative,
Inc.
Ripley Energy Center



Ground Photographs
June 21-22, July 25-26,
October 24-26, 2023
Payne County, OK



Photograph C-7: View of pond within transmission line ROW, facing northwest.



Photograph C-8: View of trees and stream within transmission line ROW, facing south.

Associated Electric Cooperative,
Inc.
Ripley Energy Center



Ground Photographs
June 21-22, July 25-26,
October 24-26, 2023
Payne County, OK



Photograph C-9: View of wetland and dead trees within transmission line ROW, facing southwest.



Photograph C-10: View of trees within transmission line ROW, facing southwest.

Associated Electric Cooperative,
Inc.
Ripley Energy Center



Ground Photographs
June 21-22, July 25-26,
October 24-26, 2023
Payne County, OK



Photograph C-11: View of flowering plants within transmission line ROW, facing southeast.



Photograph C-12: View of upland vegetation and pond within transmission line ROW, facing north.

Associated Electric Cooperative,
Inc.
Ripley Energy Center



Ground Photographs
June 21-22, July 25-26,
October 24-26, 2023
Payne County, OK



Photograph C-13: View of roadside area within distribution line ROW, facing north.

Associated Electric Cooperative,
Inc.
Ripley Energy Center



Ground Photographs
June 21-22, July 25-26,
October 24-26, 2023
Payne County, OK

APPENDIX D - PROJECT CORRESPONDENCE

SCOPING



Associated Electric Cooperative, Inc.

www.aeci.org • 417-881-1204 • FAX 417-885-9252
2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Dr. Earthea Nance
Region 6 Administrator
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, Texas 75270

Re: Ripley Energy Center Environmental Assessment

Dear Dr Nance:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

The Project would be located in Payne County, Oklahoma (Project Site). AECI owns 160 acres of agricultural land at the Project Site as shown in **Figure 1** and **Figure 2**. Approximately 50 acres would be disturbed with approximately 40 acres ultimately being fenced. **Figure 2** provides a map of the project area. The Project would consist of a single Advanced Class simple-cycle gas turbine generator and associated equipment with a nominal capacity of 420-445 MW. The Project would burn natural gas with the capability to use fuel oil as a backup and employ selective catalytic reduction (SCR) technology to control emissions of nitrogen oxides. A new 0.5-mile-long transmission line, likely consisting of a single-circuit 138kV line, will be constructed to access the existing transmission line right-of-way near the site. From that location, 5.5 miles of the existing transmission line structures will be rebuilt to carry a double circuit in the existing right-of-way to the existing Stillwater Substation, which will receive minimal upgrades to receive the line. A potential addition for the project is photovoltaic solar panels tied into the same switchyard as the new turbine.

A new natural gas lateral would be constructed to supply fuel to the project. The new 8-inch lateral would be approximately 3,000 feet long with only 120 feet offsite and extend from the Project to a tap point on the directly adjacent Enable Oklahoma Intrastate Transmission, LLC (EOIT) pipeline. Also, the project will require a new 8-inch high-density polyethylene (HDPE) water line approximately a mile in length, to replace an existing water line. The water line will be tapped onsite. If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

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The environmental conditions for the Project Site were reviewed extensively, providing nearby tie-in locations for the transmission line, located outside both the 100- and 500-year flood plains. Environmental justice concerns were evaluated using the EPA's EJScreen 2.0 tool. A 2-mile buffer was created around the site and a standard report containing 19 environmental and socioeconomic indexes was generated. All reported indexes had average to low percentiles indicating that there are no environmental justice concerns for the project site. As part of the design and environmental process, AECI will utilize a permitting matrix to identify any local, state, or Federal permits needed for project completion. Desktop-level studies were performed to determine the need for further evaluation or permitting at the project location. Table 1, below, summarizes the screening -level findings from those studies. Identified permits needed for the Project currently include an air permit, wetland permit (Clean Water Act Section 404), and National Pollution Discharge Elimination Systems (NPDES) construction stormwater permits, as well as Federal Aviation Administration notifications and other appropriate local permitting and licensing.

Table 1: Site Assessment Summary

Parameter	Site Assessment Summary
Location	Oklahoma / Payne County
Site Latitude / Longitude	36°6'46.73"N / 96°54'12.68"W (approximate center point of Project)
Total Project Boundary	152 acres
Public Lands and Conservation Easements	0 acres
Cultural Resources	No archeological sites have been recorded within the Project Boundary. Several linear pipeline surveys have occurred in the Project Boundary. The Project Area has low potential to contain prehistoric archeological sites.
Wetlands	3.3 acres
Waterbodies	<0.1 acre
Water Supply	Wells are likely not capable of providing sufficient quantity, but a pipeline traverses site and the City of Stillwater can provide sufficient water via pipeline.
FEMA Flood Zones	0 acres
Land Use	Five land use types, including grassland/herbaceous
Soils	No hydric soils within the Project Boundary.
Rare, Threatened, and Endangered Species	Seven federally listed species are known or likely to occur in the Project Boundary. Critical habitat does not appear to occur at or in the vicinity of the Project Boundary.

Parameter	Site Assessment Summary
Air Quality	Area is unclassified/in attainment. All emissions will be limited such that the facility will comply with EPA and state requirements. Current estimates for greenhouse gas emissions indicate the facility would not exceed 600,000 metric tons of CO ₂ . ¹
Environmental Justice	EJscreen 2.0 results indicate low – average percentile for each index

¹ Based on 50% capacity factor per year. Facility will be limited by NSPS TTTT to less than reflected value.

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

Contact Information

U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

Enclosure(s) Figure 1: AECl Property
 Figure 2: Project Area

CC: Everett Bole, RUS
 Kate Moore, RUS
 Mark Viguet, AECl
 Chris Howell, Burns & McDonnell

Figure 1: AECl Property

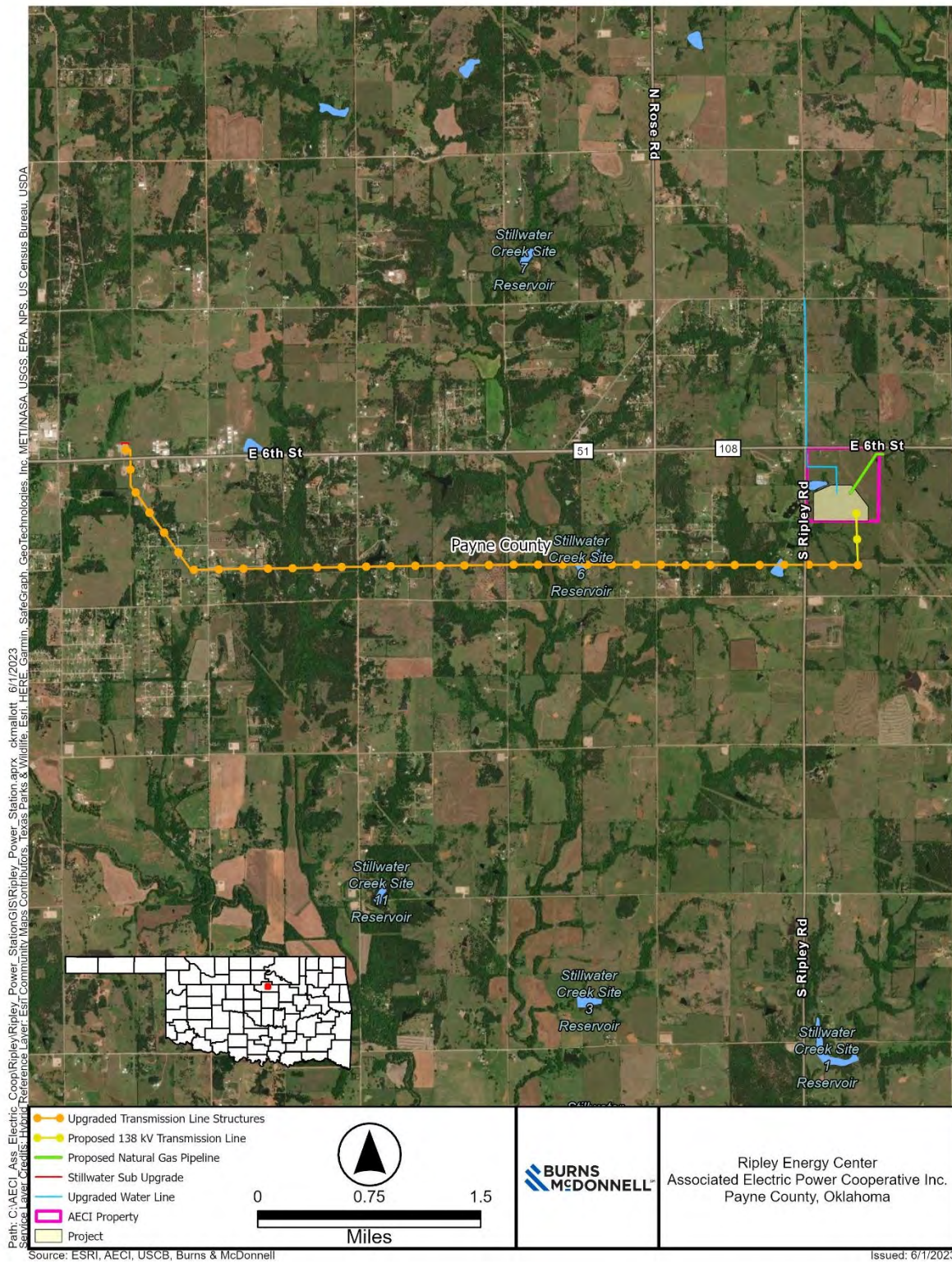
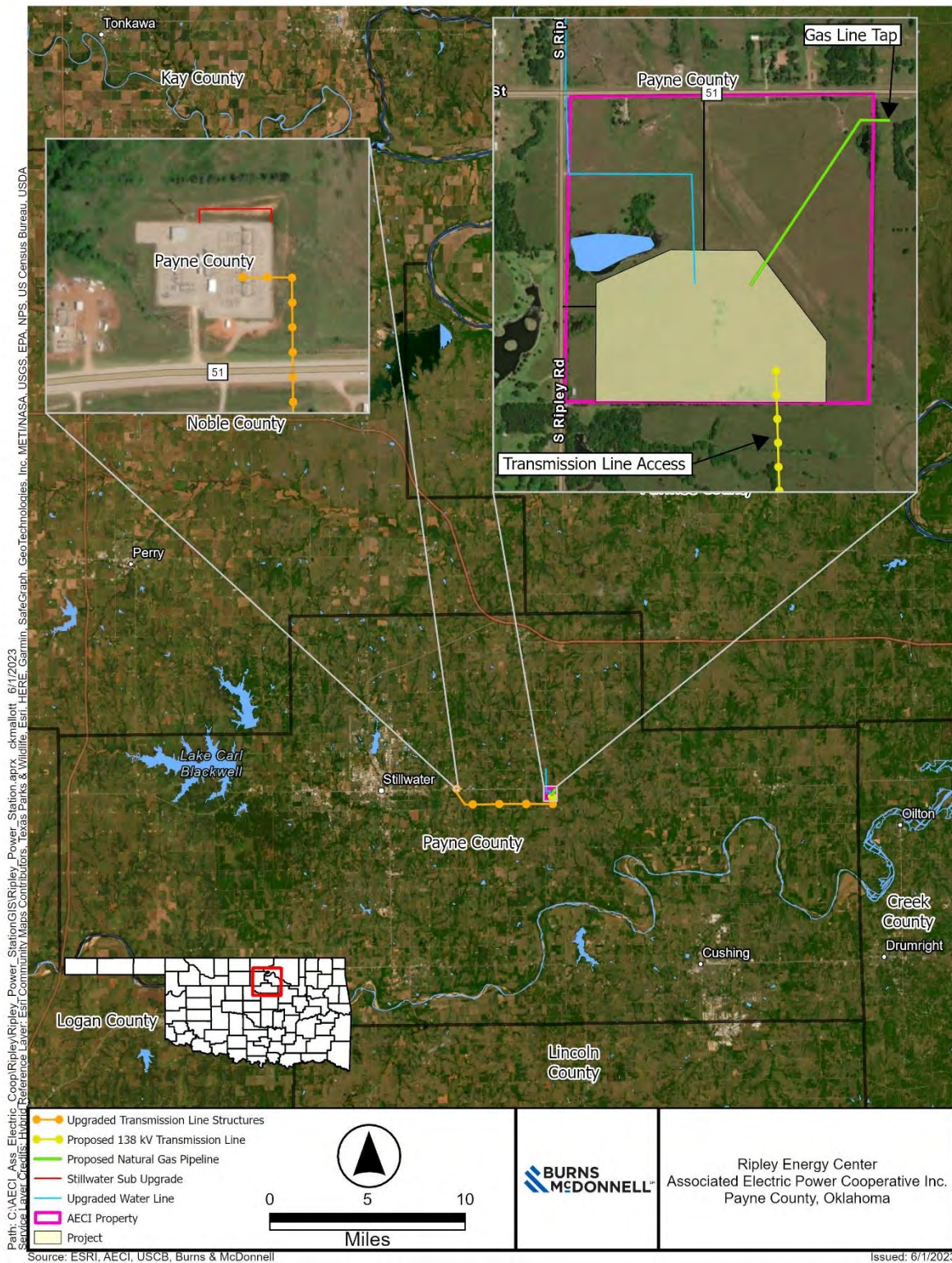


Figure 2: Project Area





Associated Electric Cooperative, Inc.

www.aeci.org • 417-881-1204 • FAX 417-885-9252
2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Luke Wray
Air Traffic Specialist
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, Texas 76177

Re: Ripley Energy Center Environmental Assessment

Dear Luke:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

The Project would be located in Payne County, Oklahoma (Project Site). AECI owns 160 acres of agricultural land at the Project Site as shown in **Figure 1** and **Figure 2**. Approximately 50 acres would be disturbed with approximately 40 acres ultimately being fenced. **Figure 2** provides a map of the project area. The Project would consist of a single Advanced Class simple-cycle gas turbine generator and associated equipment with a nominal capacity of 420-445 MW. The Project would burn natural gas with the capability to use fuel oil as a backup and employ selective catalytic reduction (SCR) technology to control emissions of nitrogen oxides. A new 0.5-mile-long transmission line, likely consisting of a single-circuit 138kV line, will be constructed to access the existing transmission line right-of-way near the site. From that location, 5.5 miles of the existing transmission line structures will be rebuilt to carry a double circuit in the existing right-of-way to the existing Stillwater Substation, which will receive minimal upgrades to receive the line. A potential addition for the project is photovoltaic solar panels tied into the same switchyard as the new turbine.

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A review of the Federal Aviation Administration (FAA) Sectional Aeronautical Chart (SkyVector, 2020), aerial photography, USGS maps, AirNav (2020), and other internet sources identified one FAA-registered airport, but no private landing strips or heliports within a five-mile radius of the Project.

Within a one-mile buffer of the Project Boundary, three antenna structure registration (ASR) towers were found (Federal Communication Commission [FCC], 2020). Two additional ASR towers and three microwave service towers were identified. No obvious aviation and radar constraints were identified for this Project.

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Also, please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

Contact Information

U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

Enclosure(s) Figure 1: AECl Property
 Figure 2: Project Area

CC: Everett Bole, RUS
 Kate Moore, RUS
 Mark Viguet, AECl
 Chris Howell, Burns & McDonnell

Figure 1: AECl Property

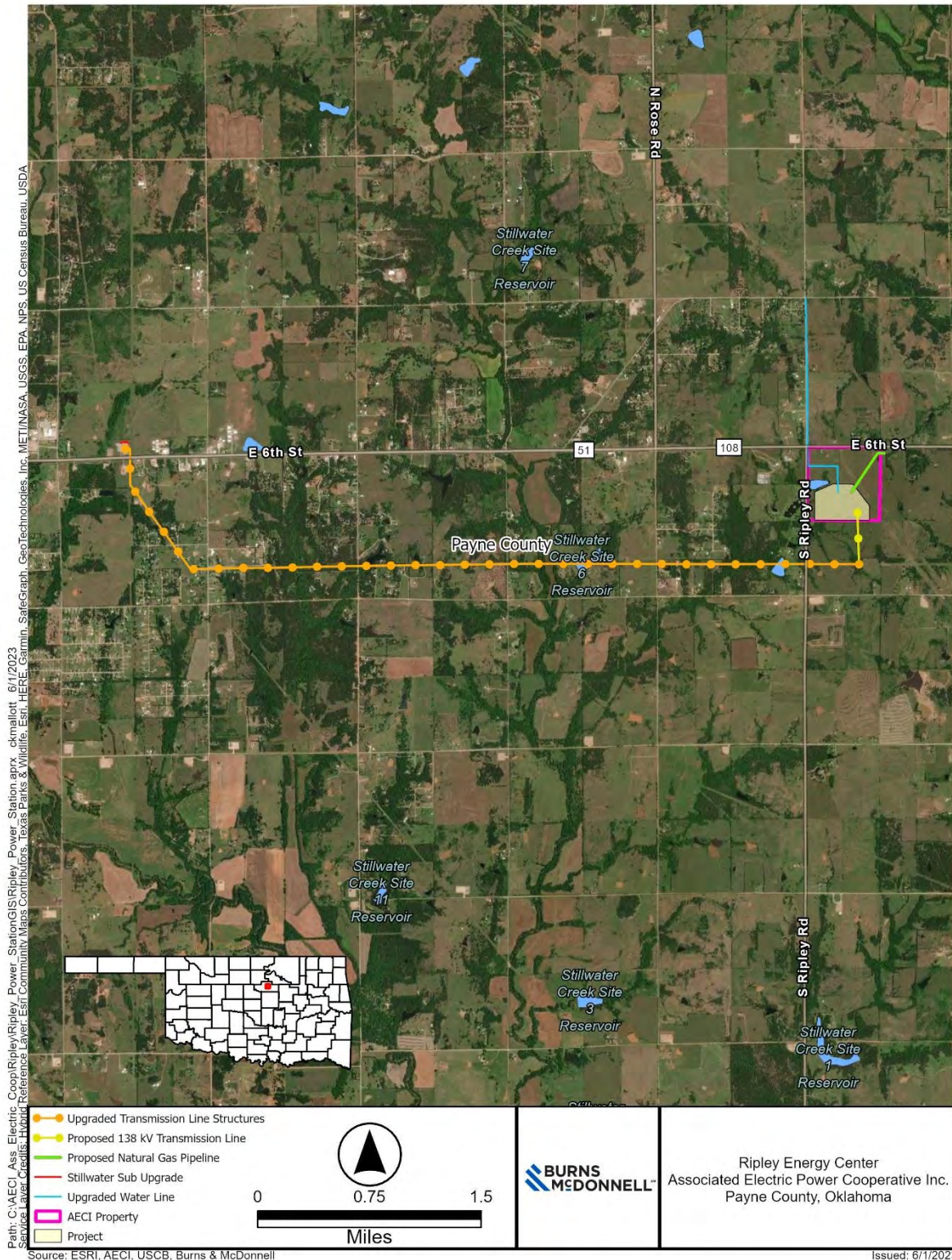
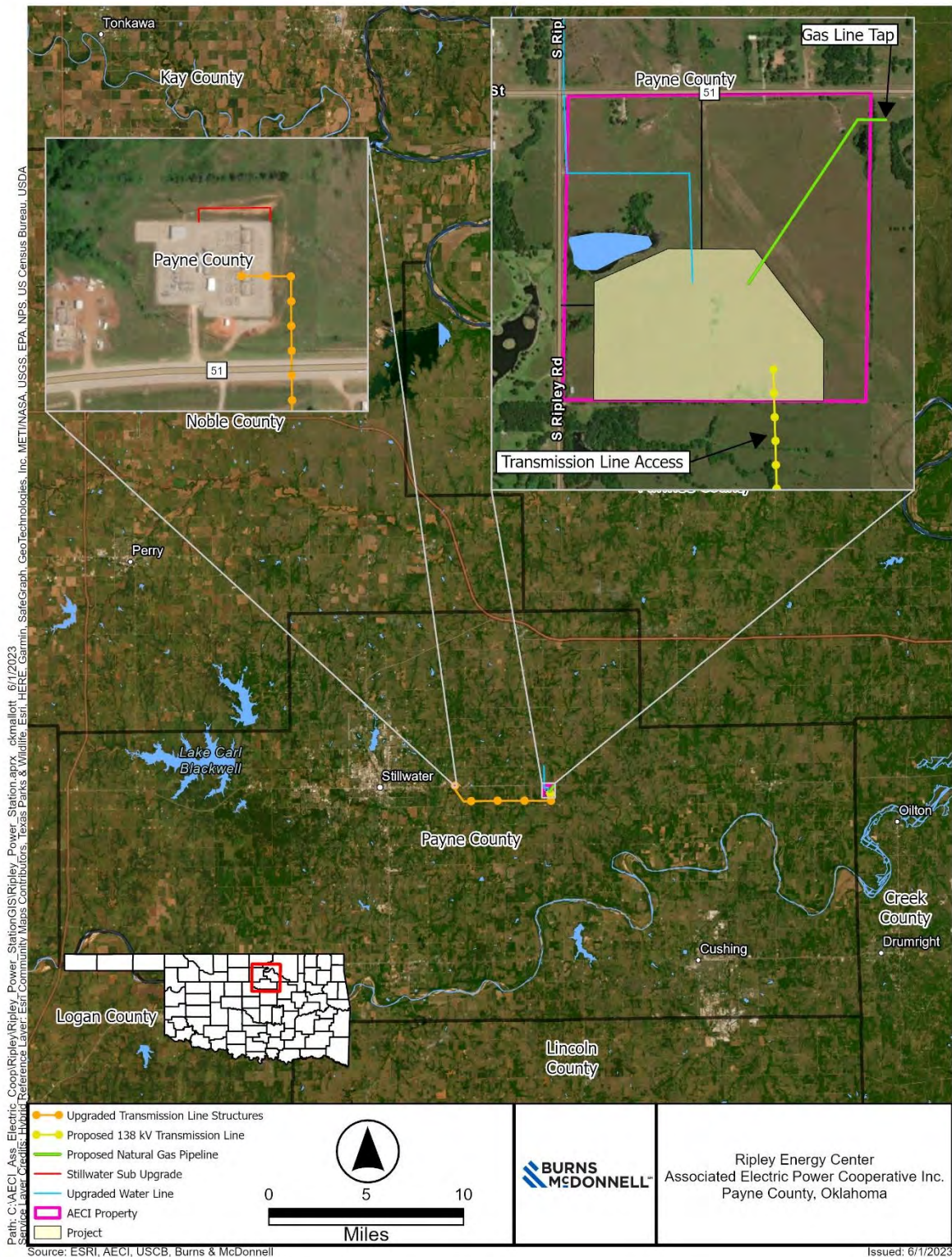


Figure 2: Project Area





Associated Electric Cooperative, Inc.

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2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Kary Stalbeck
State Archaeologist
Oklahoma Archaeological Survey
111 Chesapeake Street
Norman, Oklahoma 73019

Re: Ripley Energy Center Environmental Assessment

Dear Kary:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

The Project would be located in Payne County, Oklahoma (Project Site). AECI owns 160 acres of agricultural land at the Project Site as shown in **Figure 1** and **Figure 2**. Approximately 50 acres would be disturbed with approximately 40 acres ultimately being fenced. **Figure 2** provides a map of the project area. The Project would consist of a single Advanced Class simple-cycle gas turbine generator and associated equipment with a nominal capacity of 420-445 MW. The Project would burn natural gas with the capability to use fuel oil as a backup and employ selective catalytic reduction (SCR) technology to control emissions of nitrogen oxides. A new 0.5-mile-long transmission line, likely consisting of a single-circuit 138kV line, will be constructed to access the existing transmission line right-of-way near the site. From that location, 5.5 miles of the existing transmission line structures will be rebuilt to carry a double circuit in the existing right-of-way to the existing Stillwater Substation, which will receive minimal upgrades to receive the line. A potential addition for the project is photovoltaic solar panels tied into the same switchyard as the new turbine.

A new natural gas lateral would be constructed to supply fuel to the project. The new 8-inch lateral would be approximately 3,000 feet long with only 120 feet offsite and extend from the Project to a tap point on the directly adjacent Enable Oklahoma Intrastate Transmission, LLC (EOIT) pipeline. Also, the project will require a new 8-inch high-density polyethylene (HDPE) water line approximately a mile in length, to replace an existing water line. The water line will be tapped onsite. If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

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Burns & McDonnell archeologists conducted an examination of the records at the Oklahoma Archeological Survey ("OAS") to identify previously recorded archeological sites and previously conducted cultural resources surveys, and the National Park Service's online database for NRHP-listed properties and districts within the Project Area. The background review also included an examination of current and historic-age USGS topographic maps, the National Resource Conservation Service Soil Web, and aerial imagery provided by Nationwide Environmental Title Research ("NETR") to assess the potential for previously unrecorded cultural resources within the Project Area. Based on the review of the OAS records and NRHP database, no sites or NRHP properties or districts are within the Project Area. Several linear pipeline surveys cross the Project Area from the northwest to the southeast. Field verification surveys will also be conducted to confirm no NRHP sites are present.

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Also, please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

Contact Information

U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

Enclosure(s) Figure 1: AECl Property
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CC: Everett Bole, RUS
 Kate Moore, RUS
 Mark Viguet, AECl
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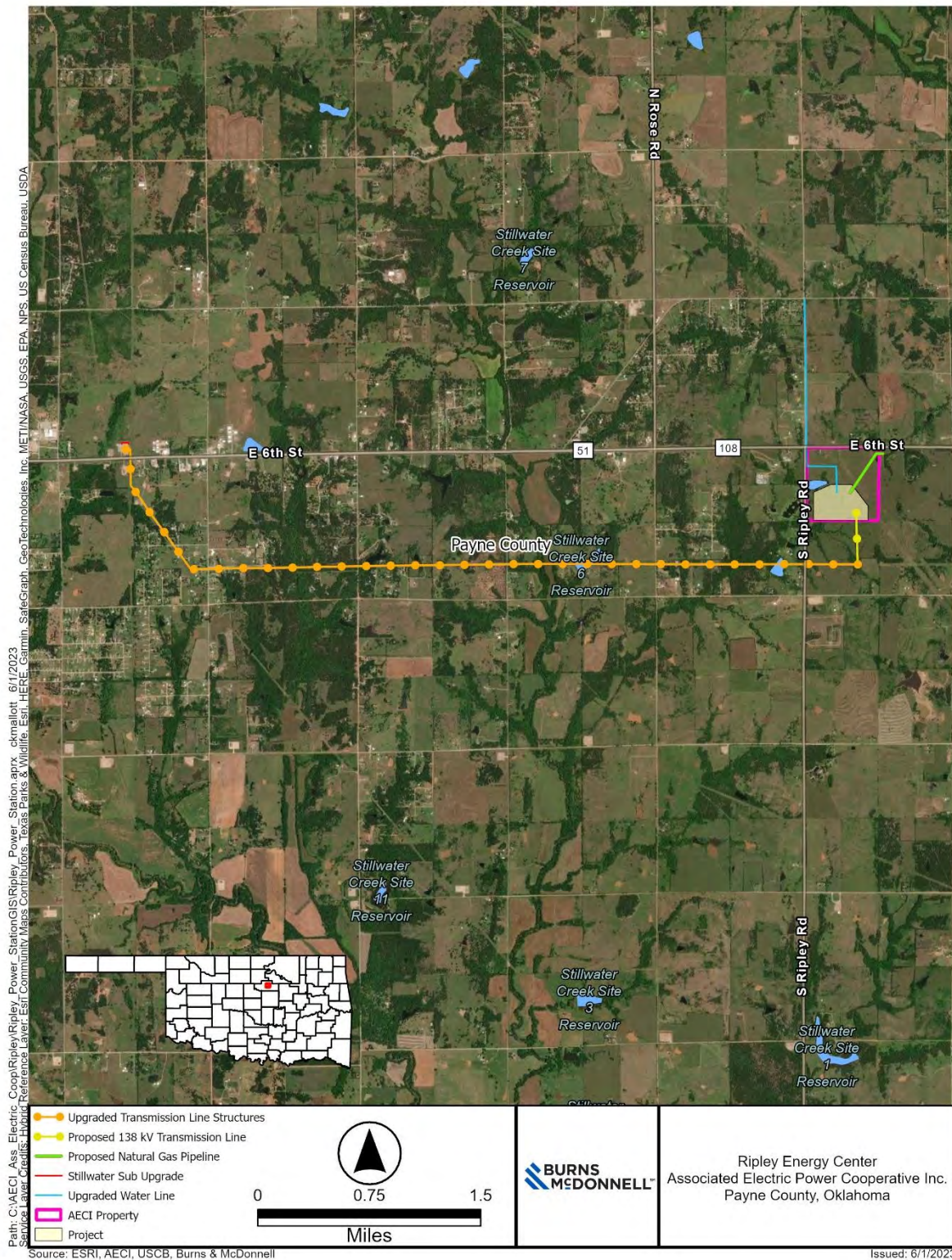
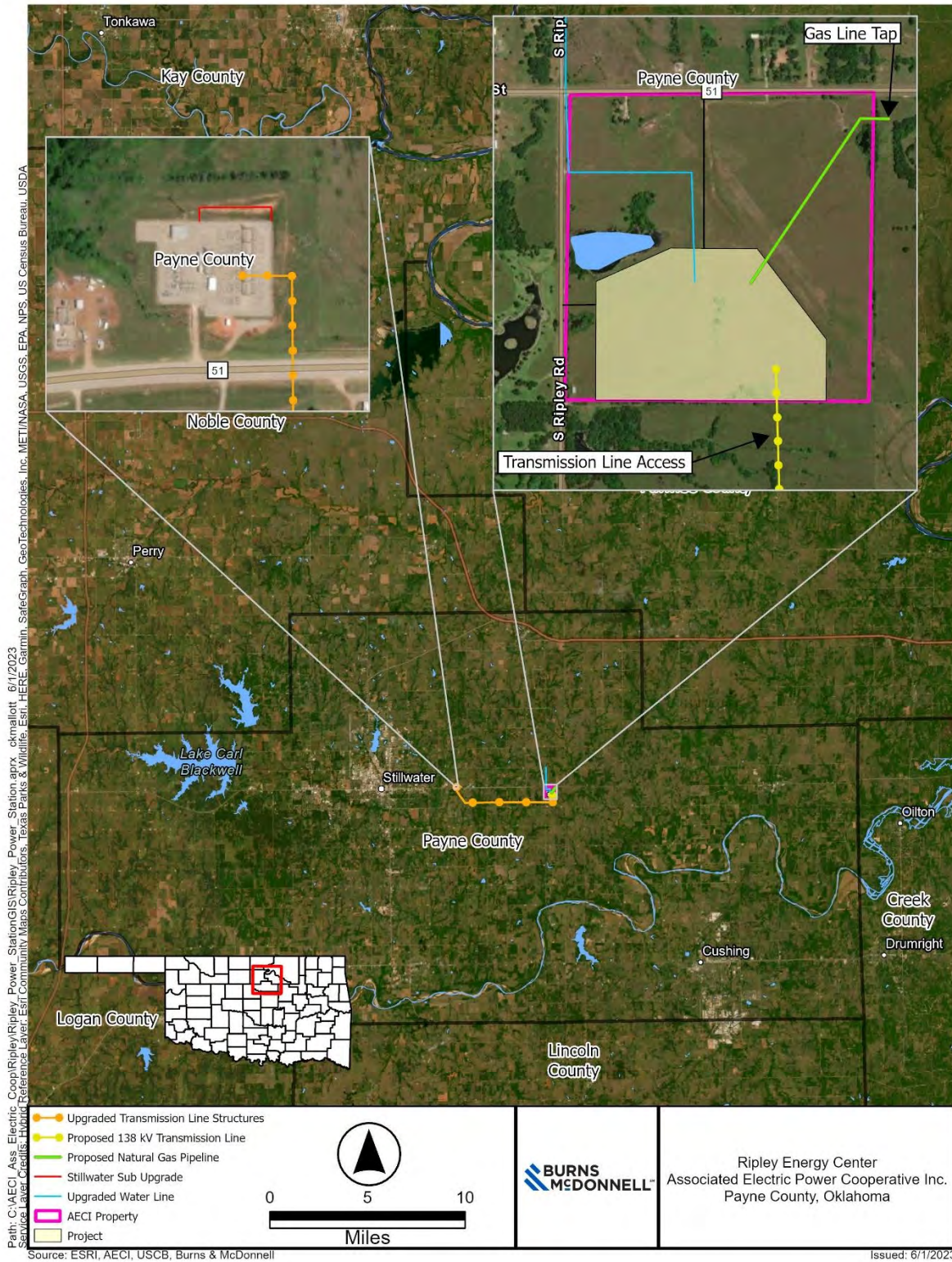


Figure 2: Project Area





Associated Electric Cooperative, Inc.

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2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Matt Skinner
Public Information Manager
Oklahoma Corporation Commission
P.O. Box 52000
Oklahoma City, Oklahoma 73152-2000

Re: Ripley Energy Center Environmental Assessment

Dear Matt:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

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U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

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Figure 1: AECl Property

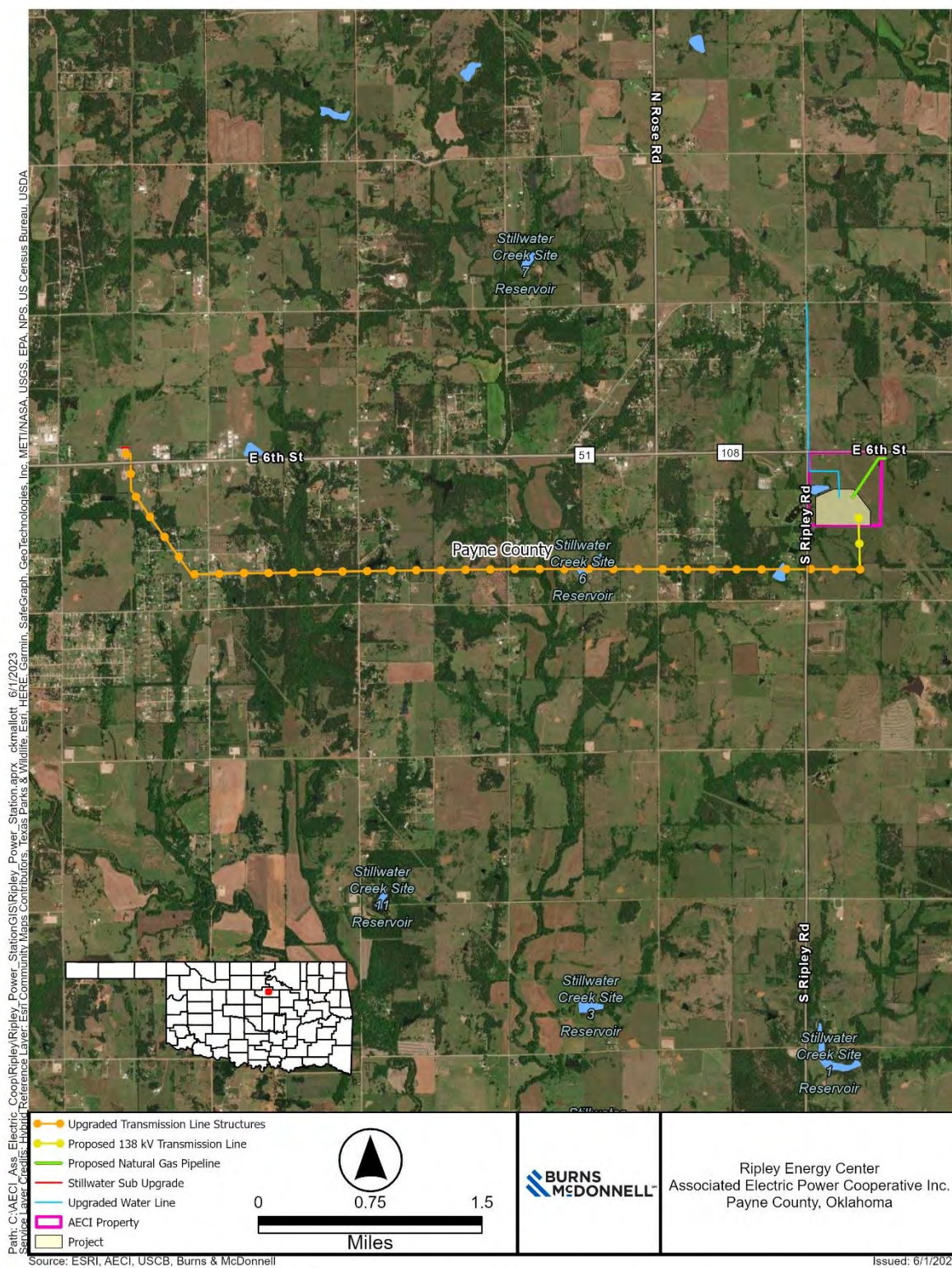
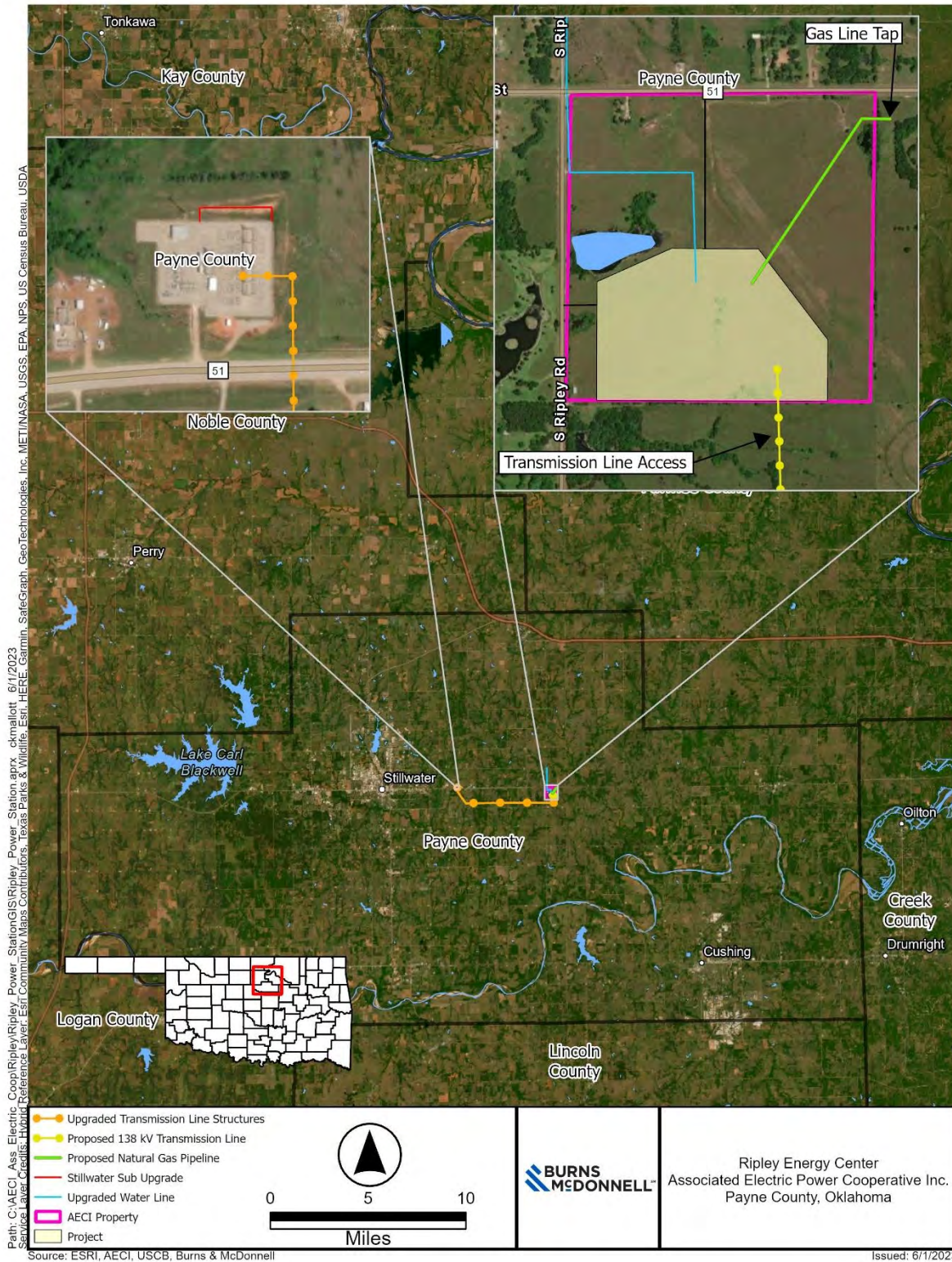


Figure 2: Project Area





Associated Electric Cooperative, Inc.

www.aeci.org • 417-881-1204 • FAX 417-885-9252
2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

J. D. Strong
Director
Oklahoma Dept of Wildlife
P.O. Box 53465
Oklahoma City, Oklahoma 73152

Re: Ripley Energy Center Environmental Assessment

Dear Director Strong:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

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According to the USFWS, Information, Planning, and Consultation System (IPaC) website and the Oklahoma Natural Heritage Inventory (ONHI) seven federally listed species, five threatened and two endangered, are known or likely to occur in Payne County and in the vicinity of the Project Site (Table 1). Final critical habitat for federally protected species has not been designated by the USFWS in the vicinity of the Site.

Table 1: Federally Threatened and Endangered Species Known or Likely to Occur in Payne Co, Oklahoma

Species	Habitat	State Status	Federal Status
Birds			
Piping Plover (<i>Charadrius melodus</i>)	Along sparsely vegetated shorelines of rivers and lakes	NA	Threatened
Red Knot (<i>Calidris canutus rufa</i>)	Breed on dry tundra slopes with minimal tree coverage	NA	Threatened
Whooping Crane (<i>Grus americana</i>)	Wetland areas with shallow open water and relatively little nearby development or activity	NA	Endangered
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	Smaller riparian patches, second-growth forests and woodlands, hedgerows, and forest edges	NA	Threatened
Fish			
Arkansas River Speckled Chub (<i>Macrhybopsis tetranema</i>)	Main channels of wide, shallow, sandy bottomed rivers and larger streams of the Arkansas River basin	NA	Endangered

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Also, please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

Contact Information

U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

Enclosure(s) Figure 1: AECl Property
 Figure 2: Project Area

CC: Everett Bole, RUS
 Kate Moore, RUS
 Mark Viguet, AECl
 Chris Howell, Burns & McDonnell

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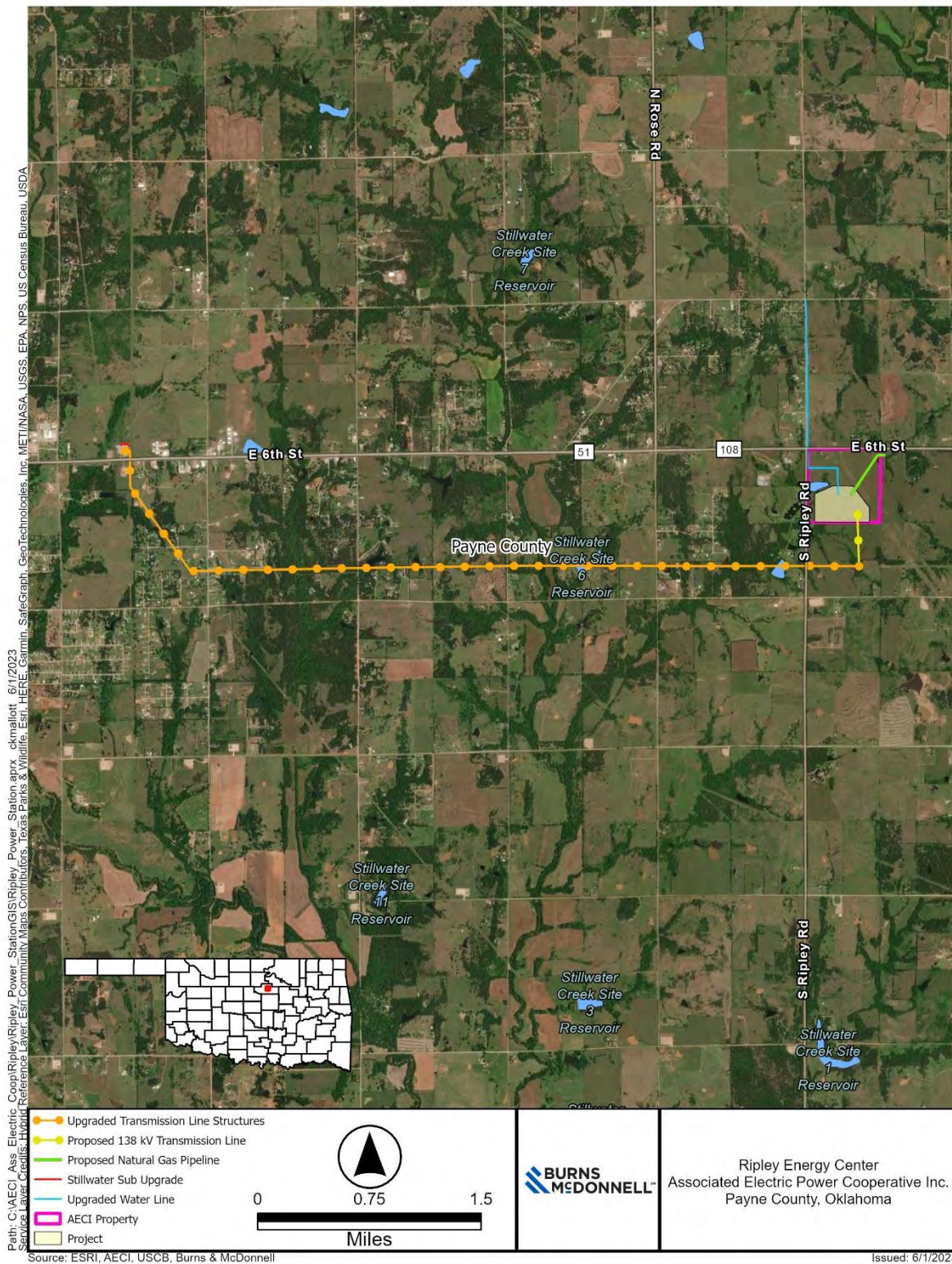
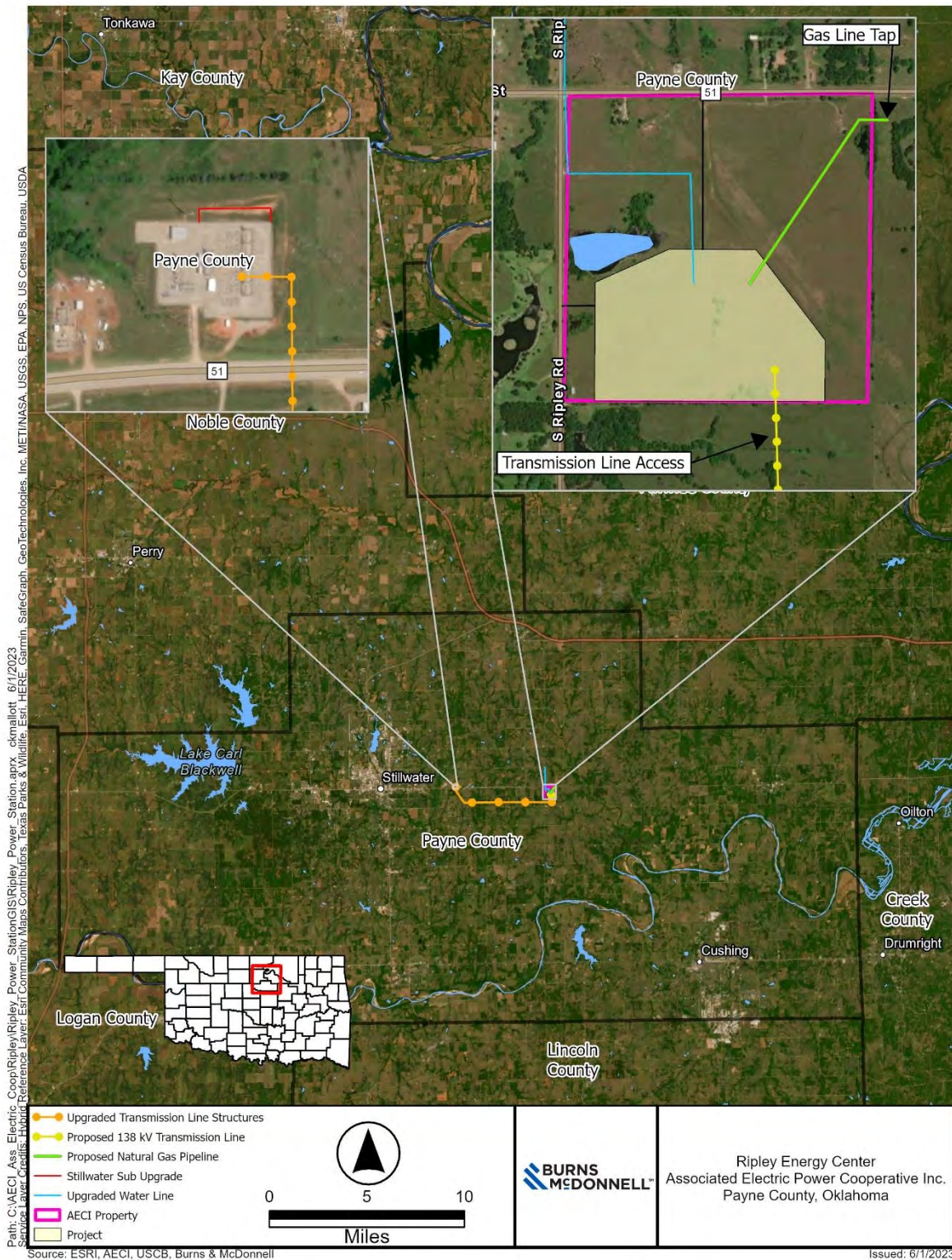


Figure 2: Project Area





Associated Electric Cooperative, Inc.

www.aeci.org • 417-881-1204 • FAX 417-885-9252
2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Stacy Riley
Acting State Conservationist
Natural Resource Conservation Service Oklahoma
100 USDA, Suite 106
Stillwater, Oklahoma 74074-2651

Re: Ripley Energy Center Environmental Assessment

Dear Stacy Riley:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

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Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

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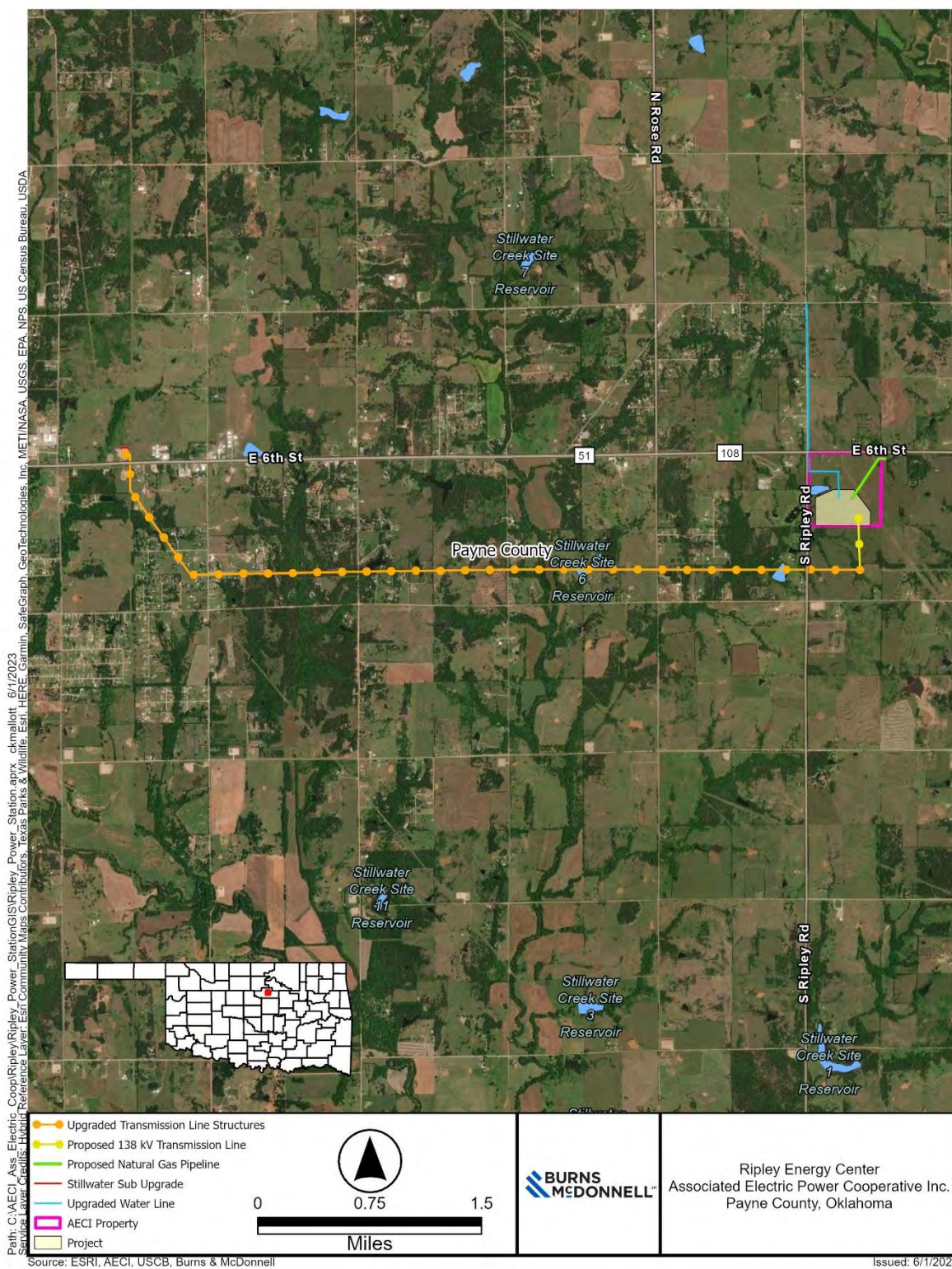


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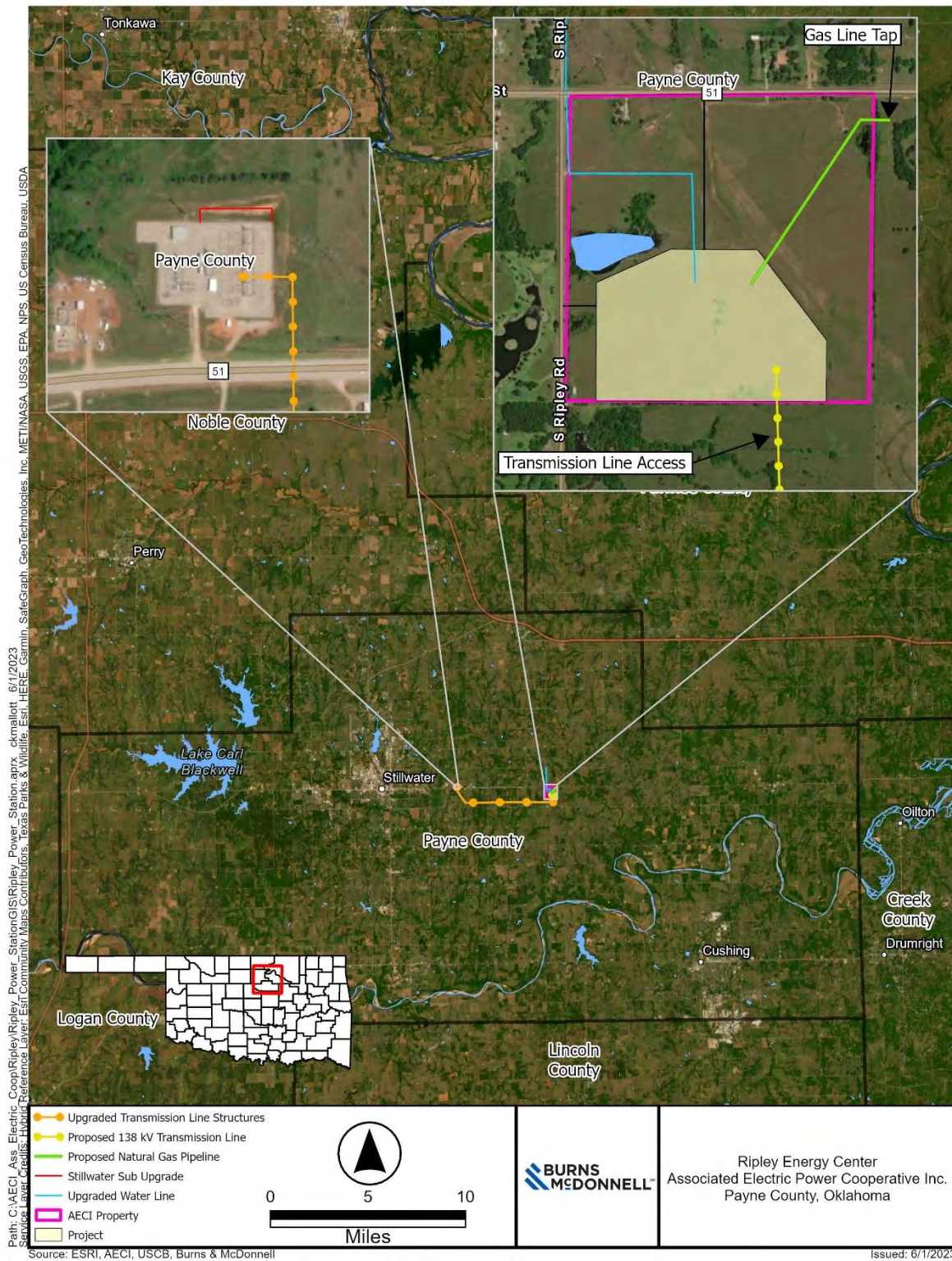
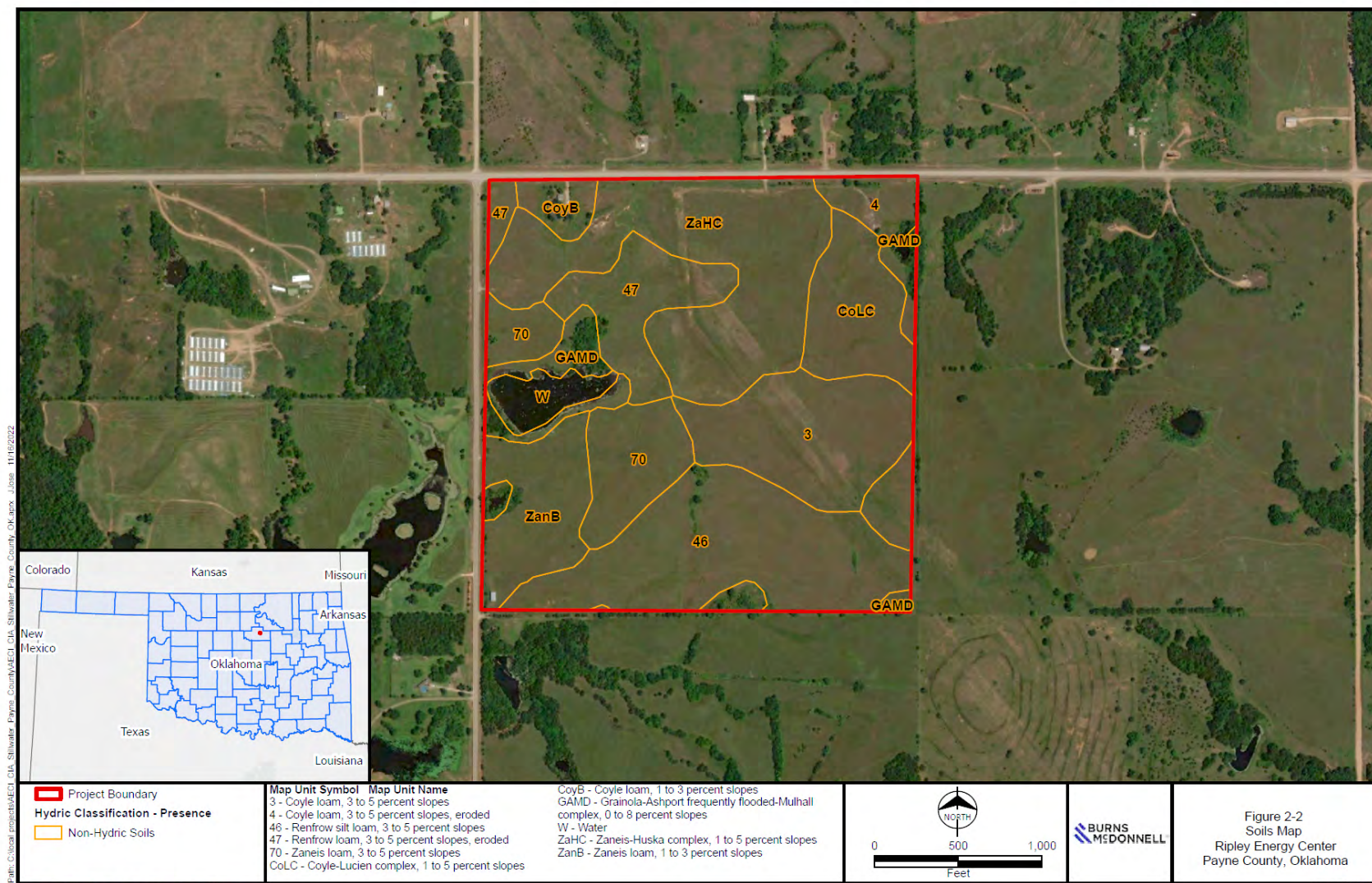


Figure 3: Soils





Associated Electric Cooperative, Inc.

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2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Chris Neel
Water Rights Administration Division Chief
Oklahoma Water Resources Board
3800 North Classen Boulevard
Oklahoma City, Oklahoma 73118

Re: Ripley Energy Center Environmental Assessment

Dear Chris:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

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The Project Boundary does not directly overlie any major or minor alluvial or bedrock aquifers as designated by Oklahoma Water Resources Board (OWRB), and therefore groundwater is not readily available. The OWRB Rural Water Systems website was accessed to determine an appropriate nearby public water source. As mentioned, an existing water pipeline crosses the Project Boundary, and the site is generally located within an existing rural water district (51 East Corp). Therefore, tapping or adding to the existing water pipeline of 51 East Corp appears to be the most viable option for the site.

The City of Stillwater's Utilities Department was contacted on December 1, 2022 by Burns & McDonnell to verify water supply availability for the Project. According to the Water Department Supervisor of Stillwater, Kelly Hitch, the City would be open to supplying the Project 300 gpm; however, this would be dependent on the water levels at the time of development.

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Also, please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

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Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

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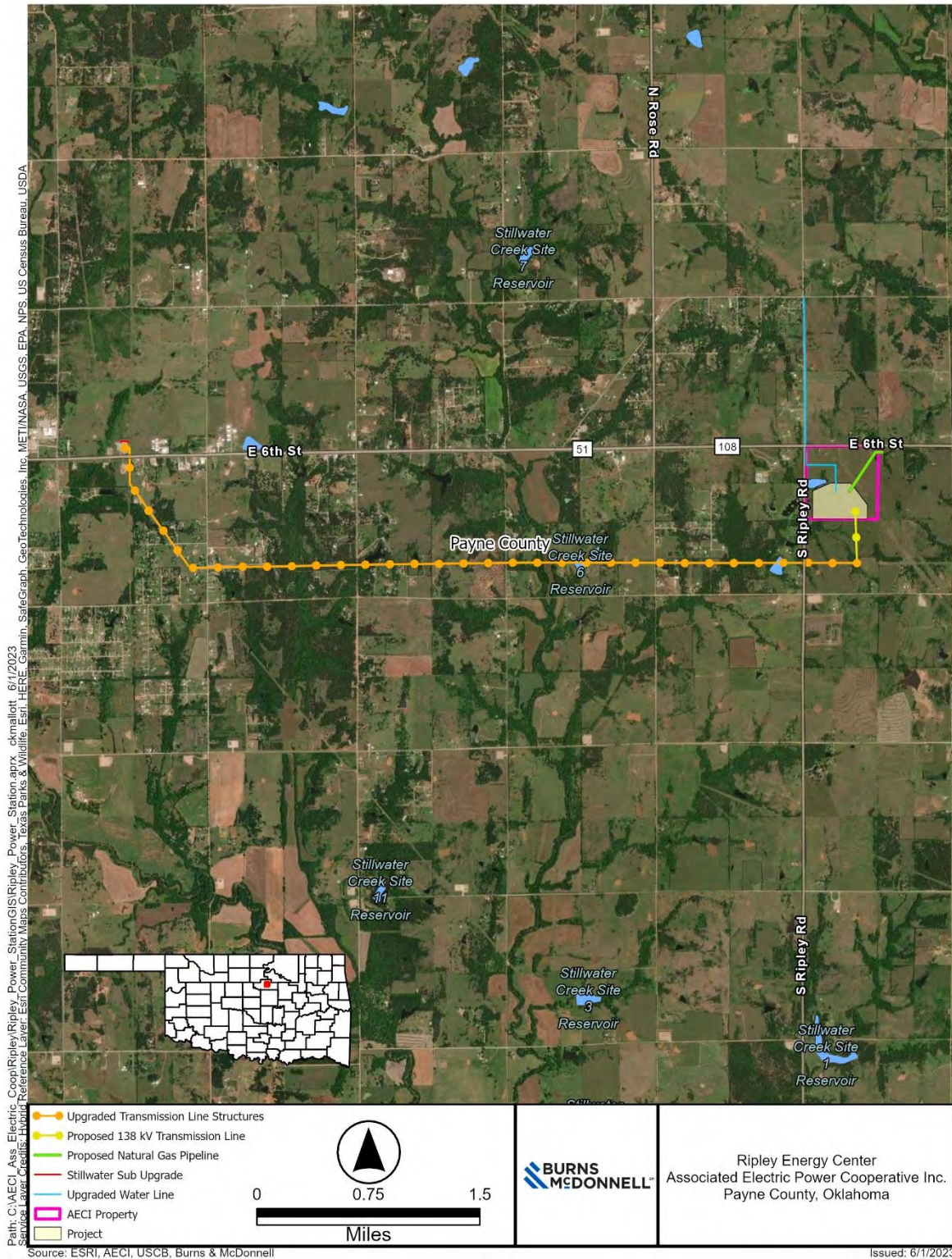
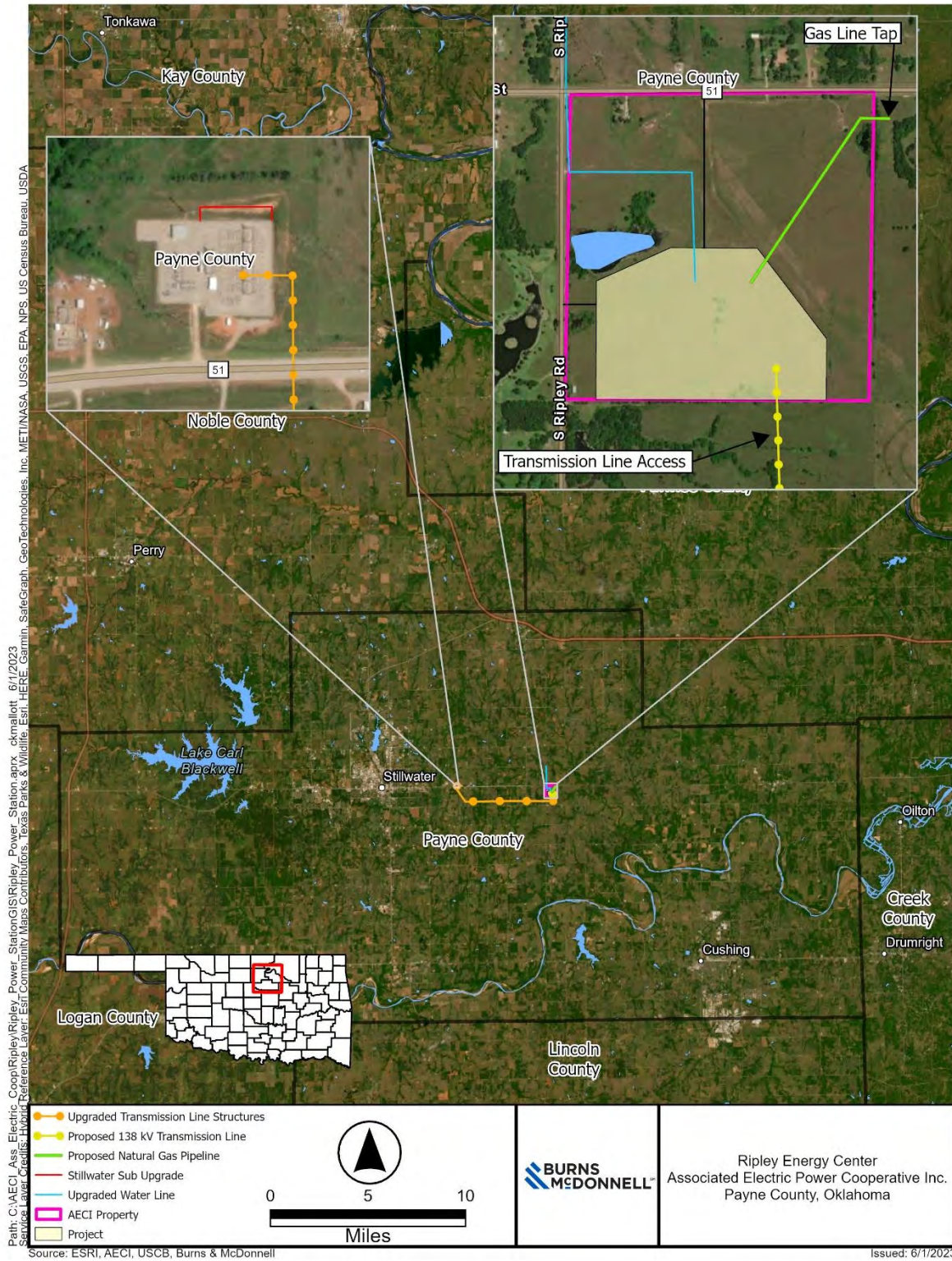


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2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Scott Thompson
Executive Director
Oklahoma Dept of Environmental Quality
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Re: Ripley Energy Center Environmental Assessment

Dear Executive Director Thompson:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

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The environmental conditions for the Project Site were reviewed extensively, providing nearby tie-in locations for the transmission line, located outside both the 100- and 500-year flood plains. Environmental justice concerns were evaluated using the EPA's EJScreen 2.0 tool. A 2-mile buffer was created around the site and a standard report containing 19 environmental and socioeconomic indexes was generated. All reported indexes had average to low percentiles indicating that there are no environmental justice concerns for the project site. As part of the design and environmental process, AECI will utilize a permitting matrix to identify any local, state, or Federal permits needed for project completion. Desktop-level studies were performed to determine the need for further evaluation or permitting at the project location. Table 1, below, summarizes the screening -level findings from those studies. Identified permits needed for the Project currently include an air permit, wetland permit (Clean Water Act Section 404), and National Pollution Discharge Elimination Systems (NPDES) construction stormwater permits, as well as Federal Aviation Administration notifications and other appropriate local permitting and licensing.

Table 1: Site Assessment Summary

Parameter	Site Assessment Summary
Location	Oklahoma / Payne County
Site Latitude / Longitude	36°6'46.73"N / 96°54'12.68"W (approximate center point of Project)
Total Project Boundary	152 acres
Public Lands and Conservation Easements	0 acres
Cultural Resources	No archeological sites have been recorded within the Project Boundary. Several linear pipeline surveys have occurred in the Project Boundary. The Project Area has low potential to contain prehistoric archeological sites.
Wetlands	3.3 acres
Waterbodies	<0.1 acre
Water Supply	Wells are likely not capable of providing sufficient quantity, but a pipeline traverses site and the City of Stillwater can provide sufficient water via pipeline.
FEMA Flood Zones	0 acres
Land Use	Five land use types, including grassland/herbaceous
Soils	No hydric soils within the Project Boundary.
Rare, Threatened, and Endangered Species	Seven federally listed species are known or likely to occur in the Project Boundary. Critical habitat does not appear to occur at or in the vicinity of the Project Boundary.
Air Quality	Area is unclassified/in attainment. All emissions will be limited such that the facility will comply with EPA and state requirements. Current estimates for greenhouse gas emissions indicate the facility would not exceed 600,000 metric tons of CO ₂ . ¹
Environmental Justice	EJScreen 2.0 results indicate low – average percentile for each index

¹ Based on 50% capacity factor per year. Facility will be limited by NSPS TTTT to less than reflected value.

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Also, please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

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U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

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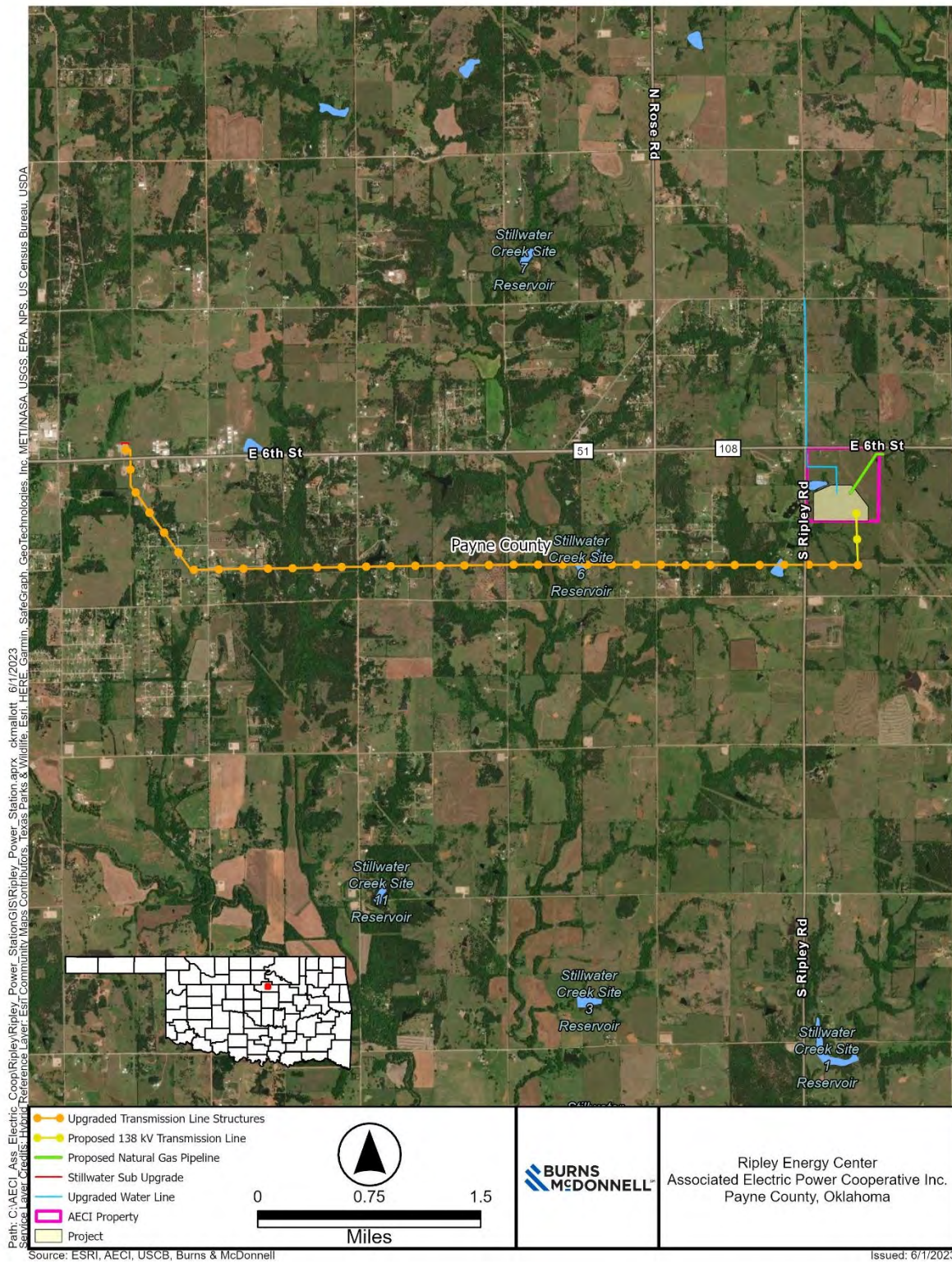
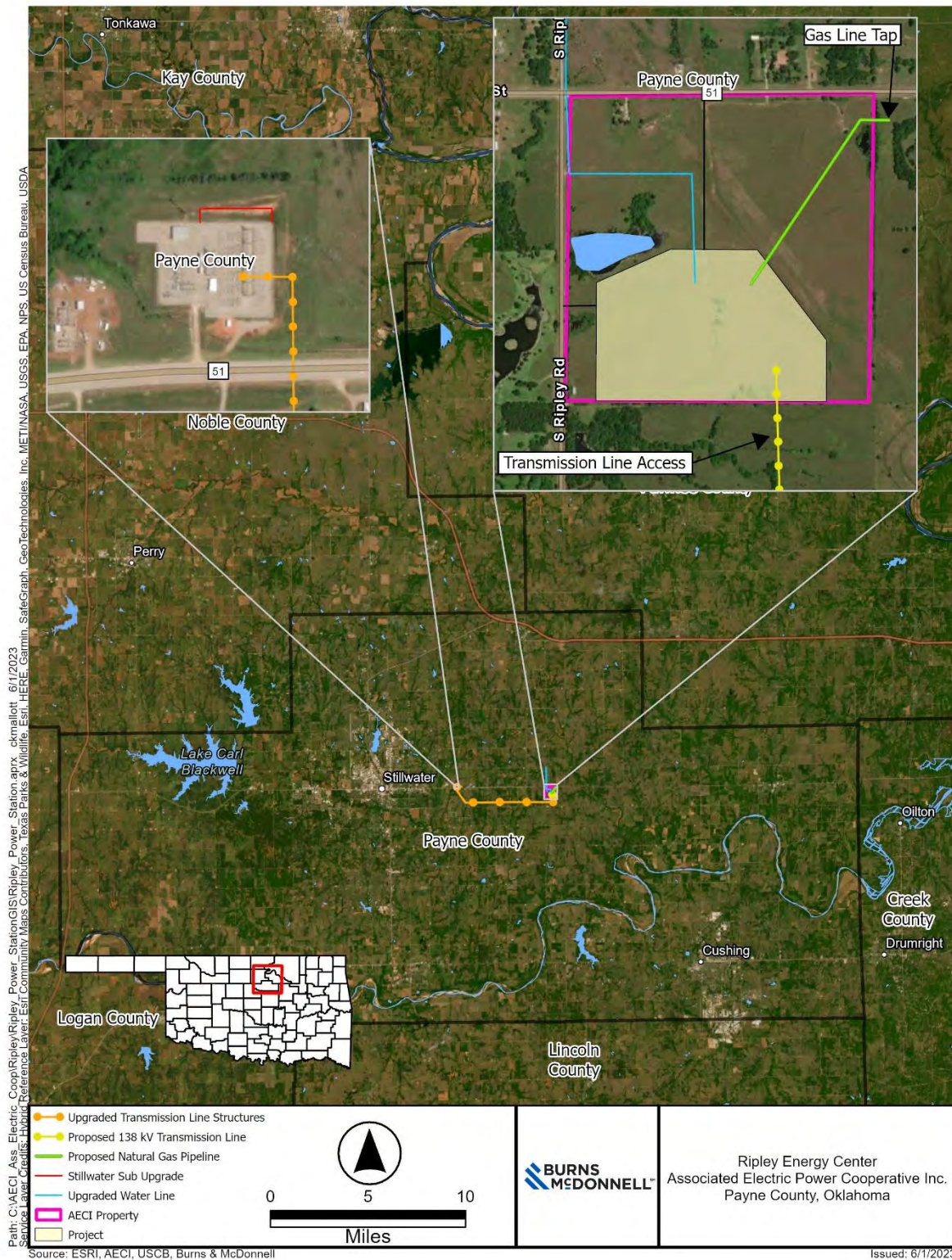


Figure 2: Project Area



Howell, Chris

From: DEQ EnvReviews <EnvReviews@deq.ok.gov>
Sent: Friday, June 16, 2023 7:29 AM
To: Howell, Chris
Cc: Lloyd Kirk
Subject: Environmental Impact Review

Dear Mr. Howell:

In response to your request, we have completed a general environmental impact review for the project listed below.

Project

Letter dated June 8, 2022 – Ripley Center Environmental Assessment, Payne County, OK [36.11298, -96.90352]

Adverse Environmental Impacts Under DEQ Jurisdiction

None anticipated.

Additional Regulatory Considerations

- A. It appears this facility will require an air permit from DEQ's Air Quality Division. Please contact Richard Kienlen or Phillip Fielder at 405-702-4100 for an applicability determination.
- B. Prior to beginning any construction activity disturbing more than one acre, you must submit an NOI and obtain authorization under OKR10, construction stormwater. If you need assistance, please contact DEQ's Stormwater Unit at (405) 702-6100.
- C. With respect to City of Stillwater water supply, please note that water and wastewater infrastructure projects that will require a construction permit from DEQ's Water Quality Division include the following:
 - Construction of new water and wastewater treatment facilities;
 - Modifications and upgrades to existing facilities;
 - Construction of new water distribution and wastewater collection lines;
 - Relocation of existing water distribution and wastewater collection lines.

Projects that do not require a construction permit include:

- Replacement of existing equipment with same type and size equipment;
- Replacement of existing water and wastewater lines with the same size line in the same location.

Please contact DEQ's Water Quality Division (Construction Permitting Section) if you have specific questions about these projects or need further clarification. Rocky Chen is the Manager of this section and can be reached at (405) 702-8140 or rocky.chen@deq.ok.gov.

- D. If a Section 404 permit is required for this project, then you must obtain a Section 401 Water Quality Certification from DEQ. Contact Elena Jigoulina in our Water Quality Division at (405) 702-8200 for questions regarding the 401 Certification.

Note: This is a summary of the most common regulatory requirements that may be applicable to your project. Other regulatory requirements may apply.

Additional recommendations to consider may be found in our guidance document, [Additional Recommendations for Your Project](#).

Thank you for the opportunity to provide our comments. If you have any questions or need clarification, please contact me.

Sincerely,

Jon Roberts | Env. Programs Manager III

Office of Continuous Improvement | Department of Environmental Quality

p. 405-702-7111

Oklahoma.gov | deq.ok.gov



True North: To lead the nation in fostering a healthy and sustainable future through effective and innovative environmental actions.



Associated Electric Cooperative, Inc.

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2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

Dawn Sullivan
Deputy Director
Oklahoma Dept. of Transportation
200 N.E. 21st Street
Tulsa, Oklahoma 74137

Re: Ripley Energy Center Environmental Assessment

Dear Director Sullivan:

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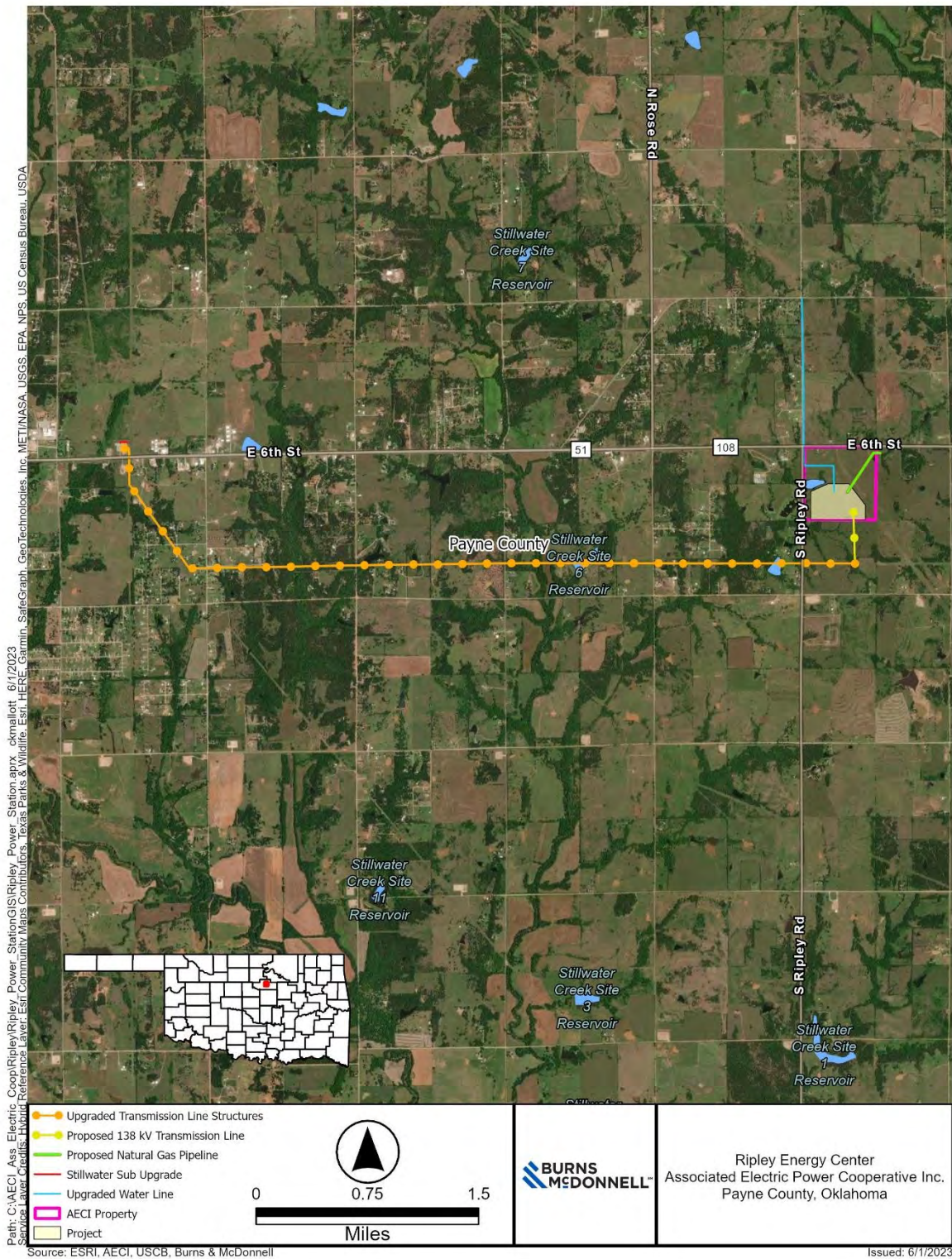
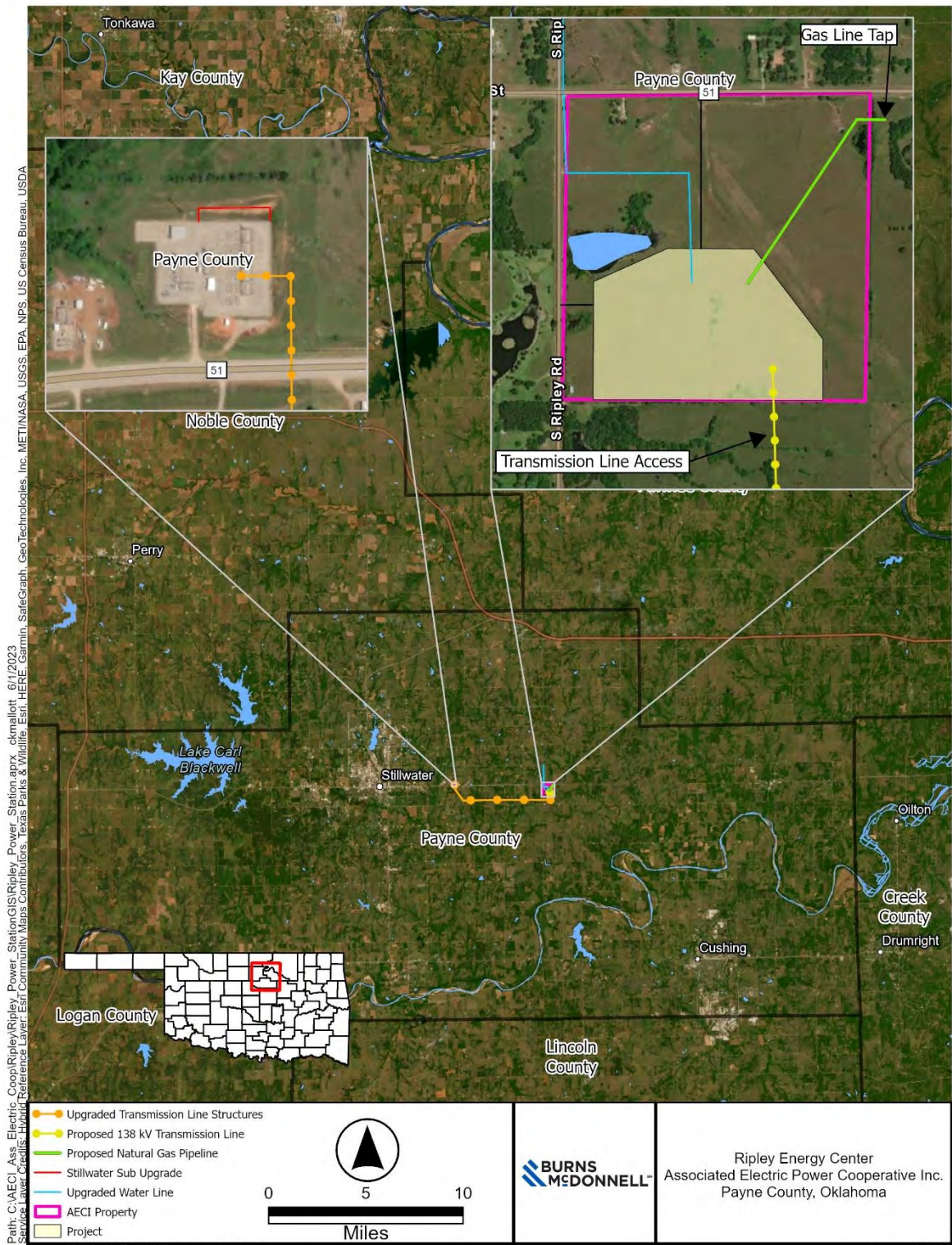


Figure 2: Project Area



From: Emily Pehrson <Emily.Pehrson@odot.ok.gov>

Sent: Tuesday, June 20, 2023 2:21 PM

To: Mallott, Chris <ckmallott@burnsmcd.com>; Howell, Chris <chowell@burnsmcd.com>

Cc: Matthew Mitchell <MMITCHELL@ODOT.ORG>

Subject: Ripley Energy Center Environmental Assessment

All,

ODOT does not have any conflicting construction projects in this area. You will need to go through the proper permit process for crossing SH-51 and SH-108 to avoid future conflicts. If you have any questions, please contact Matt Mitchell (cc'd).

Respectfully,

Emily Pehrson
Project Management, ODOT
(405) 343-5797



June 8, 2023

Kansas City District
U.S. Army Corp of Engineers
2488 81st Street
Tulsa, Oklahoma 74137

Re: Ripley Energy Center Environmental Assessment

Dear Sir or Madam:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

The Project would be located in Payne County, Oklahoma (Project Site). AECI owns 160 acres of agricultural land at the Project Site as shown in **Figure 1** and **Figure 2**. Approximately 50 acres would be disturbed with approximately 40 acres ultimately being fenced. **Figure 2** provides a map of the project area. The Project would consist of a single Advanced Class simple-cycle gas turbine generator and associated equipment with a nominal capacity of 420-445 MW. The Project would burn natural gas with the capability to use fuel oil as a backup and employ selective catalytic reduction (SCR) technology to control emissions of nitrogen oxides. A new 0.5-mile-long transmission line, likely consisting of a single-circuit 138kV line, will be constructed to access the existing transmission line right-of-way near the site. From that location, 5.5 miles of the existing transmission line structures will be rebuilt to carry a double circuit in the existing right-of-way to the existing Stillwater Substation, which will receive minimal upgrades to receive the line. A potential addition for the project is photovoltaic solar panels tied into the same switchyard as the new turbine.

A new natural gas lateral would be constructed to supply fuel to the project. The new 8-inch lateral would be approximately 3,000 feet long with only 120 feet offsite and extend from the Project to a tap point on the directly adjacent Enable Oklahoma Intrastate Transmission, LLC (EOIT) pipeline. Also, the project will require a new 8-inch high-density polyethylene (HDPE) water line approximately a mile in length, to replace an existing water line. The water line will be tapped onsite. If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

A desktop assessment of National Wetland Inventory ("NWI") (USFWS, 2022b) data indicates the potential presence of riverine wetlands within the proposed Project Boundary. The wetlands in the vicinity of the Project were photo interpreted by the USFWS NWI program using color infrared imagery from 1981. A total of 3.3 acres of NWI freshwater ponds ("PUB") and less than 0.1 acre of riverine wetlands are mapped within the proposed Project Boundary, representing well less than 1 percent of the total acreage. The National Hydrography Dataset also shows there is one stream within the Project Boundary. A field survey would likely be necessary to determine if onsite wetlands are present that would be under the jurisdiction of the U.S. Army Corp of Engineers or the State of Oklahoma. If the wetlands are jurisdictional and cannot be avoided, then permits would likely be required. Wetland impacts would likely need to be mitigated. Conscious design decisions will help avoid these to the largest extent practical.

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Also, please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

Contact Information

U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

Enclosure(s) Figure 1: AECl Property
 Figure 2: Project Area

CC: Everett Bole, RUS
 Kate Moore, RUS
 Mark Viguet, AECl
 Chris Howell, Burns & McDonnell

Figure 1: AECl Property

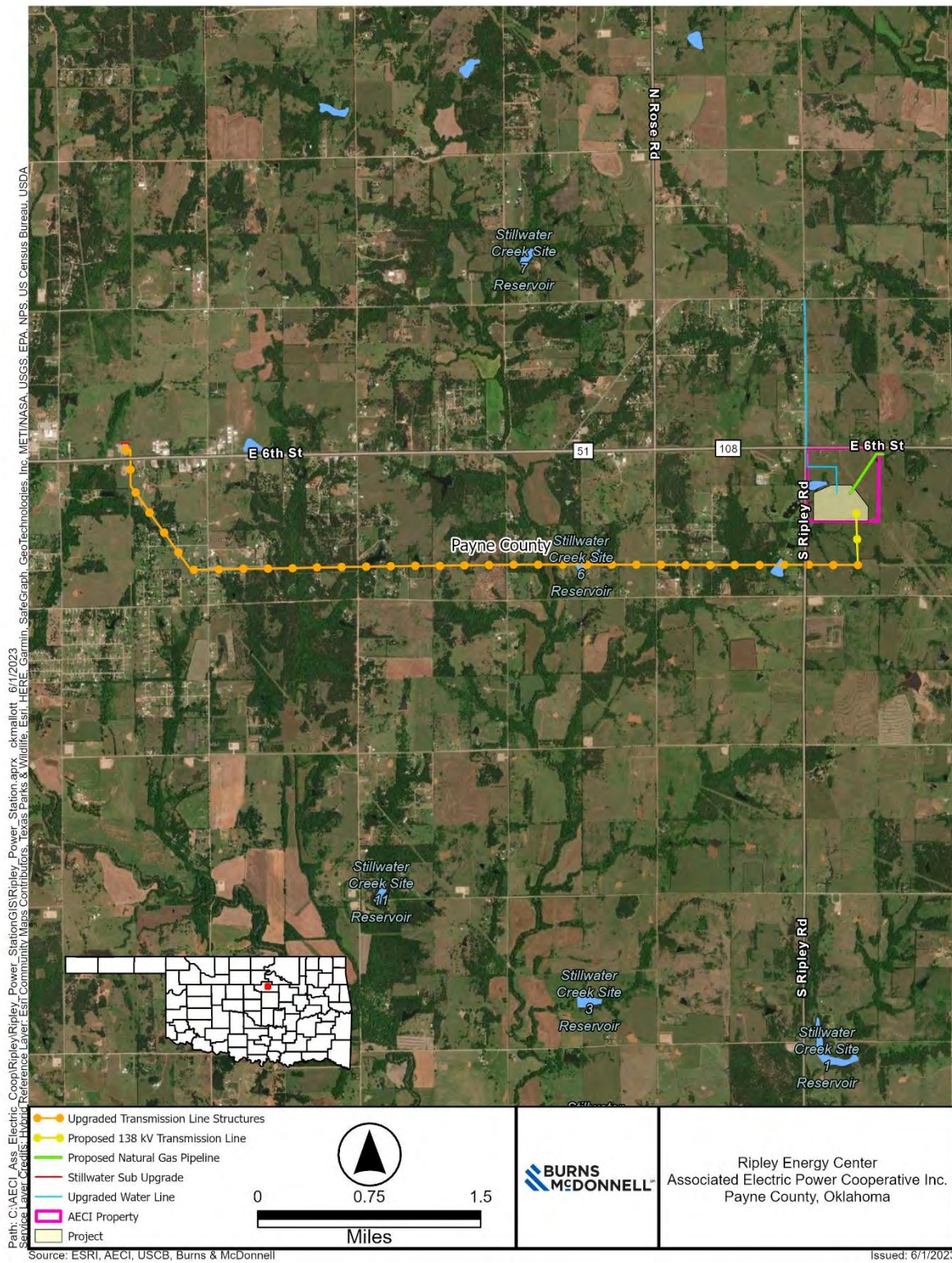
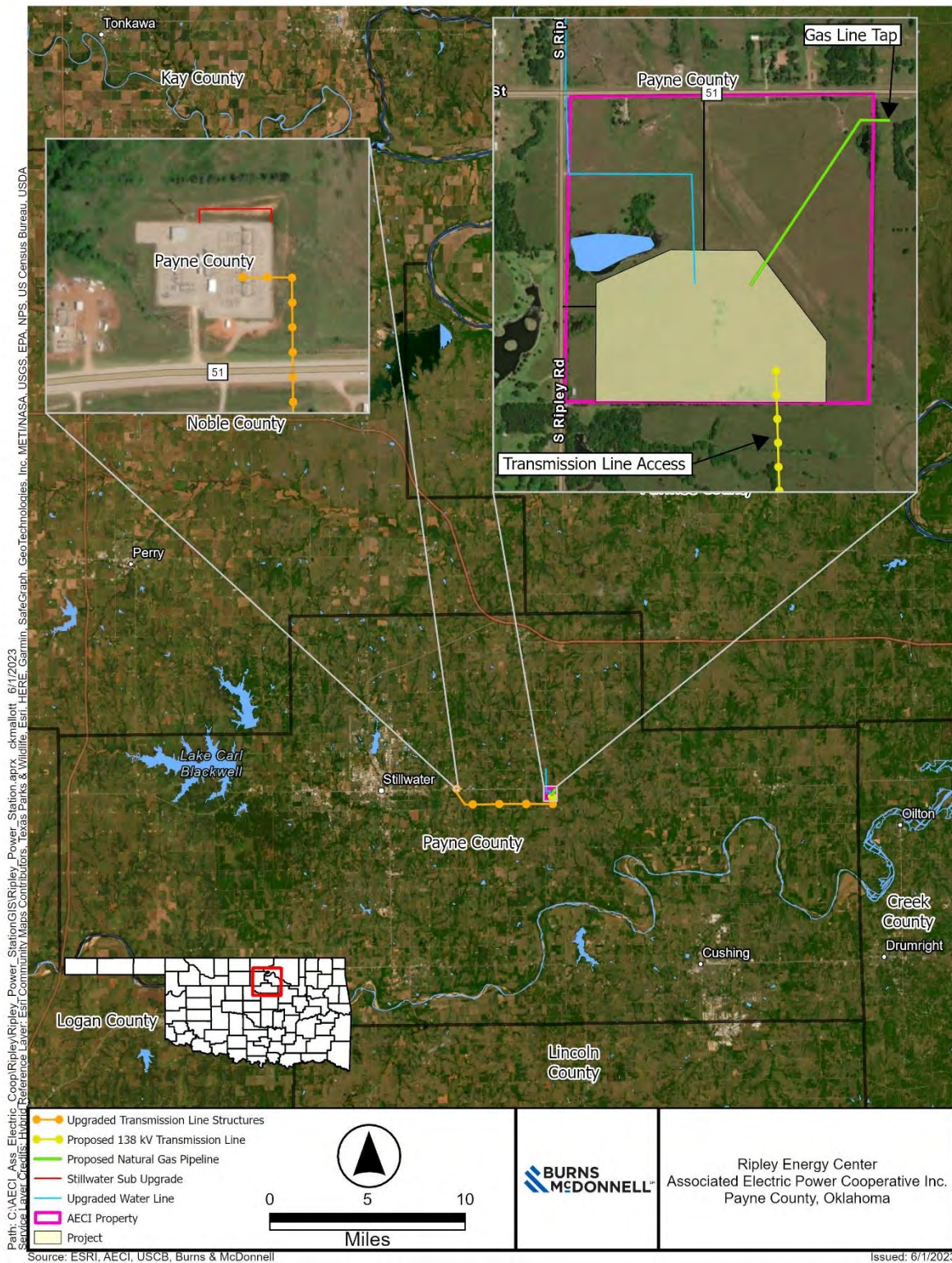


Figure 2: Project Area





DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
2488 EAST 81ST STREET
TULSA, OKLAHOMA 74137-4290

May 1, 2024

Regulatory Office

Mr. Rob LeForce
Associated Electric Cooperative, Inc.
2814 South Golden Avenue
Springfield, MO 65807

Dear Mr. LeForce:

Please reference your correspondence concerning an approved jurisdictional determination request for a 155 acres review area. The review area is located at latitude 36.11265, longitude -96.903884, Payne County, Oklahoma. The area marked in red on the enclosed map denotes the approximate limits of the property examined under this request. We have reviewed the submitted data relative to Section 404 of the Clean Water Act (CWA).

We have examined the review area (depicted in red) and concluded that the site contains four non-jurisdictional aquatic resources, depicted as yellow. A permit would not be required within this site.

Although Section 404 of the CWA authorization may not be required, this does not preclude the possibility that a real estate interest or other Federal, State, or local permits may be required.

This final determination constitutes an approved JD subject to the optional Corps Administrative Appeal Process. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed is a copy of the "Notification of Administrative Appeal Options and Process and Request for Appeal (RFA)" form. If you request to appeal this determination you must submit a completed RFA form to the Southwestern Division Office at the following address:

Mr. Jamie Hyslop
Appeals Review Officer
U.S. Army Corps of Engineers
1100 Commerce Street, Suite 831
Dallas, TX 75242 1317
Tel: 469 487 7061
Fax: 469-487-7199

In order for a RFA form to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date of the RFA form. Should you decide to submit a RFA form, it must be received at the above address by June 30, 2024. It is not necessary to submit a RFA form to the Division Office if you do not object to the determination in this letter.

We believe this determination to be an accurate assessment of the presence of jurisdictional wetlands and other waters on the site which are subject to Section 404 of the CWA. This is a final determination of federal jurisdiction on the property pursuant to Section 404 of the CWA. This determination is valid for 5 years from the date of this letter unless new information warrants revision of the determination before the expiration date.

This delineation has been conducted to identify the limits of the Corps CWA jurisdiction for the particular site identified in this request. This delineation may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

If you desire to complete a "Customer Service Survey" on your experience with the Corps Regulatory Program, visit http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey on the internet at your convenience and submit your comments.

This case has been assigned Identification No. SWT-2024-060. Please refer to this number during any future correspondence. If you have any questions, please contact Mr. Bryan Noblitt at 918-669-4904.

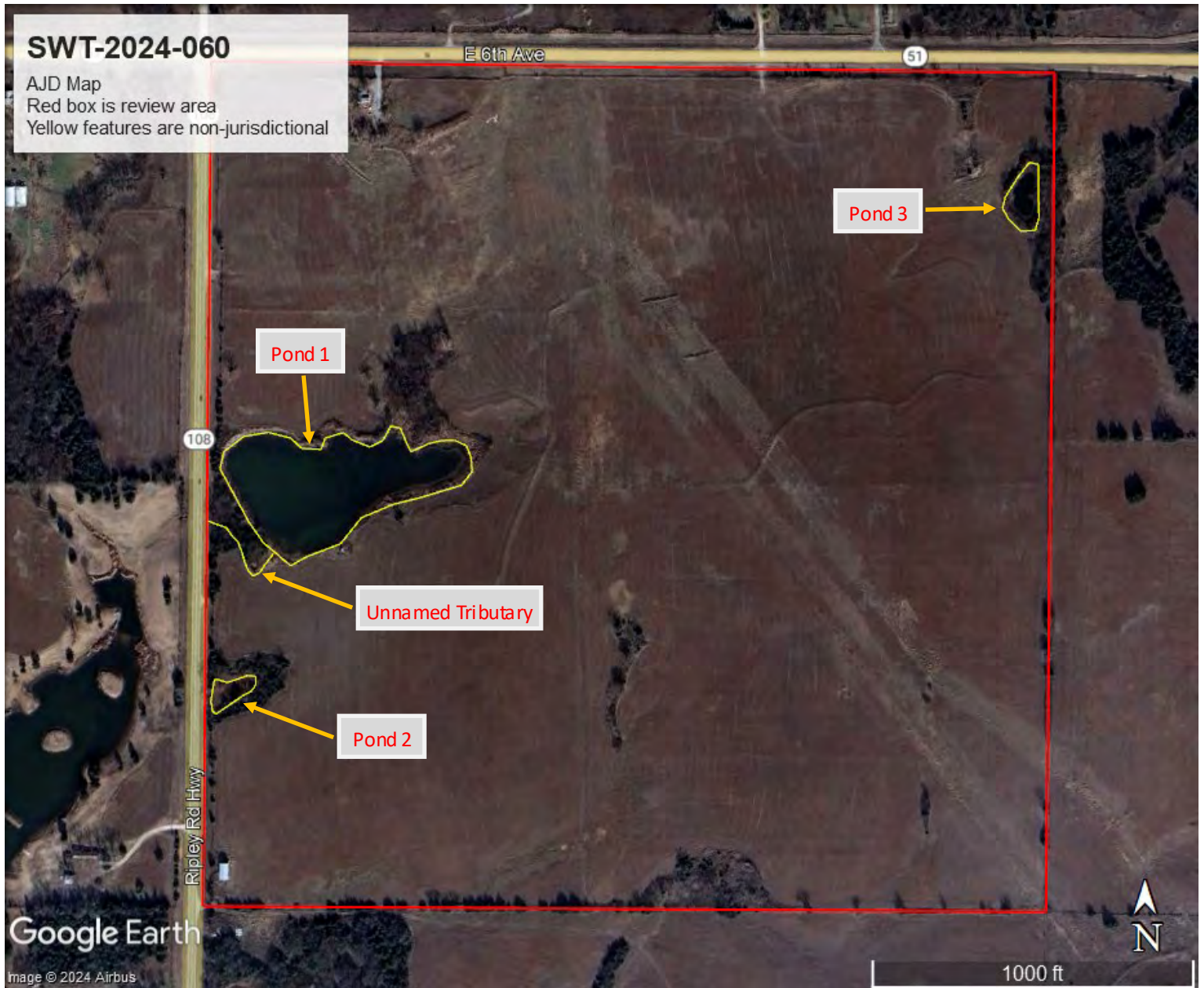
Sincerely,

Andrew R. Commer
Chief, Regulatory Office

Enclosures

SWT-2024-060

AJD MAP





Associated Electric Cooperative, Inc.

www.aeci.org • 417-881-1204 • FAX 417-885-9252
2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

June 8, 2023

U.S. Fish and Wildlife
Oklahoma Ecological Service Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129-1428

Re: Ripley Energy Center Environmental Assessment

Dear Sir or Madam:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development, Rural Utilities Service (RUS) under the RUS Electric Program for the for the Ripley Energy Center, a new natural gas-fired, simple-cycle electric generating facility (Project). In anticipation of National Environmental Policy Act (NEPA), Clean Air Act, Endangered Species Act, and National Historic Preservation Act compliance, the purpose of this letter is to introduce the Project and gather information from your office on preliminary concerns, if any, for consideration in this compliance process. RUS has determined that an Environmental Assessment (EA) is the appropriate NEPA class of action for this Project pursuant to 7 Code of Federal Regulations § 1970.101. RUS has delegated transmittal of Agency Scoping letters to AECI and their consultant Burns & McDonnell per 7 CFR 1970.5(b)(2). This letter serves to notify you of the Project and to request your input.

The Project would be located in Payne County, Oklahoma (Project Site). AECI owns 160 acres of agricultural land at the Project Site as shown in **Figure 1** and **Figure 2**. Approximately 50 acres would be disturbed with approximately 40 acres ultimately being fenced. **Figure 2** provides a map of the project area. The Project would consist of a single Advanced Class simple-cycle gas turbine generator and associated equipment with a nominal capacity of 420-445 MW. The Project would burn natural gas with the capability to use fuel oil as a backup and employ selective catalytic reduction (SCR) technology to control emissions of nitrogen oxides. A new 0.5-mile-long transmission line, likely consisting of a single-circuit 138kV line, will be constructed to access the existing transmission line right-of-way near the site. From that location, 5.5 miles of the existing transmission line structures will be rebuilt to carry a double circuit in the existing right-of-way to the existing Stillwater Substation, which will receive minimal upgrades to receive the line. A potential addition for the project is photovoltaic solar panels tied into the same switchyard as the new turbine.

A new natural gas lateral would be constructed to supply fuel to the project. The new 8-inch lateral would be approximately 3,000 feet long with only 120 feet offsite and extend from the Project to a tap point on the directly adjacent Enable Oklahoma Intrastate Transmission, LLC (EOIT) pipeline. Also, the project will require a new 8-inch high-density polyethylene (HDPE) water line approximately a mile in length, to replace an existing water line. The water line will be tapped onsite. If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

According to the USFWS, Information, Planning, and Consultation System (IPaC) website and the Oklahoma Natural Heritage Inventory (ONHI) seven federally listed species, five threatened and two endangered, are known or likely to occur in Payne County and in the vicinity of the Project Site (Table 1). Final critical habitat for federally protected species has not been designated by the USFWS in the vicinity of the Site.

Table 1: Federally Threatened and Endangered Species Known or Likely to Occur in Payne Co, Oklahoma

Species	Habitat	State Status	Federal Status
Birds			
Piping Plover (<i>Charadrius melodus</i>)	Along sparsely vegetated shorelines of rivers and lakes	NA	Threatened
Red Knot (<i>Calidris canutus rufa</i>)	Breed on dry tundra slopes with minimal tree coverage	NA	Threatened
Whooping Crane (<i>Grus americana</i>)	Wetland areas with shallow open water and relatively little nearby development or activity	NA	Endangered
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	Smaller riparian patches, second-growth forests and woodlands, hedgerows, and forest edges	NA	Threatened
Fish			
Arkansas River Speckled Chub (<i>Macrhybopsis tetranema</i>)	Main channels of wide, shallow, sandy bottomed rivers and larger streams of the Arkansas River basin	NA	Endangered

The Applicant requests your review of this Project and asks that you provide information on any concerns, resources, or potential impacts that you believe the forthcoming EA should address. We would appreciate any recommendations you may have to mitigate or avoid environmental impacts. Also, please share any information regarding additional review requirements that your agency may have. We would appreciate a response within 30 days of your receipt of this request. To send comments or request further information, please contact Chris Howell at Burns & McDonnell Engineering Company, Inc. using one of the methods listed below, mentioning the proposed Ripley Energy Center Project.

Contact Information

U.S. Postal Service	9400 Ward Parkway Kansas City, MO. 64114
Email	chowell@burnsmcd.com
Telephone Hotline	(816) 822-4243

Sincerely,



Rob LeForce, B.W.
Environmental Analyst, Land and Water Resources

Enclosure(s) Figure 1: AECl Property
 Figure 2: Project Area

CC: Everett Bole, RUS
 Kate Moore, RUS
 Mark Viguet, AECl
 Chris Howell, Burns & McDonnell

Figure 1: AECl Property

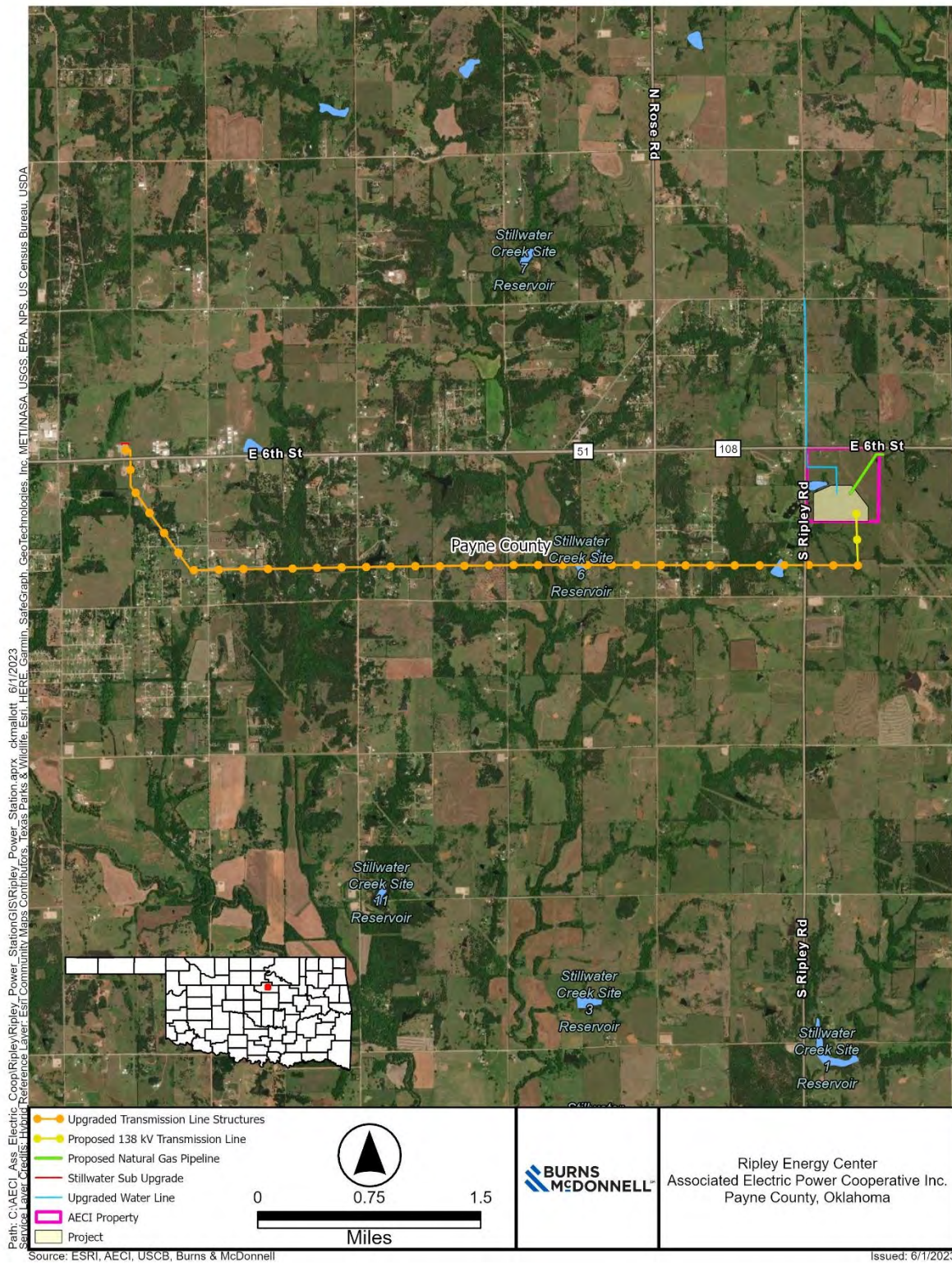
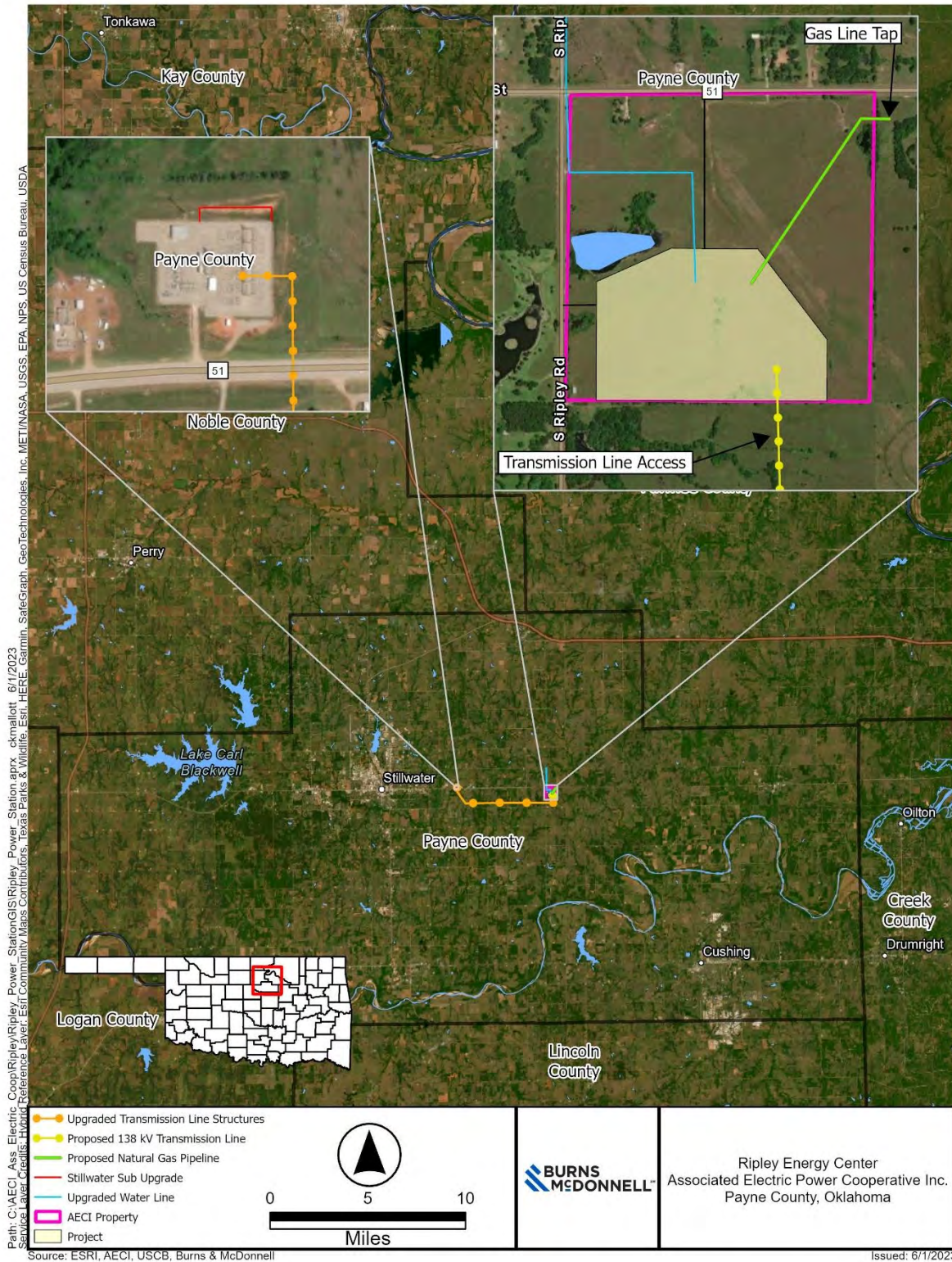


Figure 2: Project Area



Re: [EXTERNAL] Reference: Ripley Energy Center Environmental Assessment

Levesque, Laurence P <laurence_levesque@fws.gov>

on behalf of

OK Project Review, FWS <OKProjectReview@fws.gov>

Thu 6/29/2023 3:16 PM

To: Howell, Chris <chowell@burnsmcd.com>

Cc: Mallott, Chris <ckmallott@burnsmcd.com>

Chris,

The United States Fish and Wildlife Service (Service) has received your inquiry regarding impacts of your project on resources under the authority of the Service. Under the Endangered Species Act (Act) of 1973, as amended, projects with a potential to impact threatened or endangered species are directed to consult with the Service. A project proponent reviews what threatened and endangered species occur within their project area and then makes an effects determination for each species and designated critical habitat (an unique designation under the Act). The project details and species conclusions/justifications are then sent to the Service for review. The Service does not initially review projects for proponents and make the determination for them, rather we may concur with a determination once it is made by the project proponent.

The Service, in order to better assist entities in Oklahoma, has developed an online review process and email address. This process can be found at:

<https://www.fws.gov/office/oklahoma-ecological-services/project-reviews>

In order to determine federally listed threatened and endangered species that may occur within you project area, the Service has also developed an Information, Planning and Conservation (IPaC) website. The website where you can generate that list can be found at: <https://ecos.fws.gov/ipac/> Please review the process and submit through the online submission so that the Service can properly review and respond to your determination.

It was noted that you listed 2 species as threatened or endangered erroneously: the yellow-billed cuckoo is not listed and the listed chub species is the peppered chub (*Machrybopsis tetranema*) not the speckled chub (*M. aestivalis*).

If you have any questions, please do not hesitate to contact me.

Sincerely,

Laurence Levesque

From: Mallott, Chris <ckmallott@burnsmcd.com>

Sent: Thursday, June 8, 2023 6:19 PM

To: OK Project Review, FWS <OKProjectReview@fws.gov>

Cc: Rob LeForce <rleforce@aeci.org>; Howell, Chris <chowell@burnsmcd.com>; mviguet@aeci.org <mviguet@aeci.org>; Moore, Kate - RD, OK <Kate.Moore@usda.gov>

Subject: [EXTERNAL] Reference: Ripley Energy Center Environmental Assessment

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear Sir or Madam,

Associated Electric Cooperative (AECI) is preparing an environmental report (ER) to support an U.S. Department of Agriculture, Rural Utilities Service (RUS) Environmental Assessment (EA) for the proposed Ripley Energy Center. Attached to this email is a scoping letter with figures showing the Project location. Please feel free to reach out to Chris Howell at chowell@burnsmcd.com if you have any questions.

Sincerely,

Chris Mallott \ Burns & McDonnell

Assistant Environmental Scientist

o 816-237-5485

ckmallott@burnsmcd.com \ burnsmcd.com

9450 Ward Parkway \ Kansas City, MO 64114

Please consider the environment before printing this email.

Howell, Chris

From: Fullerton, Matthew R <matthew_fullerton@fws.gov>
Sent: Thursday, April 11, 2024 9:15 AM
To: Howell, Chris
Cc: Rob LeForce; Czerwien, Terry - RD, NATIONAL OFFICE; Maine, Josiah J; Stubbs, Kevin; Echo-Hawk, Patricia
Subject: Re: [EXTERNAL] Ripley Energy Center Bat Acoustic Study Plan

Hi Chris,

Thank you for submitting this bat survey report. I accept the results of the survey.

Also, since reviewing the initial survey study plan, I have taken a new position in USFWS and no longer work for the Oklahoma ES Office in Tulsa. Therefore, I have cc'd staff that you should correspond with regarding any future updates or changes (should they arise) for this project.

Thanks,

Matt Fullerton, Biologist
Renewable Energy Coordinator | Regional Bat Coordinator
U.S. Fish and Wildlife Service
Ecological Services - Environmental Review Branch
Southwest Regional Office (Region 2)

Physically located at:
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129
Office: (918) 382-4518

From: Howell, Chris <chowell@burnsmcd.com>
Sent: Wednesday, April 10, 2024 4:38 PM
To: Fullerton, Matthew R <matthew_fullerton@fws.gov>
Cc: Rob LeForce <rleforce@aeci.org>; Czerwien, Terry - RD, NATIONAL OFFICE <terry.czerwien@usda.gov>; Maine, Josiah J <jjmaine@burnsmcd.com>
Subject: RE: [EXTERNAL] Ripley Energy Center Bat Acoustic Study Plan

Good afternoon, Matt.

To follow up on this, see the attached bat survey report. Although this project “may affect” the tricolored bat, with our proposed tree clearing to be conducted during the bat offseason, it is “not going to jeopardize the existence of this species.” AECL has therefore made a “no jeopardy” determination for this project regarding the tricolored bat.

Please let me know if you have any concerns with our determination.

Have a great day!
Chris

Chris Howell

Project Manager \ Environmental Services
o 816-822-4243
chowell@burnsmcd.com \ burnsmcd.com



SUSTAINABILITY SOLUTIONS [LEARN MORE ▶](#)

From: Fullerton, Matthew R <matthew_fullerton@fws.gov>
Sent: Monday, August 7, 2023 4:24 PM
To: Maine, Josiah J <jjmaine@burnsmcd.com>
Cc: Howell, Chris <chowell@burnsmcd.com>; Rob LeForce <rleforce@aeci.org>
Subject: Re: [EXTERNAL] Ripley Energy Center Bat Acoustic Study Plan

Hi Josiah,
Thank you for submitting your bat survey study plan for review. I approve of your study plan and have no questions or comments.

Please let me know if you need anything else - looking forward to seeing your survey results!

Thanks,

Matt Fullerton
Fish and Wildlife Biologist,
Threatened and Endangered Species

U.S. Fish and Wildlife Service
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129
Email: matthew_fullerton@fws.gov
Cell: (405) 434-2780
Office: (918) 382-4518

From: Maine, Josiah J <jjmaine@burnsmcd.com>
Sent: Monday, August 7, 2023 1:09 PM
To: Fullerton, Matthew R <matthew_fullerton@fws.gov>
Cc: Howell, Chris <chowell@burnsmcd.com>; Rob LeForce <rleforce@aeci.org>
Subject: [EXTERNAL] Ripley Energy Center Bat Acoustic Study Plan

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Matt,
Please see the attached acoustic bat study plan for the Ripley Energy Center in Payne County, Oklahoma for your review. I have also attached KMZ files of the portions of the project that may involve tree clearing, the potential detector sites, and my bat resume. If you have any questions or comments, please let me know.

Thanks,

Josiah Maine

Burns & McDonnell
Senior Environmental Scientist
☎ 816-448-7519 \ 📠 785-317-1595
jjmaine@burnsmcd.com \ burnsmcd.com
9400 Ward Parkway \ Kansas City, MO 64114



Rural Development
Rural Utilities Service
1400 Independence
Ave SW, Room 2230
Stop 1570,
Washington, DC,
20250
Voice 202.695.2540
Fax 202.690.0649

June 15, 2023

Lynda Ozan
Deputy State Historic Preservation Officer
Oklahoma State Historical Preservation Office
800 Nazih Zuhdi Drive
Oklahoma City, OK 73105

Subject: United States Department of Agriculture (USDA) – Rural Development (RD) Rural
Utility Service (RUS) Staff SHPO Section 106 Initiation
Ripley Energy Center
Payne County, Oklahoma

Dear Ms. Ozan:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its Electric Program for the Proposed Ripley Energy Center (Project). This Project will not be using the NPA.¹

The Project would be located in Payne County, Oklahoma (Project Site). AECI owns 160 acres of agricultural land at the Project Site as shown in **Figure 1** and **Figure 2**. Approximately 50 acres would be disturbed with approximately 40 acres ultimately being fenced. **Figure 2** provides a map of the project area. The Project would consist of a single Advanced Class simple-cycle gas turbine generator and associated equipment with a nominal capacity of 420-445 MW. The Project would burn natural gas with the capability to use fuel oil as a backup and employ selective catalytic reduction (SCR) technology to control emissions of nitrogen oxides. A new 0.5-mile-long transmission line, likely consisting of a single-circuit 138kV line, will be constructed to access the existing transmission line right-of-way near the site. From that location, 5.5 miles of the existing transmission line structures will be rebuilt to carry a double circuit in the existing right-of-way to the existing Stillwater Substation, which will receive minimal upgrades to receive the line. A potential addition for the project is photovoltaic solar panels tied into the same switchyard as the new turbine.

A new natural gas lateral would be constructed to supply fuel to the project. The new 8-inch lateral would be approximately 3,000 feet long with only 120 feet offsite and extend from the Project to a tap point on the directly adjacent Enable Oklahoma Intrastate Transmission, LLC (EOIT) pipeline. Also, the project will require a new 8-inch high-density polyethylene (HDPE) water line approximately a mile in length, to replace an existing water line. The water line will be tapped onsite. If RUS elects to fund the Project, it will become an undertaking subject to

¹ *Nationwide Programmatic Agreement among the U.S. Department of Agriculture Rural Development Programs, National Conference of State Historic Preservation Officers, Tribal Signatories, and The Advisory Council on Historic Preservation for Sequencing Section 106 (NPA).*

review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

Burns & McDonnell Engineering Company, Inc. archeologists conducted an examination of the records at the Oklahoma Archeological Survey (OAS) to identify previously recorded archeological sites and previously conducted cultural resources surveys, and the National Park Service's online database for NRHP-listed properties and districts within the Project Area. The background review also included an examination of current and historic-age USGS topographic maps, the National Resource Conservation Service Soil Web, and aerial imagery provided by Nationwide Environmental Title Research (NETR) to assess the potential for previously unrecorded cultural resources within the Project Area. Based on the review of the OAS records and NRHP database, no sites or NRHP properties or districts are within the Project Area. Several linear pipeline surveys cross the Project Area from the northwest to the southeast. Field verification surveys will be conducted to confirm no NRHP sites are present.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, AECL proposes that the APE for the referenced project consists of the 0.5-mile transmission line, 120-foot natural gas pipeline, 1-mile water line, and the approximately 38 acres where the site would be located, as shown in the enclosed maps. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.3(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

On 6/8/2023 the following Indian tribes were notified about the Ripley Energy Center Project:

- Apache Tribe of Oklahoma
- Cherokee Nation
- Cheyenne and Arapaho Tribes, Oklahoma
- Muscogee Creek Nation
- Osage Nation
- Otoe-Missouria Tribe of Indians, Oklahoma
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco, Tawakonie), Oklahoma.

Please review the Project and enclosed maps. After completing your review, please provide RUS with your recommendation(s) about whether or not a study of the APE is needed to identify potentially affected historic properties. If you recommend a study, please explain the nature and scope of the proposed investigation, specifically in reference to those factors identified in 36 CFR § 800.4(b)(1). If you do not recommend a study or require additional information, please provide a proposed finding of no historic properties affected or no adverse effect.

Please submit your recommendations, request for additional information, or a proposed finding, **electronically** within 30 days of your receipt of this request to RUS. If no timely response is received, RUS will determine how to proceed with Section 106 review in accordance with 36 CFR § 800.3(b)(4). Should you have any questions, please contact Kate Moore at kate.moore@usda.gov.

Sincerely,

Kate Moore
Archaeologist
RUS/Environmental and Historic Preservation Division

Enclosure(s) Figure 1: AECl Property
 Figure 2: Project Area

CC: Everett Bole, RUS
 Rob LeForce, AECl
 Mark Viguet, AECl
 Chris Howell, Burns & McDonnell

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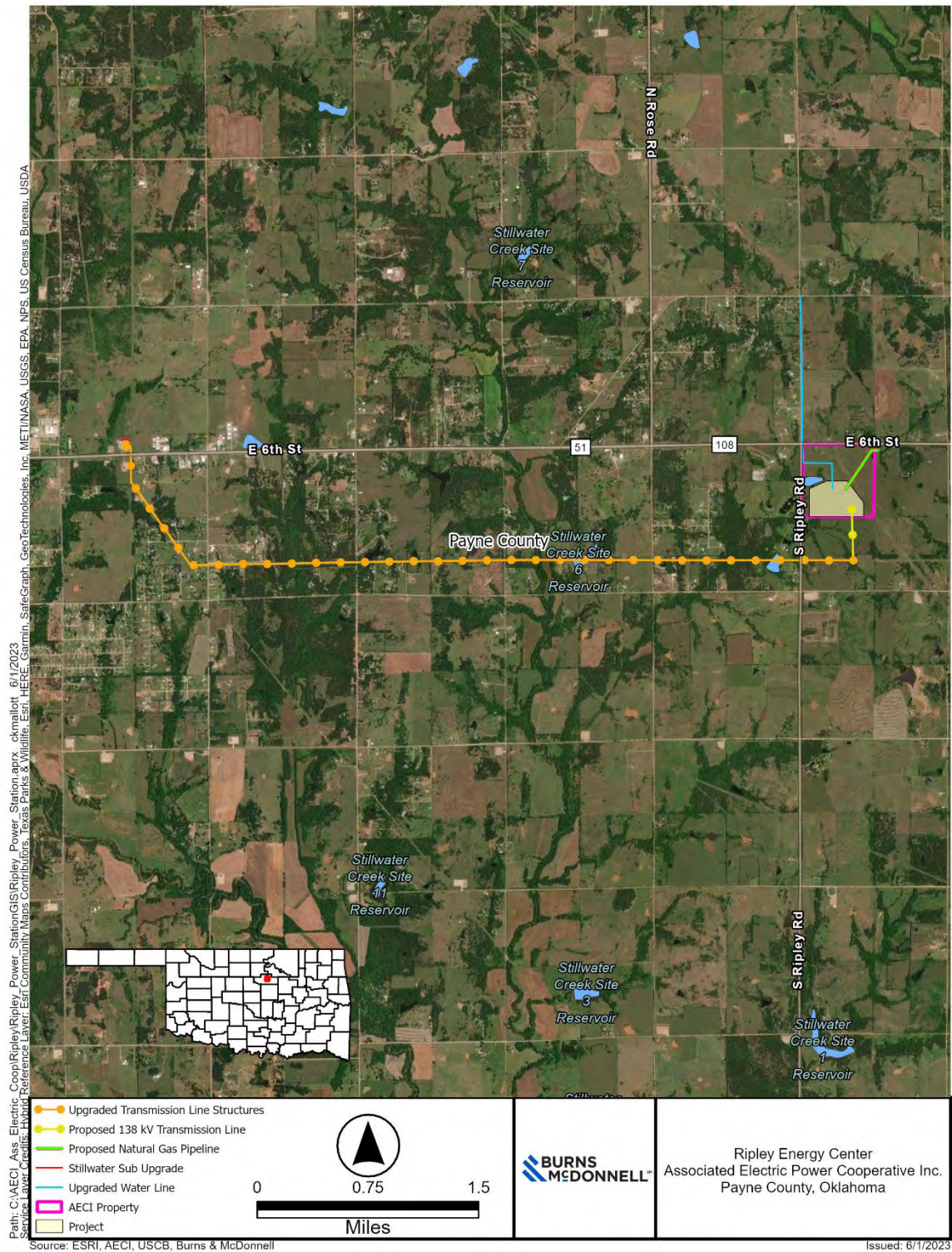
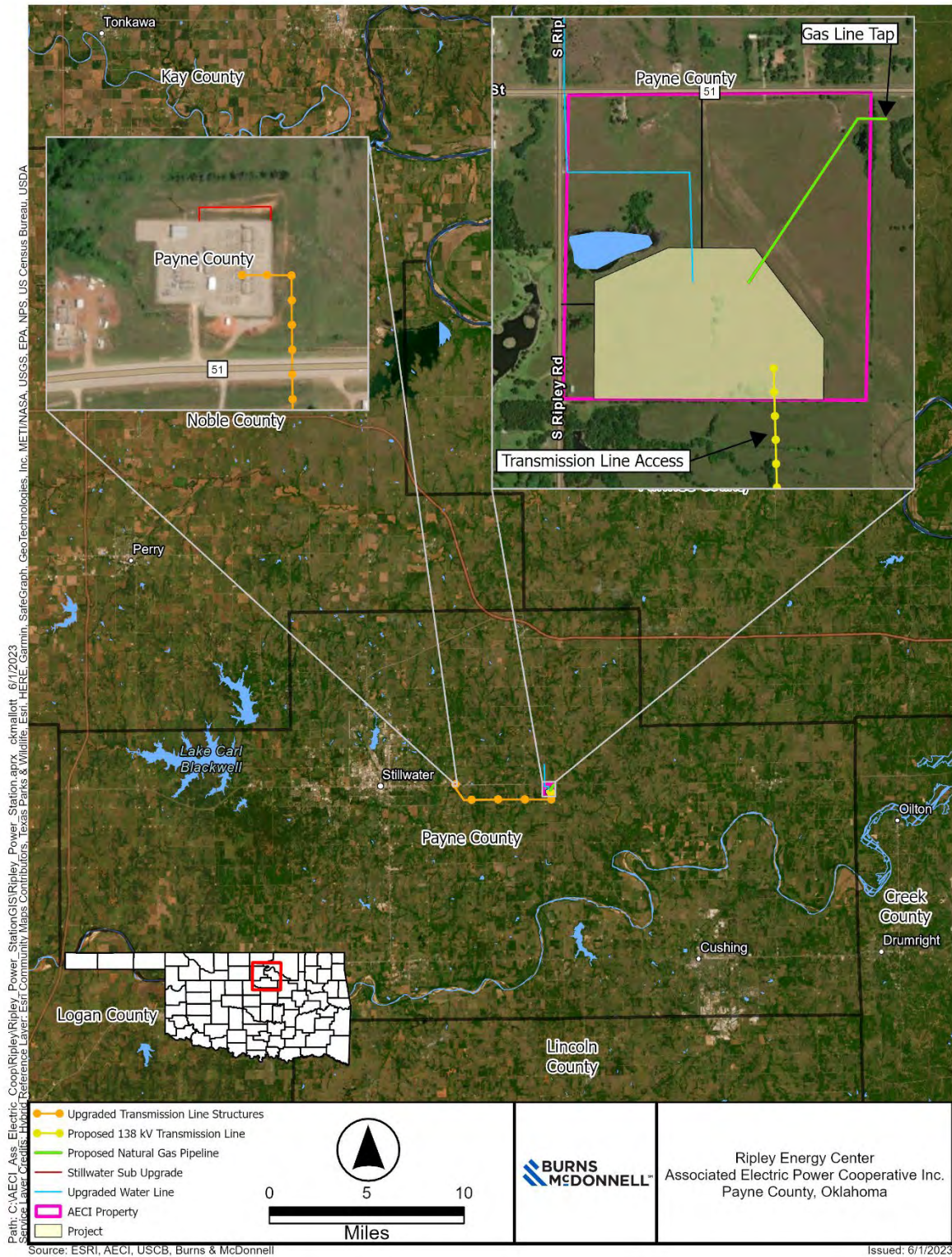


Figure 2: Project Area





Oklahoma Historical Society

State Historic Preservation Office

July 10, 2023

Ms. Kate Moore
USDA Rural Utilities Service
1400 Independence Ave. SW, Room 2230, Stop 1570
Washington, D.C. 20250

RE: File #1882-23; AECI Proposed RD/RUS Project for the Ripley Energy Center, Payne County

Dear Ms. Moore:

We have received and reviewed the documentation concerning the referenced project. Additionally, we have examined the information contained in the Oklahoma Landmarks Inventory (OLI) files and other materials on historic resources available in our office.

Although our records indicate no known historic properties affected within the referenced project corridor, we understand the Oklahoma Archeological Survey (OAS) has requested an archaeological field inspection for portions of this project.

If precontact archaeological sites are identified during the investigation, we will defer opinion on their National Register eligibility to OAS. If post contact archaeological sites are identified during the survey or are encountered during implementation of the project, additional assessment by the State Historic Preservation Office will be necessary.

Thank you for the opportunity to comment on this project. We look forward to working with you in the future.

If you have any questions, please contact Kristina Wyckoff, Historical Archaeologist, at 405-521-6381.

Should further correspondence pertaining to this project be necessary, please reference the above underlined file number. Thank you.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:pm





12/26/2023

Rural Development
Rural Utilities Service
1400 Independence
Ave SW, Room 2230
Stop 1570,
Washington, DC,
20250
Voice 202.695.2540
Fax 202.690.0649

Ms. Lynda Ozan
SHPO
Oklahoma Historical Society
800 Nazih Zuhdi Dr
Oklahoma City, OK 73105

Subject: USDA RD RUS Staff SHPO Finding of No Adverse Effects SHPO File#0550-24
Ripley Energy Center
Payne County, Oklahoma

Dear Ms. Ozan:

Associated Electric Cooperative, Inc. (AECI) is seeking financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its Electric Program for the Ripley Energy Center (Project). This Project will not be using the NPA.¹

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

The APE for the referenced project consists of approximately 150 acres where the turbine and solar facilities would be located, approximately 6 miles of transmission lines not on site, the minimal substation and distribution line upgrades, 120 feet of natural gas pipeline not on site, and approximately one mile of water pipeline not on site, as shown in the enclosed maps. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.3(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x). Note this APE

¹ *Nationwide Programmatic Agreement among the U.S. Department of Agriculture Rural Development Programs, National Conference of State Historic Preservation Officers, Tribal Signatories, and The Advisory Council on Historic Preservation for Sequencing Section 106 (NPA).*

was slightly enlarged to include the entire AECl property. This allows for uncertainty in final siting of laydown, roads, gas line, water line, and solar panels within the AECl property. Additionally, the APE does not include any federal and/or tribal lands as defined pursuant to 36 CFR § 800.16(x).

On 12/15/2023 the Oklahoma State Historic Preservation Office requested additional documentation for their review of the Ripley Energy Center. Enclosed are the identification forms, photographs and map as requested. Based on the findings of the *Cultural Resources Investigation Report for the Ripley Energy Center* issued November 8, 2023 and additional documentation, a finding of no adverse effect in accordance with 36 CFR § 800.5(b) is appropriate for the referenced project.

Accordingly, the RUS is submitting a finding of no adverse effect in accordance with 36 CFR § 800.5(b) and supporting documentation for review and consideration by the Oklahoma Historical Society. Please provide your concurrence or objection, **electronically** within 30 days of your receipt of this recommended finding. In accordance with 36 CFR § 800.3(c)(4), RUS will proceed to the next step in review if we do not receive a response from you within thirty days. Please direct any questions you may have to Kate Moore at kate.moore@usda.gov.

Sincerely,

Kate Moore
Archaeologist
RUS/Environmental and Historic Preservation Division

HISTORIC PRESERVATION RESOURCE IDENTIFICATION FORM

PLEASE TYPE ALL DATA IN UPPERCASE - FIELDS IN RED ARE REQUIRED

1. PROPERTY NAME:					
2. RESOURCE NAME:					
3. ADDRESS:					
4. CITY:		5. VICINITY:			
6. COUNTY NAME:					
7. LOT:		8. BLOCK:		9. PLAT NAME:	
10. SECTION:		11. TOWNSHIP:		12. RANGE:	
13. LATITUDE (NORTH): (ENTER AS: "dd.ddddd")					
14. LONGITUDE (WEST): (ENTER AS: "-dd.ddddd")					
15. UTM ZONE:		16. NORTHINGS:		17. EASTINGS:	
18. RESOURCE TYPE:					
19. HISTORIC FUNCTION:					
20. CURRENT FUNCTION:					
21. AREA OF SIGNIFICANCE, PRIMARY:					
22. AREA OF SIGNIFICANCE, SECONDARY:					
23. DESCRIPTION OF SIGNIFICANCE:					
24. DOCUMENTATION RESOURCE:					
25. NAME OF PREPARER:					
59. SURVEY PROJECT		26. PROJECT NAME:			
27. DATE OF PREPARATION:		28. PHOTOGRAPHS			
29. YEAR:					

30. ARCHITECT/BUILDER: _____

31. YEAR BUILT: _____

32. ORIGINAL SITE: _____

33. DATE MOVED: _____

34. FROM WHERE: _____

35. ACCESSIBLE: _____

36. ARCHITECTURAL STYLE: _____

37. OTHER ARCHITECTURAL STYLE: _____

38. FOUNDATION MATERIAL: _____

39. ROOF TYPE: _____

40. ROOF MATERIAL: _____

41. WALL MATERIAL, PRIMARY: _____

42. WALL MATERIAL, SECONDARY: _____

43. WINDOW TYPE: _____

44. WINDOW MATERIAL: _____

45. DOOR TYPE: _____

46. DOOR MATERIAL: _____

47. EXTERIOR FEATURES: _____

48. INTERIOR FEATURES: _____

49. DECORATIVE DETAILS: _____

50. CONDITION OF RESOURCE: _____

51. DESCRIPTION OF RESOURCE:

52. COMMENTS:

53. ATTACH LOCATION MAP

54. LISTED ON NATIONAL REGISTER: _____

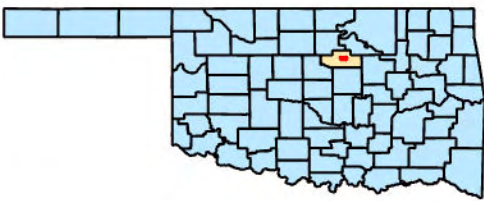
55. NATIONAL REGISTER ENTRY: _____

56. CONTINUATION

CONTINUATION SHEET, IF APPLICABLE



Historic-age Dwelling



Property Location Map
Ripley Energy Center
Associated Electric
Cooperative, Inc.
Payne County, OK



Photograph A-1: View of dwelling, primary façade, camera facing southwest.



Photograph A-2: View of dwelling, primary façade, camera facing southeast.

Ripley Energy Center
Associated Electric
Cooperative Inc.



Dwelling Photographs
October 2023
Payne County, OK



Photograph A-3: View of dwelling, side elevation, camera facing west.



Photograph A-4: View of dwelling, side elevation, camera facing east.

Ripley Energy Center
Associated Electric
Cooperative Inc.



Dwelling Photographs
October 2023
Payne County, OK



Photograph A-5: View of dwelling, rear elevation, camera facing northwest.



Photograph A-6: View of dwelling, rear elevation, and adjacent storm shelter (right), camera facing northeast.

Ripley Energy Center
Associated Electric
Cooperative Inc.



Dwelling Photographs
October 2023
Payne County, OK



Photograph A-7: View of dwelling, rear elevation, camera facing north.



Photograph A-8: View of storm shelter, camera facing west.



Oklahoma Historical Society
State Historic Preservation Office

January 18, 2024

Ms. Kate Moore
USDA Rural Utilities Service
1400 Independence Ave. S.W., Room 2230, Mailstop 1570
Washington, D.C. 20250

RE: File #0550-24; AECI Proposed USDA/RD Project for the Ripley Energy Center,
including Property at 10623 East 6th Avenue, Stillwater, Payne County, Oklahoma

Dear Ms. Moore:

We have received and reviewed the documentation concerning the referenced project in Payne County. Additionally, we have examined the information contained in the Oklahoma Landmarks Inventory (OLI) files and other materials on historic resources available in our office. We find that there are no historic properties affected by the referenced project.

Thank you for the opportunity to comment on this project. We look forward to working with you in the future.

If you have any questions, please contact Matthew Pearce, Ph.D., National Register Program Coordinator, at 405-522-4479, or Kristina Wyckoff, Historical Archaeologist, at 405-521-6381.

Should further correspondence pertaining to this project be necessary, please reference the above underlined file number. Thank you.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:pm



APPENDIX E - GHG CALCULATIONS

Appendix E Table 1 Present Value (in Base Year 2026) of Estimated SC-CO₂ for CO₂ emissions, (2020\$)

Pollutant	CO ₂			
Discount Rate	5%	3%	2.50%	3%
Statistic	Average	Average	Average	95th percentile
Project Emissions	\$104,618,209	\$319,755,829	\$457,776,247	\$972,538,203

Appendix E Table 2 Present Value (in Base Year 2026) of Estimated SC-CH₄ for CH₄ emissions, (2020\$)

Pollutant	CH ₄			
Discount Rate	5%	3%	2.50%	3%
Statistic	Average	Average	Average	95th percentile
Project Emissions	\$142,734	\$345,159	\$458,610	\$920,462

Appendix E Table 3 Present Value (in Base Year 2026) of Estimated SC-N₂O for N₂O emissions, (2020\$)

Pollutant	N ₂ O			
Discount Rate	5%	3%	2.50%	3%
Statistic	Average	Average	Average	95th percentile
Project Emissions	\$187,277	\$631,638	\$939,253	\$1,679,906

Appendix E Table 4 Present Value (in Base Year 2026) of Estimated SC-GHG for GHG¹ emissions, (2020\$)

Pollutant	GHG			
Discount Rate	5%	3%	2.50%	3%
Statistic	Average	Average	Average	95th percentile
Project Emissions	\$104,948,220	\$320,732,626	\$459,174,109	\$975,138,570

1) GHGs are limited to CO₂, N₂O, and CH₄

SOCIAL COST OF CARBON DIOXIDE CALCULATOR

Base Year 2026 (The Base Year is often the current year and can be no later than the first year of emissions.)
Year 1 2026 (First year of emissions)

						Project Emissions			
Year of emissions	CO ₂ emissions (metric tons) ¹	Per ton SC-CO ₂ Value (2020\$/metric ton CO ₂) ^{2,3}				Present Value (in Base Year) of Estimated SC-CO ₂ by emissions year (2020\$) ⁴			
		95th Percentile,				95th Percentile,			
	Project Emissions	Average, 5%	Average, 3%	Average 2.5%	3%	Average, 5%	Average, 3%	Average 2.5%	3%
2026	306,393	\$17.41	\$57	\$84	\$173	\$5,333,693	\$17,614,851	\$25,815,771	\$52,904,913
2027	355,788	\$17.897	\$59	\$86	\$176	\$6,064,325	\$19,842,817	\$28,992,674	\$59,698,213
2028	289,195	\$18	\$60	\$87	\$180	\$4,822,801	\$15,640,921	\$22,786,462	\$47,134,445
2029	280,396	\$19	\$61	\$88	\$183	\$4,571,593	\$14,701,569	\$21,357,435	\$44,374,295
2030	467,977	\$19	\$62	\$89	\$187	\$7,454,867	\$23,779,496	\$34,450,701	\$71,885,197
2031	506,573	\$20	\$63	\$91	\$191	\$7,917,228	\$24,969,017	\$36,057,185	\$75,625,862
2032	452,578	\$21	\$64	\$92	\$194	\$6,933,413	\$21,631,707	\$31,140,242	\$65,639,120
2033	480,976	\$21	\$65	\$94	\$198	\$7,217,196	\$22,285,322	\$31,984,134	\$67,742,990
2034	472,376	\$22	\$66	\$95	\$202	\$6,937,030	\$21,210,423	\$30,352,583	\$64,585,963
2035	489,375	\$22	\$67	\$96	\$206	\$7,028,660	\$21,288,188	\$30,377,403	\$64,930,172
2036	447,979	\$23	\$69	\$98	\$210	\$6,288,062	\$18,874,087	\$26,858,473	\$57,659,086
2037	455,178	\$23	\$70	\$99	\$213	\$6,240,293	\$18,568,651	\$26,353,315	\$56,813,332
2038	459,578	\$24	\$71	\$100	\$217	\$6,149,776	\$18,148,120	\$25,690,047	\$55,609,520
2039	450,379	\$25	\$72	\$102	\$221	\$5,879,180	\$17,211,202	\$24,302,523	\$52,814,458
2040	127,411	\$25	\$73	\$103	\$225	\$1,621,589	\$4,710,774	\$6,635,458	\$14,475,701
2041	127,411	\$26	\$74	\$104	\$228	\$1,583,962	\$4,556,686	\$6,401,363	\$14,000,887
2042	127,411	\$26	\$75	\$106	\$232	\$1,546,241	\$4,406,592	\$6,174,517	\$13,538,409
2043	127,411	\$27	\$77	\$107	\$235	\$1,508,521	\$4,260,459	\$5,954,703	\$13,088,285
2044	127,411	\$28	\$78	\$108	\$239	\$1,470,887	\$4,118,252	\$5,741,877	\$12,650,330
2045	127,411	\$28	\$79	\$110	\$242	\$1,433,417	\$3,979,876	\$5,535,816	\$12,224,407
2046	127,411	\$29	\$80	\$111	\$246	\$1,396,228	\$3,845,389	\$5,336,361	\$11,810,314
2047	127,411	\$30	\$81	\$112	\$249	\$1,359,285	\$3,714,686	\$5,143,348	\$11,407,985
2048	127,411	\$30	\$82	\$114	\$253	\$1,322,694	\$3,587,711	\$4,956,573	\$11,017,191
2049	127,411	\$31	\$84	\$115	\$256	\$1,286,505	\$3,464,364	\$4,775,965	\$10,637,707
2050	127,411	\$32	\$85	\$116	\$260	\$1,250,764	\$3,344,668	\$4,601,318	\$10,269,421

Present Value (in Base Year) of Estimated SC-CO ₂ for all CO ₂ emissions, 2020\$)	95th Percentile, 3%			
	Average, 5%	Average, 3%	Average 2.5%	3%
	\$104,618,209	\$319,755,829	\$457,776,247	\$972,538,203

SOCIAL COST OF METHANE CALCULATOR

Base Year	2026	(The Base Year is often the current year and can be no later than the first year of emissions.)
Year 1	2026	(First year of emissions)

Year of emissions	CH4 emissions (metric tons) ¹	Per ton SC-CH ₄ Value (2020\$/metric ton CH ₄) ^{2,3}				Present Value (in Base Year) of Estimated SC-CH ₄ by emissions year (2020\$) ⁴			
		95th Percentile,				95th Percentile,			
		Average, 5%	Average, 3%	Average 2.5%	3%	Average, 5%	Average, 3%	Average 2.5%	3%
2026	8.45	\$829	\$1,767	\$2,286	\$4,677	\$7,007	\$14,932	\$19,320	\$39,528
2027	9.36	\$856	\$1,814	\$2,341	\$4,805	\$7,633	\$16,480	\$21,379	\$43,664
2028	8.14	\$884	\$1,861	\$2,397	\$4,934	\$6,520	\$14,269	\$18,560	\$37,836
2029	7.97	\$911	\$1,908	\$2,452	\$5,062	\$6,274	\$13,920	\$18,158	\$36,941
2030	11.42	\$938	\$1,954	\$2,508	\$5,190	\$8,813	\$19,832	\$25,945	\$52,667
2031	12.13	\$972	\$2,010	\$2,572	\$5,344	\$9,241	\$21,029	\$27,569	\$55,917
2032	11.14	\$1,007	\$2,065	\$2,635	\$5,498	\$8,367	\$19,263	\$25,310	\$51,283
2033	11.66	\$1,041	\$2,121	\$2,699	\$5,652	\$8,627	\$20,103	\$26,476	\$53,579
2034	11.50	\$1,075	\$2,176	\$2,763	\$5,806	\$8,372	\$19,756	\$26,084	\$52,710
2035	11.81	\$1,110	\$2,231	\$2,827	\$5,959	\$8,452	\$20,203	\$26,743	\$53,957
2036	11.05	\$1,144	\$2,287	\$2,891	\$6,113	\$7,764	\$18,807	\$24,963	\$50,277
2037	11.19	\$1,179	\$2,342	\$2,955	\$6,267	\$7,708	\$18,925	\$25,190	\$50,640
2038	11.27	\$1,213	\$2,397	\$3,019	\$6,421	\$7,610	\$18,944	\$25,288	\$50,735
2039	11.10	\$1,247	\$2,453	\$3,083	\$6,574	\$7,341	\$18,535	\$24,816	\$49,681
2040	5.16	\$1,282	\$2,508	\$3,147	\$6,728	\$3,343	\$8,562	\$11,499	\$22,969
2041	5.16	\$1,319	\$2,564	\$3,210	\$6,873	\$3,277	\$8,498	\$11,443	\$22,779
2042	5.16	\$1,357	\$2,620	\$3,273	\$7,018	\$3,209	\$8,431	\$11,383	\$22,582
2043	5.16	\$1,394	\$2,676	\$3,336	\$7,162	\$3,141	\$8,360	\$11,319	\$22,376
2044	5.16	\$1,432	\$2,732	\$3,399	\$7,307	\$3,072	\$8,286	\$11,252	\$22,163
2045	5.16	\$1,469	\$2,788	\$3,462	\$7,452	\$3,002	\$8,209	\$11,181	\$21,944
2046	5.16	\$1,507	\$2,844	\$3,524	\$7,596	\$2,932	\$8,130	\$11,107	\$21,718
2047	5.16	\$1,544	\$2,900	\$3,587	\$7,741	\$2,862	\$8,048	\$11,029	\$21,487
2048	5.16	\$1,582	\$2,955	\$3,650	\$7,886	\$2,792	\$7,965	\$10,949	\$21,251
2049	5.16	\$1,619	\$3,011	\$3,713	\$8,031	\$2,722	\$7,879	\$10,866	\$21,011
2050	5.16	\$1,657	\$3,067	\$3,776	\$8,175	\$2,653	\$7,792	\$10,781	\$20,767

	Average, 5%	Average, 3%	Average 2.5%	95th Percentile, 3%
Present Value (in Base Year) of Estimated SC-CH ₄ for all CH ₄ emissions, 2020\$)	\$142,734	\$345,159	\$458,610	\$920,462

SOCIAL COST OF NITROUS OXIDE CALCULATOR

Base Year	2026	(The Base Year is often the current year and can be no later than the first year of emissions.)
Year 1	2026	(First year of emissions)

Year of emissions	N2O emissions (metric tons) ¹	Per ton SC-N ₂ O Value (2020\$/metric ton N ₂ O) ^{2,3}				Development and Operations Present Value (in Base Year) of Estimated SC-N ₂ O by emissions year (2020\$) ⁴			
		95th Percentile,				95th Percentile,			
		Average, 5%	Average, 3%	Average 2.5%	3%	Average, 5%	Average, 3%	Average 2.5%	3%
2026	1.36	\$6,991	\$21,028	\$30,471	\$55,502	\$9,516	\$28,623	\$41,477	\$75,549
2027	1.45	\$7,193	\$21,465	\$31,028	\$56,710	\$9,947	\$30,258	\$43,952	\$79,941
2028	1.33	\$7,395	\$21,902	\$31,585	\$57,918	\$8,918	\$27,449	\$39,971	\$72,587
2029	1.31	\$7,597	\$22,339	\$32,141	\$59,125	\$8,620	\$26,851	\$39,201	\$71,067
2030	1.66	\$7,799	\$22,776	\$32,698	\$60,333	\$10,639	\$33,553	\$49,116	\$88,880
2031	1.73	\$8,047	\$23,268	\$33,309	\$61,692	\$10,901	\$34,702	\$50,902	\$92,009
2032	1.63	\$8,295	\$23,760	\$33,921	\$63,051	\$10,087	\$32,430	\$47,670	\$86,059
2033	1.68	\$8,542	\$24,252	\$34,532	\$64,410	\$10,211	\$33,166	\$48,861	\$88,085
2034	1.67	\$8,790	\$24,744	\$35,144	\$65,770	\$9,913	\$32,544	\$48,058	\$86,504
2035	1.70	\$9,038	\$25,236	\$35,755	\$67,129	\$9,889	\$32,829	\$48,596	\$87,327
2036	1.62	\$9,285	\$25,728	\$36,366	\$68,488	\$9,242	\$31,038	\$46,060	\$82,624
2037	1.63	\$9,533	\$26,219	\$36,978	\$69,847	\$9,111	\$30,961	\$46,065	\$82,477
2038	1.64	\$9,781	\$26,711	\$37,589	\$71,206	\$8,946	\$30,774	\$45,911	\$82,037
2039	1.63	\$10,029	\$27,203	\$38,201	\$72,565	\$8,646	\$30,115	\$45,051	\$80,332
2040	1.03	\$10,276	\$27,695	\$38,812	\$73,924	\$5,358	\$18,902	\$28,357	\$50,455
2041	1.03	\$10,567	\$28,225	\$39,456	\$75,349	\$5,247	\$18,703	\$28,125	\$49,929
2042	1.03	\$10,857	\$28,754	\$40,100	\$76,773	\$5,135	\$18,499	\$27,887	\$49,391
2043	1.03	\$11,147	\$29,283	\$40,745	\$78,197	\$5,021	\$18,290	\$27,644	\$48,842
2044	1.03	\$11,437	\$29,813	\$41,389	\$79,621	\$4,906	\$18,079	\$27,396	\$48,283
2045	1.03	\$11,727	\$30,342	\$42,033	\$81,045	\$4,791	\$17,864	\$27,144	\$47,715
2046	1.03	\$12,018	\$30,872	\$42,677	\$82,470	\$4,676	\$17,646	\$26,888	\$47,139
2047	1.03	\$12,308	\$31,401	\$43,321	\$83,894	\$4,561	\$17,426	\$26,628	\$46,557
2048	1.03	\$12,598	\$31,930	\$43,965	\$85,318	\$4,446	\$17,204	\$26,365	\$45,968
2049	1.03	\$12,888	\$32,460	\$44,610	\$86,742	\$4,332	\$16,979	\$26,098	\$45,374
2050	1.03	\$13,179	\$32,989	\$45,254	\$88,166	\$4,219	\$16,754	\$25,830	\$44,776

	Average, 5%	Average, 3%	Average 2.5%	95th Percentile, 3%
Present Value (in Base Year) of Estimated SC-N ₂ O for all N ₂ O emissions, 2020\$)	\$187,277	\$631,638	\$939,253	\$1,679,906

APPENDIX F – EJSCREEN



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Payne County, OK

2 miles Ring Centered at 36.110763,-96.903907

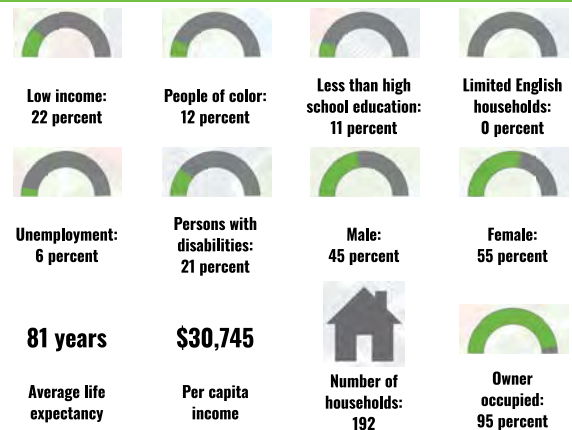
Population: 506

Area in square miles: 12.56

A3 Landscape



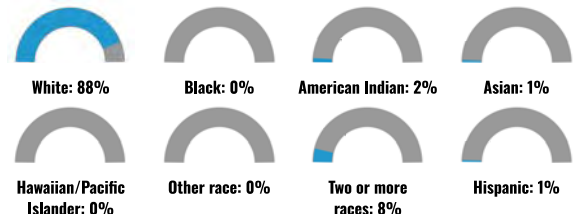
COMMUNITY INFORMATION



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

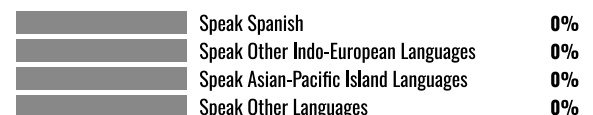
BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

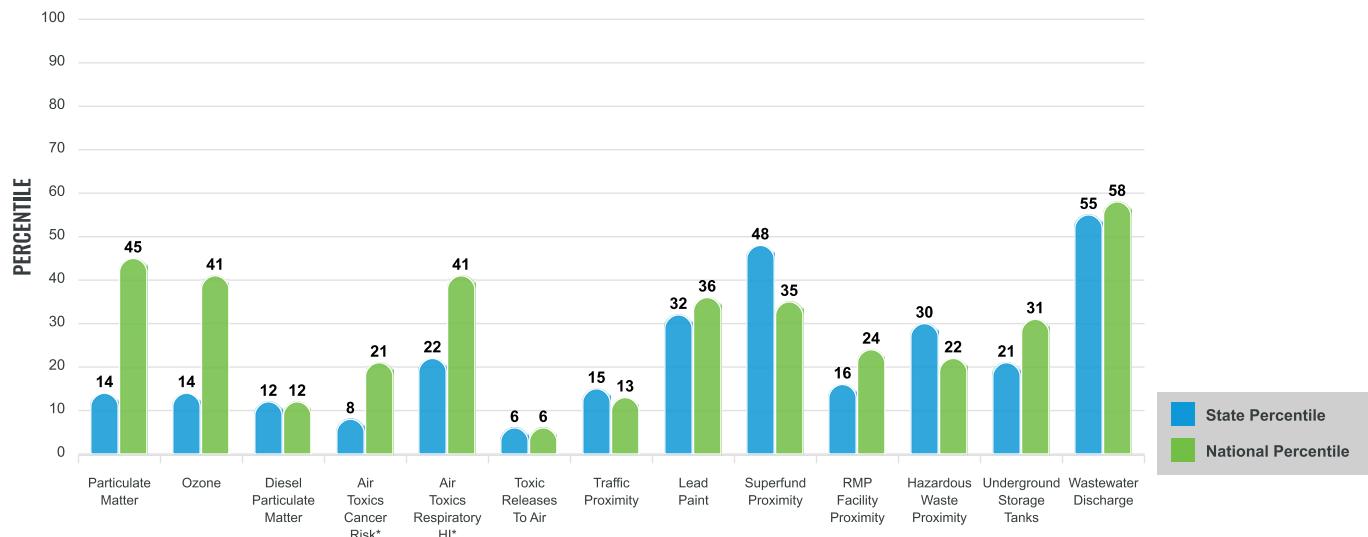
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

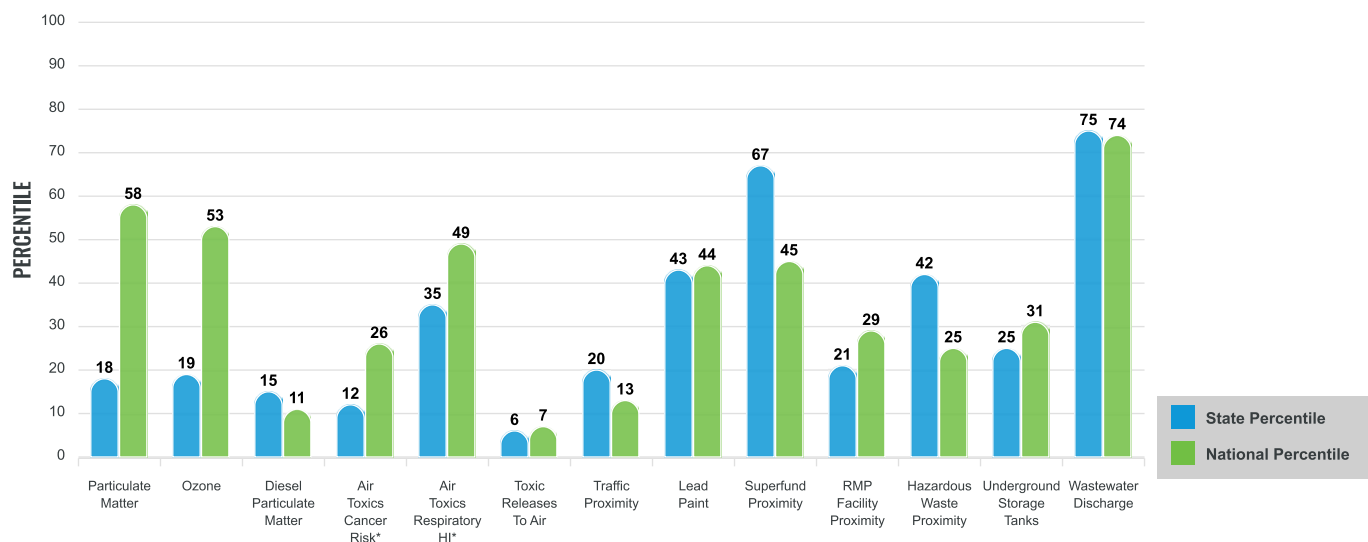
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 2 miles Ring Centered at 36.110763,-96.903907

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	8.53	9.03	22	8.08	59
Ozone (ppb)	61.2	62.3	22	61.6	51
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.0847	0.166	17	0.261	11
Air Toxics Cancer Risk* (lifetime risk per million)	20	25	1	25	5
Air Toxics Respiratory HI*	0.3	0.3	11	0.31	31
Toxic Releases to Air	4.8	4,100	7	4,600	7
Traffic Proximity (daily traffic count/distance to road)	4.9	83	20	210	11
Lead Paint (% Pre-1960 Housing)	0.17	0.25	53	0.3	44
Superfund Proximity (site count/km distance)	0.047	0.048	76	0.13	41
RMP Facility Proximity (facility count/km distance)	0.087	0.38	24	0.43	24
Hazardous Waste Proximity (facility count/km distance)	0.11	0.43	41	1.9	21
Underground Storage Tanks (count/km ²)	0.22	1.7	33	3.9	32
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.91	0.058	98	22	91
SOCIOECONOMIC INDICATORS					
Demographic Index	17%	36%	13	35%	26
Supplemental Demographic Index	11%	16%	28	14%	42
People of Color	12%	35%	8	39%	26
Low Income	22%	37%	26	31%	42
Unemployment Rate	6%	5%	68	6%	66
Limited English Speaking Households	0%	2%	0	5%	0
Less Than High School Education	11%	12%	54	12%	61
Under Age 5	2%	6%	16	6%	24
Over Age 64	17%	16%	60	17%	57
Low Life Expectancy	17%	22%	9	20%	26

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	0
Air Pollution	2
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	No

Report for 2 miles Ring Centered at 36.110763,-96.903907

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	17%	22%	9	20%	26
Heart Disease	6.5	7.1	36	6.1	60
Asthma	10.5	11.1	31	10	69
Cancer	6.2	6.3	40	6.1	50
Persons with Disabilities	16.6%	16.9%	51	13.4%	74

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	6%	8%	47	12%	47
Wildfire Risk	76%	43%	61	14%	88

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	10%	17%	35	14%	47
Lack of Health Insurance	12%	15%	38	9%	76
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 2 miles Ring Centered at 36.110763,-96.903907

APPENDIX G – NOISE STUDY

AECI

SOUND STUDY REPORT

RIPLEY ENERGY CENTER

PROJECT NO. 141827

REVISION 0

OCTOBER 2023

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List of Abbreviations

Abbreviation	Term/Phrase/Name
ANSI	American National Standards Institute
CadnaA	Computer Aided Noise Abatement
dB	decibel
dBA	A-weighted decibel
dBc	C-weighted decibel
Hz	Hertz
ISO	International Organization for Standardization
L _{eq}	equivalent-continuous sound level
MP	measurement point
mph	miles per hour
MW	megawatt
Project	Ripley Energy Center
PWL	sound power level
SPL	sound pressure level

Executive Summary

Burns & McDonnell conducted a sound study for the proposed Ripley Energy Center (Project), located near Stillwater, Oklahoma in Payne County. The Project is a simple-cycle combustion turbine facility which includes one (1) Siemens 9000H gas turbines and an approximately 2-megawatt (MW) solar field.

The objectives of this study were to identify the applicable noise regulations, measure existing ambient sound levels, model operational sound levels of the Project, and compare Project-generated sound levels to the applicable noise regulations and existing ambient sound levels.

The State of Oklahoma does not have applicable noise statutes which limit noise from the Project. Additionally, no applicable local noise limits were identified for Payne County. In the absence of local noise limits, the model-predicted operational sound levels were compared to the existing ambient sound levels at the nearest residential receptors.

The existing ambient sound levels and Project operational sound levels have been provided. For anticipated equipment, the worst-case Project sound levels are expected to be 71 dBA. An upgraded silencer on the exhaust stack could decrease this level to approximately 53 dBA, which is more consistent with the existing ambient sound levels.

1.0 Acoustical Terminology

The term “sound level” is often used to describe two different sound characteristics: sound power and sound pressure. Every source that produces sound has a sound power level (PWL). The PWL is the acoustical energy emitted by a sound source and is an absolute number that is not affected by the surrounding environment. The acoustical energy produced by a source propagates through media as pressure fluctuations. These pressure fluctuations, also called sound pressure levels (SPL), are what human ears hear and microphones measure.

Sound is physically characterized by amplitude and frequency. The amplitude of sound is measured in decibels (dB) as the logarithmic ratio of a sound pressure to a reference sound pressure (20 micropascals). The reference sound pressure corresponds to the typical threshold of human hearing. To the average listener, a 3-dB change in a continuous broadband sound is generally considered “just barely perceptible”; a 5-dB change is generally considered “clearly noticeable”; and a 10-dB change is generally considered a doubling (or halving, if the sound is decreasing) of the apparent loudness.

Sound waves can occur at many different wavelengths, also known as the frequency. Frequency is measured in hertz (Hz) and is the number of wave cycles per second that occur. The typical human ear can hear frequencies ranging from approximately 20 to 20,000 Hz. Normally, the human ear is most sensitive to sounds in the middle frequencies (1,000 to 8,000 Hz) and is less sensitive to sounds in the lower and higher frequencies. As such, the A-weighting scale was developed to simulate the frequency response of the human ear to sounds at typical environmental levels. The A-weighting scale emphasizes sounds in the middle frequencies and de-emphasizes sounds in the low and high frequencies. Any sound level to which the A-weighting scale has been applied is expressed in A-weighted decibels, or dBA. The C-weighting scale (dBC) is commonly used for sources with a low-frequency component that would be de-emphasized by the A-weighted scale. For reference, the A-weighted sound pressure level and subjective loudness associated with some common sound sources are listed in Table 1-1.

Sound in the environment is constantly fluctuating, as when a car drives by, a dog barks, or a plane passes overhead. Therefore, sound metrics have been developed to quantify fluctuating environmental sound levels. One of these metrics is the equivalent-continuous sound level (L_{eq}), which is the arithmetic average of the varying sound over a given time period. It is the most common metric used to describe sound and is used in this report.

Table 1-1: Typical Sound Pressure Levels Associated with Common Sound Sources

Sound Pressure Level (dBA)	Subjective Evaluation	Environment
140	Deafening	Jet aircraft at 75 feet
130	Threshold of pain	Jet aircraft during takeoff at a distance of 300 feet
120	Threshold of feeling	Elevated train
110	Very loud	Jet flyover at 1,000 feet
100		Motorcycle at 25 feet
90	Moderately loud	Propeller plane flyover at 1,000 feet
80		Diesel truck (40 mph) at 50 feet
70	Loud	B-757 cabin during flight
60	Moderate	Air-conditioner condenser at 15 feet
50	Quiet	Private Office
40		Farm field with light breeze, birdcalls
30	Very quiet	Quiet residential neighborhood
20		Rustling leaves
10	Just audible	--
0	Threshold of hearing	--

Sources:

(1) Adapted from *Architectural Acoustics*, M. David Egan, 1988(2) *Architectural Graphic Standards*, Ramsey and Sleeper, 1994

2.0 Applicable Regulations

State and local noise regulations were reviewed to determine Project noise limits. The State of Oklahoma does not have applicable noise statutes which limit noise from the Project. Additionally, no applicable noise limits were identified in Payne County.

3.0 Sound Level Measurements

Burns & McDonnell personnel took sound level measurements to establish the existing background ambient sound levels in the areas surrounding the Project. Sound level measurements were made using sound level meters that met the American National Standards Institute (ANSI) S1.4 requirements for a Type 1 Precision Sound Level Meter. One-half inch random-incidence microphones were used on the meters. Microphone windscreens were used for all measurements. The sound level meters were calibrated before and after each set of measurements using a sound level calibrator. Calibration level changes did not exceed ± 0.5 dB during the measurements. The meters and calibrator were checked within a year prior of the measurements to verify compliance with the U.S. National Institute of Standards and Technology specifications.

Noise measurements were collected at each measurement point (MP) as identified in Figure A-1 of Appendix A. The MPs were selected to be near the Project property lines and neighboring residential properties. The microphones were placed at a height of 5 feet (1.5 meters) above the ground, mounted on tripods and oriented toward the location of the Project site. Each MP was free from excess reflections due to walls, columns, etc., and from significant shadowing effects.

Two (2) continuous long-term sound level meters were set up at the measurement locations shown in Figure A-1 of Appendix A. The meters each measured continuous sound levels during daytime and nighttime hours. Sound measurements were completed when weather conditions were favorable for conducting noise measurements. The ambient sound measurement data for the Project is shown in tabular form in Appendix B, and a summary of the data is shown below in Table 3-1. Sound levels are provided in L_{eq} to represent the average background ambient sound levels for the Project. Traffic was a significant source of noise at both monitoring locations throughout the duration of the survey.

Table 3-1: Noise Monitoring Summary

Monitor Location	Daytime Ambient Lowest Hourly Sound Level (dBA) ^a	Nighttime Ambient Lowest Hourly Sound Level (dBA) ^a
	L_{eq}	L_{eq}
MP1	60	48
MP2	65	55

a) Daytime hours are 7:00 AM to 10:00 PM

4.0 Modeled Sound Levels

Operational sound levels for the proposed Project were predicted using the Computer Aided Noise Abatement (CadnaA) modeling software. Equipment sound levels used for modeling were based on a combination of in-house data and estimated values based on past experience with similar make and similarly sized equipment. This model was used for determining the expected sound levels at the nearest noise sensitive receptors due to the operation of the Project.

4.1 Sound Modeling Methodology and Input Parameters

Predictive noise modeling was performed using the industry-accepted sound modeling software CadnaA, version 2023. The software is a scaled, three-dimensional program, which considers air absorption, terrain, ground absorption, and reflections and shielding for each piece of noise-emitting equipment, and then predicts sound pressure levels at discrete locations and over a gridded area based on input source sound levels. The model calculates sound propagation based on International Organization for Standardization (ISO) 9613-2:1996, General Method of Calculation. ISO 9613-2 assesses the sound level propagation based on the octave band center-frequency range from 31.5 to 8,000 Hz.

The ISO standard considers sound propagation and directivity. The sound-modeling software calculates omnidirectional, downwind sound propagation using worst-case directivity factors, in tandem with user-specified directivities and propagation properties. Empirical studies accepted within the industry have demonstrated that modeling may over-predict sound levels in certain directions, and as a result, modeling results generally are considered a conservative measure of the Project's actual sound level.

The modeled atmospheric conditions were assumed to be calm, and the temperature and relative humidity were left at the program's default values. Reflections and shielding were considered for sound waves encountering physical structures. Sound levels around the site can be influenced by the sound reflections from physical structures onsite. The area surrounding the Project has mild elevation changes, which scatter and absorb the sound waves. Thus, terrain was included to account for surface effects such as ground absorption. Average ground absorption for the Project site and surrounding area was set to a value of 0.5 to account for the mix of hard pavement and soft vegetative ground. The modeling assumptions are outlined in Table 4-1. This model is exclusive of noise sources not associated with the Project (e.g., traffic noise and local fauna).

The Project general arrangement is included as Figure A-2 of Appendix A. The modeled equipment octave-band sound levels assumed for each piece of equipment are included in Appendix C. The modeled equipment is assumed to be any vendor's base sound level offerings and does not include any low-noise upgrades or additional mitigation.

Table 4-1: Sound Modeling Parameters

Model Input	Parameter Value
Ground Absorption	0.5
Number of Reflections	2
Receptor Height	5 feet above grade
Terrain	USGS topographic land data
Temperature	50 °F
Humidity	70%

4.2 Sound Modeling Results

The Project will operate at fairly constant sound levels when operational. Therefore, steady-state sound level predictions were completed. The predicted overall steady-state operational sound levels, which do not include contributions from ambient sound sources, are shown with 5-dB contours in Figure A-3 and Figure A-4 of Appendix A.

The expected Project-generated sound levels at the nearest residential properties are shown in Table 4-2. Because there are no sound level limits for the Project, and a quick comparison to ambient sound levels showed relatively high increases at noise sensitive receptors, a standard stack silencer was added to reduce the stack exit sound power level from 136 dBA to 116 dBA. The stack silenced sound levels are also shown in Table 4-2. The Project sound levels can reasonably be expected to be more consistent with the existing ambient sound levels if a silencer is utilized.

Table 4-2: Modeled Sound Levels and Measurement Locations

Location	Lowest Hourly Average Ambient Sound Level		Model Predicted Project Sound Levels ^a (Base Sound Levels)	Model Predicted Project Sound Levels ^a (Stack Silenced Levels)
	Day (dBA)	Night (dBA)	Day/Night (dBA)	Day/Night (dBA)
R1 ^b	65	55	64	48
R2 ^c	60	48	67	50
R3 ^c	60	48	66	50
R4 ^b	65	55	61	47
R5 ^b	65	55	64	49

a) Model predicted Project-only sound level.

b) Ambient sound level for location is approximated by MP2.

c) Ambient sound level for location is approximated by MP1.

5.0 Conclusions

Burns & McDonnell conducted a preliminary sound study for the proposed Project. This preliminary study consisted of sound monitoring of the existing environment and predictive sound modeling of the Project to analyze potential offsite sound impacts from operation of the Project.

Using base vendor-provided equipment sound levels, the Project will likely be audible during periods of low traffic and could increase experienced sound levels compared to the existing ambient sound levels. If a stack exhaust silencer is added, Project sound levels are predicted to be more aligned with the average existing ambient L_{eq} sound levels for both daytime and nighttime hours, significantly reducing the potential for adverse noise impacts on the surrounding community.

APPENDIX A - FIGURES

Path: G:\Projects\Air-Nose Dept\Project Files\AECI\Nose\GIS\Ripley GIS.aprx * Coordinate System: * Units:



Maxar, Microsoft

LEGEND

- Residential Receptors
- Measurement Points
- Property boundary

REFERENCE

0 0.07 0.14
MILES

0 0.07 0.15
KILOMETERS

N

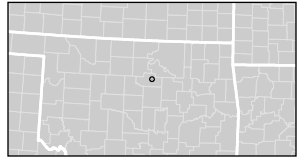


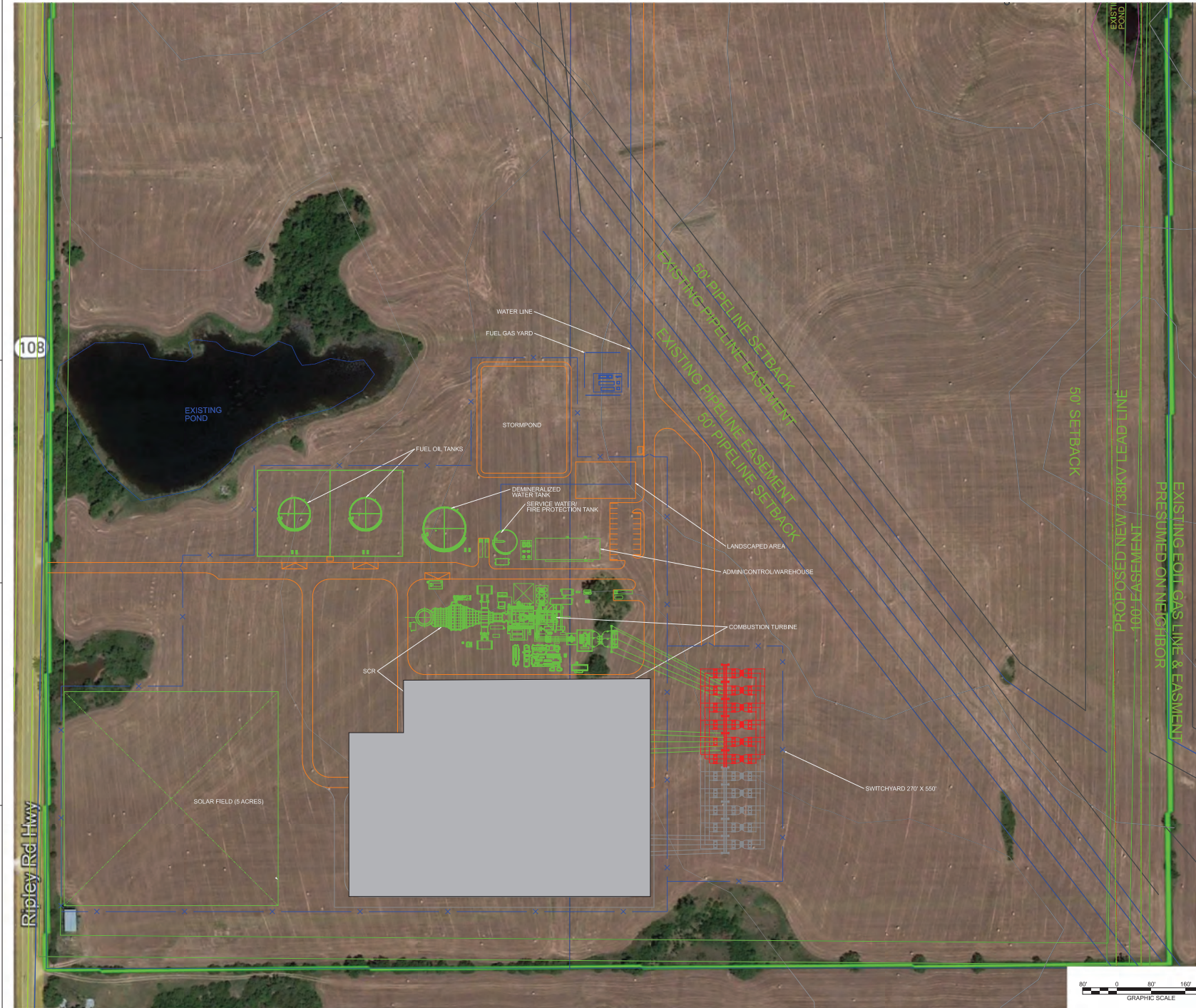
Figure A-1
Measurement Locations



LOCATION:	Payne County, OK
CLIENT:	Ripley Energy Center
PROJ. NO.:	141827
CREATED:	08/21/2023

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Figure A-2 General Arrangement

PRELIMINARY
NOT FOR CONSTRUCTION



HOLD INFORMATION		
NO.	DESCRIPTION	
CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL OR THAT OF ITS SUB-CONTRACTOR(S) PERFORMING THE WORK.		
RELEASE INFORMATION		
REV.	DATE	DESCRIPTION
A	06/01/2023	FOR CLIENT COMMENT
ISSUE PURPOSE: FOR CLIENT COMMENT		
SPECIFICATION:		
PROJECT NO.: A13639/011		
I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS.		
ENTER NAME ENTER DATE		
MY LICENSE RENEWAL DATE IS: ENTER DATE PAGES OR SHEETS COVERED BY THIS SCALE: THIS DOCUMENT ONLY.		
CERTIFICATE OF AUTHORIZATION (WHEN REQ'D)		
CAD FILE NAME: AECL_SC_x1.DGN		
PREPARED BY: RM		
REVIEWED BY: ---		
APPROVED BY: ---		
ANY MODIFICATION OR ADDITION TO THIS DRAWING BY AN ORGANIZATION OTHER THAN SARGENT & LUNDY, IS NOT THE RESPONSIBILITY OF SARGENT & LUNDY.		
 SARGENT & LUNDY 55 EAST MONROE STREET CHICAGO, ILLINOIS 60603-5780		
 Associated Electric Cooperative Inc. A Sustainable Energy Cooperative		
PROJECT		
SIEMENS 9000H COMBUSTION TURBINE		
SIMPLE CYCLE X 1		
AECI		
DRAWING TITLE		
GENERAL ARRANGEMENT RIPLEY PLOT		
DRAWING NUMBER		REVISION
AECL-RIP-GA-01		A
SHEET	01	OF 01

Path: G:\Projects\A\A-Nose Dept\Project Files\AEC\Nose\GIS\Ripley GIS.aprx • Coordinate System: • Units:



LEGEND

Structures

Solar Field

Residential Receptors

Measurement Points

Property boundary

45 dBA

50 dBA

55 dBA

60 dBA

65 dBA

70 dBA

75 dBA

REFERENCE

00.070.14

MILES

00.070.15

KILOMETERS

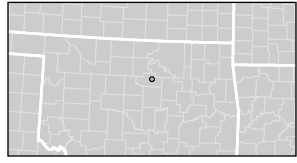


Figure A-3
Base Package Sound Level Contours

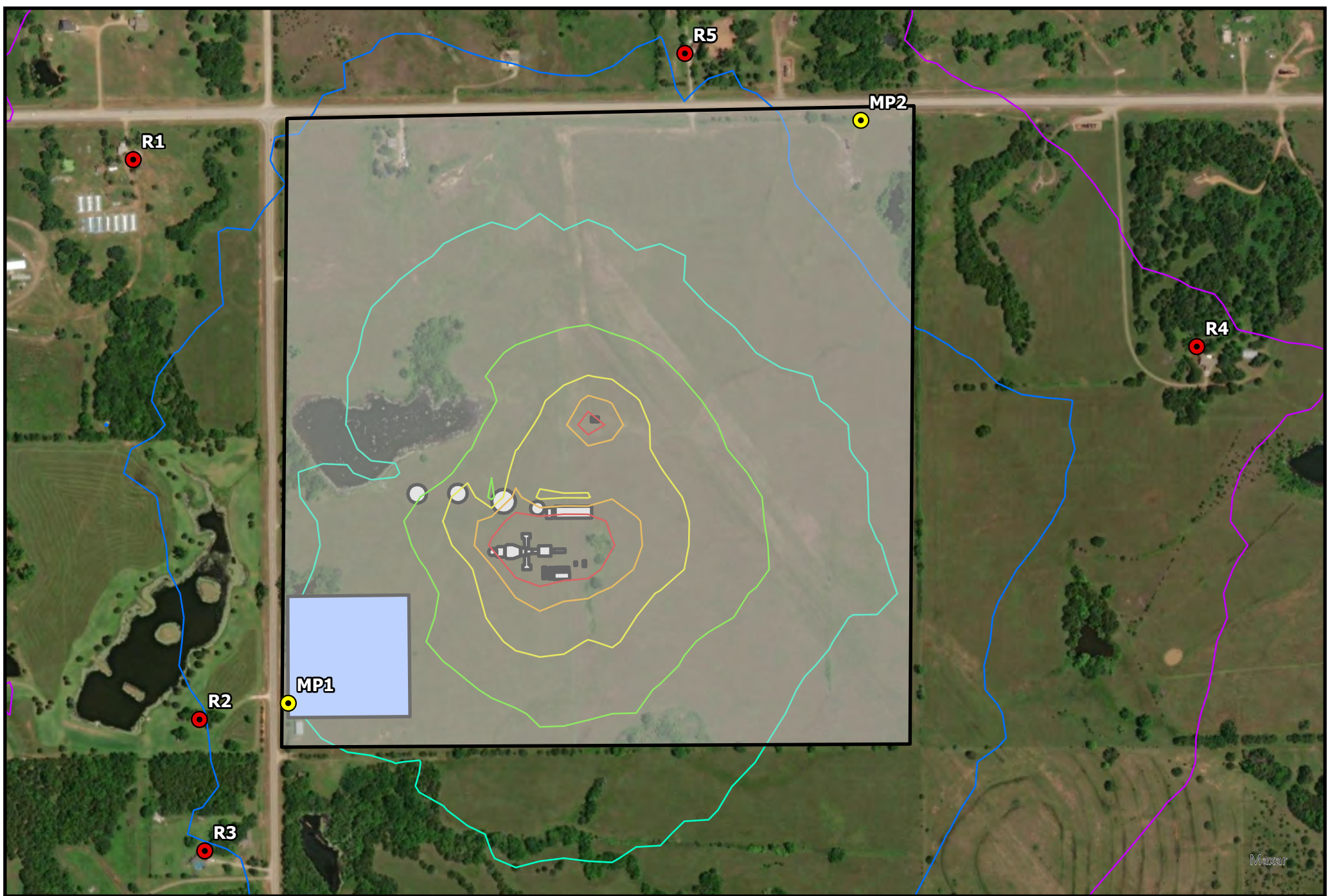
LOCATION: Payne County, OK

CLIENT: Ripley Energy Center

PROJ. NO.: 141827

CREATED: 09/06/2023

www.burnsmcd.com



LEGEND

Structures	Solar Field	45 dBA	65 dBA
Residential Receptors		50 dBA	70 dBA
Measurement Points		55 dBA	75 dBA
Property boundary		60 dBA	

REFERENCE

0 0.07 0.14
MILES

0 0.07 0.15
KILOMETERS

N

Figure A-4
Exhaust Stack Mitigated Sound Level Contours

LOCATION:	Payne County, OK
CLIENT:	Ripley Energy Center
PROJ. NO.:	141827
CREATED:	09/06/2023

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Path: G:\Projects\A-4-Nose Dept\Project Files\AEC\Noise\GIS\Ripley GIS.aprx • Coordinate System: • Units:

APPENDIX B – AMBIENT MONITORING DATA

Appendix B
Ripley Energy Center
Ambient Measurement Data



Time	MP01	MP02
	L _{eq} (dBA)	L _{eq} (dBA)
6/21/23 2:15 PM	63	67
6/21/23 3:00 PM	63	68
6/21/23 4:00 PM	65	67
6/21/23 5:00 PM	65	69
6/21/23 6:00 PM	63	67
6/21/23 7:00 PM	63	67
6/21/23 8:00 PM	64	65
6/21/23 9:00 PM	60	65
6/21/23 10:00 PM	56	62
6/21/23 11:00 PM	56	59
6/22/23 12:00 AM	54	55
6/22/23 1:00 AM	52	55
6/22/23 2:00 AM	48	55
6/22/23 3:00 AM	50	57
6/22/23 4:00 AM	54	60
6/22/23 5:00 AM	60	63
6/22/23 6:00 AM	63	68
6/22/23 7:00 AM	64	70
6/22/23 8:00 AM	63	69
6/22/23 9:00 AM	61	68
6/22/23 10:00 AM	61	68
6/22/23 11:00 AM	64	68
6/22/23 12:00 PM	64	68
6/22/23 1:00 PM	62	68
6/22/23 2:00 PM	61	68
Daytime Average	63	67
Nighttime Average	59	64

*Daytime is from 7 AM to 10 PM, and nighttime is from 10 PM to 7 AM

**Highlighted values are lowest daytime and nighttime hourly measurements

APPENDIX C – MODELED SOUND POWER LEVELS

Appendix C - Modeled Sound Power Levels

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Ripey Energy Center

Name	Number of Sources	Sound Power Level (dB) ¹ Octave Band Frequency (Hz)									Overall (dBA)	Notes
		31.5	63.0	125	250	500	1000	2000	4000	8000		
Air Cooler	1	107	105	100	96	94	89	85	83	79	96	Estimated
CT Discharge Vent	4	89	96	84	82	79	86	88	89	89	95	In-house Data
CT Inlet Vent	4	91	98	86	88	87	87	90	90	90	96	In-house Data
Fuel Gas Performance Heater	1	103	99	101	91	85	83	83	80	76	91	In-house Data
Fuel Oil Pump Skid	1	98	114	101	104	107	107	109	105	98	114	In-house Data
GT Air Compressor Skid	1	92	88	93	92	90	93	93	91	86	99	In-house Data
GT Blower Skid	1	110	106	108	98	92	90	90	87	83	98	In-house Data
GT Control Oil Skid	1	110	103	95	100	99	98	94	93	89	103	In-house Data
GT Lube Oil Package	1	94	94	100	95	97	92	89	85	80	98	In-house Data
GT Purge Air Compressor	1	92	88	93	92	90	93	93	91	86	99	In-house Data
Solar Inverter	2	93	94	94	94	94	89	86	92	89	98	Estimated
Stack Exit	1	133	134	132	130	129	134	126	115	92	136	In-house Data
TA Inlet	2	132	125	108	84	79	77	73	68	80	100	In-house Data
TEC Blower	1	110	106	108	98	92	90	90	87	83	98	In-house Data
Water Injection Skid	1	99	115	100	106	105	105	105	101	98	111	In-house Data
Air Inlet Duct	1	111	106	105	94	88	102	87	88	93	103	In-house Data
Air Inlet House	1	118	112	108	99	87	90	79	96	105	105	In-house Data
Aux Trans	1	95	95	99	99	99	83	78	71	66	97	Estimated 80 dBA NEMA
Combustion Turbine	1	113	117	101	96	96	99	92	93	99	104	In-house Data
Exhaust Diffuser	1	133	130	115	113	110	108	106	100	77	114	In-house Data
Fuel Gas Compressor	1	104	100	105	104	102	105	105	103	98	110	Estimated 90 dBA @ 3ft
GSUT	1	102	102	106	106	106	90	85	78	73	104	Estimated 85 dBA NEMA
GT Generator	1	116	122	119	111	118	108	112	110	107	119	In-house Data
CO + SCR	1	106	105	89	78	77	94	86	69	41	95	In-house Data
SCR Transition 2	1	107	106	90	80	79	96	88	71	44	97	In-house Data
SCR Transition 3	1	102	99	90	87	81	95	89	78	53	97	In-house Data
SCR Transition 1	1	107	107	97	88	84	99	91	74	48	100	In-house Data
TA Duct and Casing	2	104	103	89	86	86	106	103	88	61	108	In-house Data
Stack Casing High	1	104	101	88	72	68	50	54	49	25	77	Estimated
Stack Casing Low	1	108	105	91	87	84	103	96	85	57	104	In-house Data

Notes:

1. All sound levels are expected base sound levels



APPENDIX H - PERMIT MATRIX

Item No.	Permit/Clearance	Regulatory Agency	Regulation	Details	Required for	Application Requirements	Typical Time for Application Preparation	Anticipated Agency Review Time	Permit Fee	Comments/Notes	Document or Website Link
Federal											
1	National Environmental Policy Act (NEPA) Review	Lead Federal Agency	National Environmental Policy Act	Required pursuant to NEPA for public disclosure of environmental impacts resulting from Federal actions.	Construction	Process can be a phased approach. The applicant typically prepares a preliminary Environmental Assessment (EA). The agency reviews the document and can either attach a Finding of No Significant Impact or require the preparation of an Environmental Impact Statement (EIS).	4 to 9 months	6 to 12 months	No	Class of Action for this project is an EA.	https://www.epa.gov/nepa
2	Section 404 Wetland/Stream Disturbance Permit	U.S. Army Corps of Engineers (USACE) - Tulsa District	Section 404 of the Clean Water Act	Required to dredge or place fill in a jurisdictional water, including wetlands. Nationwide Permit (NWP): Less than or equal to 0.5 acre of wetland impacts Individual Permit: More than 0.5 acre of wetland impacts	Construction	Complete field delineation to determine extent of jurisdictional wetlands and waters of the U.S. within the Project boundary. Develop wetland delineation report and calculate extent of impacts to jurisdictional waters.	4 weeks for wetland delineation and report preparation; 2 weeks for NWP application; 1 to 2 months for Individual Permit application	NWP Permit - 2 to 3 months; Individual Permit - 10 to 18 months	No	N/A - Site has been surveyed, see wetlands report. No permits anticipated.	https://www.swt.usace.army.mil/Missions/Regulatory/
3	Section 408 Permit	USACE - Tulsa District	Section 408 of the Clean Water Act	Required for any alterations, modifications, or to occupy any existing USACE civil works project. This includes dams, levees, channels, navigational channels, and any other flood risk management, navigation, recreation, and infrastructure and environmental stewardship projects constructed by USACE. Includes an engineering, environmental, real estate, and legal review from the USACE.	Construction	1 Written request letter 2 Engineering drawings	1 week for letter preparation	60 days for a low risk project; 90+ days for a high risk project	No	N/A	https://www.usace.army.mil/Missions/Civil-Works/Section408/
											https://nid.sec.usace.army.mil/#/
											https://levees.sec.usace.army.mil/#/
4	Section 10 Permit	USACE - Tulsa District	Section 10 of the Rivers and Harbors Act	Required to construct over, in, or under a Section 10 navigable waterway.	Construction	Typically, the same application can be used for the Section 10 process as for the Section 404 process.	2 weeks for NWP application; 1 to 2 months for Individual Permit application	45 to 60 days or simultaneous with another USACE permit	No	N/A - No Section 10 Streams will be impacted.	https://www.swt.usace.army.mil/Missions/Regulatory/Section-10-Waters/
5	Section 7 Threatened & Endangered Species Consultation and Clearance	U.S. Fish & Wildlife Service (FWS), Ecological Services	Section 7 of the Endangered Species Act (ESA), 16 USC 1531-1534	If the Project will potentially impact protected species or their respective habitat, or if a Section 404 and/or NPDES permit is required, then the FWS must be consulted for compliance with the Endangered Species Act.	Construction	The FWS will determine the level of effort needed for the Project to proceed (e.g., desktop survey, habitat assessment, species surveys, avian impact studies).	1 week to complete habitat assessment field survey; 1 week to draft letter to FWS to request concurrence of no impact	30 days for data request, 30 days for report review (if required)	No	N/A - Site has been surveyed, see habitat assessment report. Any tree clearing will occur outside of tricolored bat activity period.	https://www.fws.gov/office/oklahoma-ecological-services
6	Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) Compliance	U.S. Fish & Wildlife Service (FWS), Ecological Services	Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA)	If an activity may affect bald eagles, golden eagles, and/or their nests, coordination with the FWS may be required. Disturbance of any known eagle nesting areas will require FWS coordination.	Construction	Bird nest surveys could be required by the FWS to demonstrate compliance with the BGEPA. Even if not required by the FWS, project owners will typically conduct bird nest surveys to assess the potential risks to nesting bald and golden eagles.	1 week to complete bird nest survey; 1 week to draft letter to FWS to request concurrence of no impact	30 days for data request, 30 days for report review (if required)	No	N/A - Site has been surveyed, see habitat assessment report.	https://www.fws.gov/office/oklahoma-ecological-services
7	Notice of Proposed Construction	Federal Aviation Administration (FAA)	14 CFR Part 77	Required for the construction of structures 200 feet tall or within the distance to height ratio from the nearest point of a FAA airport runway. Also required for construction equipment reaching heights over 200 feet.	Construction	Complete Form FAA 7460-1 Notice of Proposed Construction or Alteration	1 week	45+ days	No		https://www.faa.gov/forms/index.cfm/go/documentinformation/documentid/186273
8	Hazardous Waste Generator Registration	U.S. Environmental Protection Agency (EPA)	Resource Conservation and Recovery Act	Required for facilities that manage hazardous waste. Employers must train personnel on proper hazardous waste management and comply with stringent requirements for generating, storing, treating, and disposing of hazardous wastes.	Operation	Must complete RCRA Subtitle C Site Identification Form to register as a hazardous waste generator, as appropriate.	1 to 2 weeks	30 to 60 days	No		https://rcrapublic.epa.gov/rcrainfoweb/documents/rcra_subtitleC_forms_and_instructions.pdf
9	Spill Prevention, Control, and Countermeasure Plan (SPCC Plan)	U.S. Environmental Protection Agency (EPA)	40 CFR Part 112	Facilities that store, process, refine, use or consume oil or oil products; store more than 1,320 gallons in total of all aboveground containers (only count containers with 55 gallons or greater storage capacity) or more than 42,000 gallons in completely buried containers; and could reasonably be expected to discharge oil to navigable waters of the U.S. or adjoining shorelines, such as lakes, rivers and streams.	Operation	SPCC Plan must be prepared in accordance with good engineering practices and certified by a Professional Engineer. SPCC Plan requires regular inspections and documentation of aboveground storage tanks holding regulated substances. https://www.epa.gov/sites/production/files/2013-08/documents/qf_app_guidance_0.pdf	30 to 60 days	No pre-approval required. Must be kept onsite and reviewed every 5 years or if there is a change within the site.	No	If fuel is stored onsite during construction that exceeds SPCC Plan thresholds, the Project owner or contractor will be required to develop an SPCC Plan for construction.	https://www.epa.gov/sites/production/files/2013-08/documents/qf_app_guidance_0.pdf https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/spill-prevention-control-and-countermeasure-10

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State - Oklahoma											
10	Construction Permit (Air Quality)	Oklahoma Department of Environmental Quality (DEQ), Air Quality Division	Oklahoma Clean Air Act, as amended (27 A O.S., et seq.)	A construction permit application is required before a new source is constructed or an existing source is modified. Depending on emissions, a general permit may be available for minor emission sources.	Construction	1 Form 100-810 (DEQ Landowner Notification Affidavit) 2 Form 100-306-A (Checklist for Eligibility – Authorization to Construct) 3 Form 100-815 (Tier Classification of AQ Permit Applications and Application Fees) 4 Form 100-884 (General Facility Information) 5 Form 100-306-B or C (NOI to Construct or NOI to Operate) 6 Form 100-306-D (Notice of Modification) 7 Form 100-306-E (Equipment Units List) 8 Any applicable source emissions forms (Forms 100-306-F thru H) 9 A Simple Facility Plot Plan 10 A Simple Process Flow Diagram (label emissions units as identified in the application forms) 11 Appropriate fees (check payable to DEQ Air Quality Division or Electronic Payments)	2 to 3 months	60 to 180 days	Major Source: \$900 Minor Source: \$500	A Tier II construction permit application was submitted and received a completeness determination from ODEQ on February 6, 2024, with the only deficiency identified was the application fee payment. Payment was submitted via electronic fund transfer on February 13, 2024. As required, a state-level BACT and modeling analysis were submitted as part of the permit application package.	https://www.deq.ok.gov/air-quality-division/forms-public-participation/air-forms/
11	Operating Permit (Air Quality)	Oklahoma Department of Environmental Quality (DEQ), Air Quality Division	Oklahoma Clean Air Act, as amended (27 A O.S., et seq.)	An operating permit is issued after construction is completed and demonstration is made that the source is capable of meeting applicable emissions limitations and air pollution control requirements. Depending on emissions, a general permit may be available for minor emission sources.	Operation	1 Form 100-810 (DEQ Landowner Notification Affidavit) 2 Form 100-306-A (Checklist for Eligibility – Authorization to Construct) 3 Form 100-815 (Tier Classification of AQ Permit Applications and Application Fees) 4 Form 100-884 (General Facility Information) 5 Form 100-306-B or C (NOI to Construct or NOI to Operate) 6 Form 100-306-D (Notice of Modification) 7 Form 100-306-E (Equipment Units List) 8 Any applicable source emissions forms (Forms 100-306-F thru H) 9 A Simple Facility Plot Plan 10 A Simple Process Flow Diagram (label emissions units as identified in the application forms) 11 Appropriate fees (check payable to DEQ Air Quality Division or Electronic Payments)	2 to 3 months	60 to 180 days	Major Source: \$900 Minor Source: \$500	An air operating permit will be obtained post-construction.	https://www.deq.ok.gov/air-quality-division/forms-public-participation/air-forms/
12	Title V Operating Permit	Oklahoma Department of Environmental Quality (DEQ), Air Quality Division	Oklahoma Clean Air Act, as amended (27 A O.S., et seq.)	Required for emission sources producing more than 100 tons/year of pollutants	Operation	1 Tier III Application 2 Form 100-001 3 Form 100-810 4 Form 100-821 5 Form 100-822 6 Form 100-823 7 Form 100-884	2 to 3 months	60 to 365 days	\$7,500 for Construction, \$7,500 for Operation	AECI will apply for a Part 70 operating permit at the appropriate time.	https://www.deq.ok.gov/air-quality-division/forms-public-participation/air-forms/
13	Section 401 Water Quality Certification (WQC)	Oklahoma Department of Environmental Quality (DEQ), Water Quality Division	Section 401 of the Clean Water Act	Required prior to Section 404 approval to verify that Project activities will not violate the State water quality standards or impact wetlands or stream designated uses.	Construction	No application required if Project qualifies for Section 404 Nationwide Permit.	1 to 2 weeks	Approval process runs concurrently with Section 404 application process for USACE Nationwide Permits; at least 60 days for an Individual 401 WQC	Only for an Individual 401 WQC - \$75	N/A	https://www.deq.ok.gov/wp-content/uploads/degmainresources/611.pdf
				If 401 Water Quality Conditions are met under a USACE Nationwide Permit, then 401 Water Quality Certification is granted upon issuance of the Nationwide Permit related to wetland and waterbody impacts. Otherwise, an Individual 401 Water Quality Certification is required from the Oklahoma DEQ.							https://www.swt.usace.army.mil/Portals/41/docs/missions/regulatory/2021%20NWP/oklahoma%20us%20wqc%20for%202021%20nwps.pdf?ver=w4ssESoVG3ssnkNuPpKNJw%3D%3D
14	NPDES Industrial Discharge Permit	Oklahoma Department of Environmental Quality (DEQ), Water Quality Division	Section 402 of the Clean Water Act	Required to discharge operational wastewaters from industrial facilities to surface waters of the State. Also required for land application of wastewaters. Also authorizes surface impoundments (pits, ponds, or lagoons) to treat or dispose of industrial wastewater.	Operation	1 Form 1: General Information 2 Form 2D: New Operations 3 Form 2L: Land Application of Wastewater and Sludge 4 Form 616-2SI: Surface Impoundments and Tank Systems	2 to 3 months	180 days	TBD	Not required for simple-cycle facility.	https://www.deq.ok.gov/water-quality-division/wastewater-stormwater/industrial-permitting/

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15	Industrial Wastewater Treatment Permit	Oklahoma Department of Environmental Quality (DEQ), Water Quality Division	252 OAC 616	<p>Required to construct, install, operate, and close an industrial wastewater surface impoundment or tank system</p> <p>Class III: containing or suspected to contain pollutants which do not pose a substantial risk of harm to humans, aquatic life, wildlife, or the environment because of a relative immobility in groundwater or the general lack of direct toxicity, which are not likely, if discharged, to degrade the beneficial uses of the receiving water</p> <p>Class IV: containing only sanitary wastewater from industrial facilities</p>	Construction	1 Application form 2 Construction plans and report	3 to 4 months	120 days	Fees depend on wastewater type and holding system type	General Permit (OKGC3T) available for Class III total retention systems.	https://www.deq.ok.gov/wp-content/uploads/water-division/Form-616-GC3T.pdf

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State - Oklahoma											
16	Publicly Operated Treatment Works (POTW) Pretreatment Permit	Oklahoma Department of Environmental Quality (DEQ), Water Quality Division	40 CFR Subsection 403	Required for industries discharging wastewaters to a municipal sewer system. Typically industries must meet numeric limits on pollutants and employ best management practices to control the amount of pollutants being discharged.	Operation	Form 606-008: Categorical or Significant Industrial User in a Non-Pretreatment Municipality to Discharge Wastewater to the POTW The municipality/POTW may have additional application requirements.	2 to 3 months	3 to 6 months	TBD	Not required for simple -cycle facility.	https://www.deq.ok.gov/wp-content/uploads/water-division/Form-606-008-Categorical-or-Significant-Industrial-User.pdf
17	Onsite Sanitary Disposal Permit	Oklahoma Department of Environmental Quality (DEQ)	Sewage Treatment System Program (Chapter 252:641)	Required to install a conventional onsite system (1,000-gallon septic tank and dispersal field); alternative systems must be approved by the DEQ prior to installation. Minimum lot size requirement is 1/2 acre for most systems and a total of at least 10,000 sq ft. Must be installed by a certified installer or arranged to have a DEQ inspection of the installation.	Construction	1 Soil test. 2 Authorization to construct an On-site Sewage Treatment System prior to installation. https://applications.deq.ok.gov/sewagepermit/	1 to 2 months	TBD	Fees vary for size and installation requirements. https://www.deq.ok.gov/wp-content/uploads/2021/06/252641_IndividualAndSmallPublicOnSiteSewageTreatmentSystems.pdf		https://applications.deq.ok.gov/sewagepermit/
18	NPDES General Permit for Construction Stormwater & Stormwater Pollution Prevention Plan (SWP3)	Oklahoma Department of Environmental Quality (DEQ), Water Quality Division	Section 402 of the Clean Water Act	Required for construction disturbance equal to or greater than 1 acre. Under 40 acres of disturbance will not require submittal of SWP3 to ODEQ for review.	Construction	A SWP3 must be developed prior to submitting a Notice of Intent for General Permit coverage.	3 to 4 weeks	3 to 4 weeks	Depends on acreage of disturbance		https://www.deq.ok.gov/stormwater-permitting/okr10-construction-stormwater/
19	Cultural Resources Clearance	Oklahoma Historical Society, State Historic Preservation Office (SHPO)	National Historic Preservation Act – Section 106	Under Section 106 of the National Historic Preservation Act, Federal agencies must work with the SHPO to address historic preservation issues when planning projects or issuing funds or permits that may affect historic properties and archaeological resources listed in or determined eligible for the National Register of Historic Places.	Construction	1 Desktop evaluation 2 Agency coordination letter SHPO will determine if further consultation is required, such as a Phase I Cultural Resources survey.	SHPO determines level of consultation (resources surveys, etc.).	1 to 2 months for each response	No	Surveys completed and SHPO concurrence obtained. See consultation information	https://www.ohistory.org/shpo/section106.htm
20	Threatened & Endangered Species Clearance (State)	Oklahoma Department of Wildlife Conservation (ODWC)	29 Okl. St. Ann. 5-402, 412, 412.1; 29 Okl. St. Ann. § 2-109, 135	Required for projects with the potential to affect State-protected rare, threatened, and/or endangered species.	Construction	1 Desktop evaluation 2 Agency coordination letter ODWC will determine if further consultation is required, such as a Habitat Assessment Survey.	2 weeks for initial consultation; 1 to 2 months if field survey and report are required.	30 days depending on project and if additional ODWC review is required.	No	N/A - Site has been surveyed, see habitat assessment report.	https://www.wildlifedepartment.com/wildlife/threatened-and-endangered
21	Water Use Permit	Oklahoma Water Resources Board (OWRB)	785 OAC, Chapters 20 and 30	Required for long-term use of groundwater or surface water for any purpose other than domestic use. Holders of valid long term groundwater and stream water use permits including prior rights and vested rights as well as holders of regular, temporary, term, and seasonal permits are required to report water use on an annual basis. https://www.owrb.ok.gov/about/about_pdf/Fact-Permitting.pdf	Operation	1 Long-Term Application for a Permit to Use Groundwater 2 Long-Term Application for a Permit to Use Stream Water 3 Notify all landowners within 0.25-mile of each 10-acre tract wherein wells are proposed.	2 to 3 months	Processing of an application for long-term use of water requires 60 to 90 days from the date of filing, if there are no protests or other complications. Protested applications normally require an additional 30 to 60 days prior to OWRB consideration. OWRB meetings are usually held the third Tuesday of every month in Oklahoma City	Fees vary by type of permit and amount of water requested.	Groundwater use is a legal property right tied to ownership of the land. Surface water is publicly owned. Before permitting its use, the OWRB must determine that unappropriated water is available in the amount applied for and will not interfere with domestic/existing appropriative uses.	https://www.owrb.ok.gov/wateruse/pdf/app_gw_9_15_22.pdf
22	Petroleum Storage Tank Registration	Oklahoma Corporation Commission (OCC), Petroleum Storage Tank Division	Oklahoma Storage Tank Regulation Act OAC 165:26-1-41 to 165:26-1-47	Storage tanks containing antifreeze, motor oil, motor fuel, gasoline, kerosene, diesel, or aviation fuel are regulated by the OCC's Petroleum Storage Tank Division. Aboveground petroleum storage tanks with capacity over 110 gallons must be registered, except for farm and ranch tanks, emergency generator tanks, or tanks at fleet and commercial facilities less than 2,100 gallons individual storage capacity. https://oklahoma.gov/content/dam/ok/en/occ/documents/ajls/jls-courts/rules/2020/current-rules/ch-26-effective-10012020.pdf	Construction	1 Registration for Petroleum Storage Tanks form 2 Tank and line tightness test 3 Manufacturer checklist 4 Site map 5 Photos	2 to 4 weeks	2 to 4 weeks	TBD		https://oklahoma.gov/occ/divisions/petroleum-storage-tank/forms/compliance-forms.html
23	Boiler/Pressure Vessel Installation Permit	Oklahoma Department of Labor	Boiler & Pressure Vessel Safety Act 40 O.S. 1411, et seq.	All boilers are to be inspected by either the State or an authorized insurance company at least once a year with high pressure boilers being inspected twice a year. Some pressure vessels are inspected every 3 years.	Construction	Permit application form	1 week	2 to 4 weeks	\$10		https://oklahoma.gov/content/dam/ok/en/labor/documents/safety-and-health/safety-standards/bpv/Boiler%20Permit%20Fillable%20Form%20Updated%2006092022%20Pg%201.pdf

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Payne County											
24	Construction and Operation Permits	N/A	N/A	No permits or approvals relating to Project construction or operation were identified on the Payne County Government Webpage, with the exception of Road Crossing Permits (discussed below).	Construction and Operation	N/A	N/A	N/A	N/A	Consultation with the Payne County Commissioner's Office on November 7th, 2022 revealed that no permits will be required for construction activities conducted in unincorporated areas of the County.	
25	Road Crossing Permit (Temporary or Permanent)	Payne County Commissioners	County Legal Advisory	Required for any temporary or permanent road crossing activities.	Construction	Size and type of installation Method of installation Location Company information	1 week	2 weeks	\$250 Standard Fee \$500 Post Use Fee	Separate permits for temporary or permanent crossings.	https://static1.squarespace.com/static/6009a26735161d7f675c7065/t/620276ebc1a83c670c001303/1644328684473/Road+Crossing+Permit+Update+42020.pdf
											https://static1.squarespace.com/static/6009a26735161d7f675c7065/t/60634d814d6d526b0a0e4fd6/1617120642099/Permanent+MX-3050N_20210330_105946.pdf