May 1, 2014

Subject: Wild Flower Water, LLC Pumped Storage Project (FERC Project No. 13842) Notice of Intent and Pre-Application Document and Request to use the two-year Licensing Process.

Dear Ms. Bose:

Tomlin Infrastructure Group, LLC (TIG) is pleased to submit its Notice of Intent (NOI) and Pre-Application Document (PAD) for the Wild Flower Water Pumped Storage Hydro Project (Project No. 13842). The proposed project would be located on private property within Pushmataha County, Oklahoma near the town of Clayton (Census 2010: pop. 1,012).

In conjunction with this filing, TIG is requesting that the Commission designate it as the Commission's non-federal representative for the purpose of consultation, pursuant to Section 7 of the Endangered Species Act and joint agency regulations thereunder at 50 CFR Part 402, Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and the implementing regulations at 50 CFR600.920 and Section 106 of the National Historic Preservation Act and the implementing regulations at 50 CFR § 600.920.

This submittal is being electronically filed with the Commission. As required, two courtesy copies are being mailed, simultaneously, to the Commission.

In accordance with 18 CFR§ 4.32, we are also submitting copies of this NOI and PAD to the entities on the attached Distribution List (if paper copy service is required), or notifying entities by email (or mail if email is unavailable) that the NOI and PAD are available for download on the licensing website, www.tomlinig.com. The entities include those resource agencies, Indian tribes, Native, nongovernmental organizations, and members of the public that have participated in TIG's pre-formal consultation or have otherwise been identified as having potential interest in the licensing proceedings by TIG.

Also pursuant to the Commission's regulations, a notice will be published in a local newspaper (*The Antlers American* newspaper). The public portions of the PAD will be made available at our licensing website, www.tomlinig.com and copies are available for review at the TIG office in Addison, Texas as well as the Clayton's Public library.

Also included within this NOI is TIG's request to the commission for the authorization to use alternative procedures, that alternative procedure is using the Two-Year Licensing Process, per the Hydropower Regulatory Efficiency Act of 2013, Docket No. 13-9-000 (Notice Soliciting Pilot Projects to Test a Two-Year Licensing Process) of which the project meets the requirements.

- The project is an off stream, closed-loop pumped storage facility,
- Is located on privately owned land,
- Would cause little to no change to existing surface and groundwater flows and uses,
- Is unlikely to adversely affect federally or state listed threatened and endangered species,
- Would cause little to no change to environmental resources,
- Is located in an area where there is substantial existing information on environmental resources,
- We have met with federal and state resource agencies, Indian tribes, non-governmental organizations, and the public regarding the project and the potential pilot process proposal, potential project-related environmental effects, the availability of existing information, and the need for studies to supplement existing information if needed.

Beginning in September 2011 after FERC issued a preliminary permit for the proposed Wild Flower Water Pumped Storage Project, TIG conducted an outreach effort regarding its pre-formal study efforts, for this project. Documentation of these efforts is located in the PAD.

Interested organizations and members of the public can file comments regarding TIG directly with FERC and copied to TIG within 30 days of the filing date of this request and should reference the Wild Flower Pumped Storage Project (FERC No. 13842).

Fred A. Brown, P.E.

Cc: Distribution list

UNITED STATES OF AMERICA FEDERAL
ENERGY REGULATORY COMMISSION

Tomlin Infrastructure Group, LLC Project No. P-13842

NOTICE OF INTENT OF WILD FLOWER ENERGY PARK, LLC TO FILE AN APPLICATION FOR AN ORIGINAL LICENSE FOR THE WILD FLOWER PUMPED STORAGE PROJECT (FERC NO. P-13842) AND REQUEST TO USE THE TWO-YEAR LICENSING PROCESS

Pursuant to 18 CFR § 5.5, Tomlin Infrastructure Group, LLC (the Permittee) hereby notifies the Federal Energy Regulatory Commission (the Commission) of its intent to file an application for an original license for the Wild Flower Pumped Storage Project (the Project), Project No. P-13842.

Simultaneously the Permittee is filing its Pre-Application Document (PAD) with the Commission and proposes to conduct pre-filing activities utilizing an alternative procedure, that being the TWO-YEAR License Process (TYLP), per the Hydropower Regulatory Efficiency Act of 2013, Docket No. AD13-9-000, (Notice Soliciting Pilot Projects to Test a Two-Year Licensing Process).

The Permittee requests that all correspondence and service of documents related to this notification and subsequent proceedings be addressed to:

Fred Brown, P.E. (Agent)

Tomlin Infrastructure
Group, LLC

4265 Kellway Circle,
Addison, TX 75001

(972) 239-0707

fbrown@tomlininvestments.com

The following information is provided consistent with the regulations of 18 CFR (section) 5.5.

(1) Applicant's name and address:

Wild Flower Water, LLC

4265 Kellway Circle

Addison, TX 75001

(2) The project number:

P-13842

(3) The license expiration date, if any:

Not applicable. The Project does not possess a license and involves the construction of new facilities.

(4) An unequivocal statement of the potential applicant's intention to file an application for an original license:

The Permittee unequivocally intends to file for an original license for the Wild Flower Pumped Storage Project No. P-13842.

(5) The type of principal project works licensed, if any, such as dam and reservoir, powerhouse or transmission lines:

This is a NOI for an unconstructed project.

Project Description:

Texas based, Tomlin Infrastructure Group, LLC is developing the Wild Flower Pumped Storage Hydro Project through the company's wholly owned, single purpose subsidiary Wild Flower Water, LLC. The proposed project would be a new facility located in Pushmataha County, Oklahoma. The facility will be located completely on private land and would take advantage of the geological features of Wild Flower, this to result in 900

feet of head. This facility would consist of upper and lower off-stream, closed-loop reservoirs. As currently designed, four turbine-generators would provide an installed capacity of 1,200 megawatts, allowing for an estimated annual energy generation of 4,300 gigawatt hours.

The proposed project would consist of the following: (1) an 85 foot high, 1,600-footlong earth embankment dam; (2) an upper reservoir with a surface area of 580 acres and a 38,100-acre-foot storage capacity; (3) a 50-foot-high, 13,000-foot-long earth embankment dam; (4) a lower reservoir with a surface area of 520 acres and an 35,700-acre-foot storage capacity; (5) four 18-foot-diameter, 5,300-foot long penstocks connecting the two reservoirs; (6) a powerhouse/pumping station containing 4 pump/generating units with a total generating capacity of 1,200 megawatts; (7) a transmission line to an existing distribution line; and (8) appurtenant facilities. There are no federal or state lands associated with the project. The hydraulic connection between the upper and lower reservoir is planned as a single, vertical concrete lined shaft below the upper reservoir connecting to a sloped concrete and steel lined tunnel running from the vertical shaft to the underground powerhouse. The powerhouse will be located in close proximity to the lower reservoir and constructed below grade to obtain proper submergence during all operating conditions. The design of the four of pump/generators will be configured in a hydraulic short-circuit arrangement. The result will allow the power plant to both pump and generate at the same time, as well as quickly switch from pumping to generating and back again.

Existing logging roads will be improved and utilized to provide access to the upper reservoir and a negotiated easement will be set up from existing state roads for the lower reservoir site. Temporary construction roads within the property will be built as needed to facilitate access to the construction site. The current interconnection plan for the project is to electrically connect it to the existing transmission line south of the project, near Sherman, TX.

(6) The location of the project by state, county and stream, and, when appropriate, by city or nearby city:

State: Oklahoma
County: Pushmataha
Stream: Not applicable
City: The project would be located 10 miles east of the small community of Clayton, Oklahoma (2010 Census: pop. 1,012).

(7) The installed plant capacity:

Proposed installed capacity is 1,200 megawatts.

(8) The names and mailing addresses of:

a. Every county in which any part of the project is located, and in which any Federal facility that is used or to be used by the project is located

Pushmataha County, Oklahoma

b. Every city, town, or similar political subdivision

(i) That the project is located

(ii) That has a population of 5,000 or more people and is located within 15 miles of the existing or proposed project dam

There are no cities, towns, or subdivisions with population sizes of 5,000 or more within 15 miles of the Project.

c. Every irrigation district, drainage district, or similar special purpose political subdivision

(i) In which any part of the project is, or is proposed to be, located and any Federal facility that would be part of the project

(ii) That owns, operates, maintains or uses any project facility and/or Federal facility that is or is proposed to be used

Pushmataha Co. Rural Water District #1
Manager: Jerry Buchanan
Phone: (918) 569-4326
Supply Type: Purchase Water
Supply Source: Surface Water

Pushmataha Co. Rural Water District #2
Phone: (918) 563-4318
Supply Type: Purchase Water
Supply Source: Surface water

Pushmataha Co. RWD #3
Manager: Robert Bruce
Phone: (580) 298-3312
Supply Type: Supplied
Supply Source: Surface Water

Pushmataha Co. RWD #5
Phone: (918) 755-4637
Supply Type: Supplied
Supply Source: Surface Water

Pushmataha Antlers Public Works Authority

Phone: (580) 298-2315

Supply Type: Supplied

Supply Source: Ground Water

Pushmataha Clayton Public Works Authority

Phone: (918) 569-4135

Supply Type: Supplied

Supply Source: Surface Water

d. Every other political subdivision in the general area of the project or proposed that there is reason to believe would be likely to be interested in, or affected by, the application

U.S. Army Corps of Engineers

Tulsa District

Greg Estep, P.E. Chief, Hydrology and Hydraulics Branch

Mike Abate

Rod Shank

Stephen L. Nolen

Scott A. Henderson

1645 S 101 E Ave

Tulsa, OK 74128-4609

(918) 669-7366

http://www.nwo.usace.army.mil/

U.S. Fish and Wildlife Service

Ecological Services Field Office

9014 E. 21st Street

Tulsa, OK 74129

(918) 382-4504

www.fws.gov

U.S. Geological Survey

Oklahoma Water Science Center

Broadway Executive Park,

202 N.W. 66 St. Bldg. 7

Oklahoma City, OK 73116

(405) 810-4400

U.S. Geological Survey

Oklahoma Cooperative Fish and Wildlife Unit

404 Life Sciences West

Oklahoma State University

(405) 744-6342

Oklahoma Water Resources Board

J. D. Strong, Executive Director

K. Wilkins, Asst. Chief Planning & Management

J. Barnett, General Counsel

Rick Wicker, Surface Water Permitting Specialist, Planning & Management Division

Anthony Mackey

3800 N. Classen

Oklahoma City, OK 73118

(405) 530-8800

Secretary of Energy & Environment, State of Oklahoma

Tyler Powell, Deputy Secretary of Environment

Craig Sundstrom, Deputy Secretary of Energy

100 N. Broadway

Oklahoma City, OK 73102

Oklahoma Department of Environmental Quality

Terry Lyhane, Assistant Division Director, Water Quality Division,

Marc Derischsweiler, P.E., Engineering Manager, Water Quality Division, Watershed

Lloyd A. Kirk, Director, Office of External Affairs,

Tim Ward, P.E., Assistant Director, Office of External Affairs

707 N Robinson

Oklahoma City, OK 73102

National Resource Conservation Service (NRCS) – Central National Technical Support Center

501 W. Felix, FWFC Bldg. 23

Fort Worth, TX 76115

(817) 509-3570

United States Department of Agriculture, NRCS Water Resources

Steven P. Elsener, Biologist

Richard L. Lane, Planning Engineer

Gary Utley, Hydraulic Engineer

100 USDA, Suite 206

Stillwater, OK 74074-2655

(405) 742-1204

e. Affected tribes

The Project is within the traditional territorial range of the Choctaw and Chickasaw Nations but no sites or objects have been identified.

Choctaw Nation of Oklahoma	Chickasaw Nation of Oklahoma
Bill Wimberley	Brian McClane
Scott MacDonald	Janeen Gray
P.0. Box 1210	P.O. Box 1548
Durant, OK 74702-1210	Ada, OK 74821
(800) 522-6170	(580) 436-7259

Request to Use the Two Year Licensing Process

Wild Flower Water, LLC is requesting Commission Approval to use the Two-Year Licensing Process (TYLP) according to the Hydropower Regulatory Efficiency Act of 2013, Docket No. AD-13-9-000. The regulations in 18 CFR § 5.3 require that an application for authorization to use the TYLP include justification for the request and any existing written comments on the potential applicant's proposal and response thereto.

Tomlin Infrastructure Group, LLC, formed Wild Flower Water, LLC in 2009 for the sole purpose of developing a closed loop pumped storage project. Wild Flower Water, LLC, a wholly owned subsidiary of Tomlin Infrastructure Group LLC, applied for and was issued a preliminary permit by the Federal Energy Regulatory Commission (Commission) on September 15, 2011.

The Project would consist of a new, off-stream, closed loop reservoir complex that will not be continuously connected to a naturally-flowing water feature. This facility would not impact any existing surface and groundwater flows and uses or create new river impoundments beyond the initial fill and occasional supplements. The project would cause little to no change to other environmental resources and is located in areas with substantial existing information on environmental resources and effects. The project is unlikely to adversely affect federally or state listed species and we will fully cooperate with the affected agencies and tribes to identify additional information needs or protection measures, if any, which could occur in the project area.

The construction of the impoundments and transmission interconnection would be located entirely on private property. We have met with federal and state agencies, Indian tribes, non-governmental organizations, and the public regarding the project and pilot process proposal, potential project-related environmental effects, the availability of existing information, and the needs for studies to supplement existing information. Initial consultations and studies have not identified any significant controversial aspects to developing the Project. Based on feedback received from an outreach effort to agencies and other interested stakeholders, and our own evaluation of the licensing process options, TIG believes that a TYLP is the preferred process for the pre-filing consultation and study efforts for the Project.

TIG herein provides its Request to Use the Two-Year License Process (TYLP) pursuant to the Hydropower Regulatory Efficiency Act of 2013, Docket No. AD-13-9-000.

1) Likelihood of timely license issuance

TIG believes that using the TYLP will result in a more efficient and cost effective license issuance. Licensing the Project through the TYLP will allow TIG to work more closely with state and federal agencies, as well as other stakeholders, to quickly identify and resolve potential issues both during the study scoping as well as the study program.

Such flexibility and cost effectiveness is lacking in the Integrated Licensing Process (ILP), which is generally designed to complete pre-filing consultation within specific time-frames and processes designed and managed directly by FERC. TIG is anticipating a relatively uncontroversial licensing process and believes the TYLP would allow us to advance toward Project construction in a judicious and cost effective manner.

2) Complexity of the resource issue

The Project is not complex from a resource perspective and thus lends itself to the TYLP. Due to the limited potential impact of the potential Project, a relatively straightforward study program is envisioned to generate the needed information to support the development of the license application.

There are several unique aspects to the Project that diminishes the complexity of the resource issues. The Project would consist of two impoundments built off-stream. As currently envisioned, existing water rights will be purchased to fill the reservoirs and provide make-up water. The earth removed to create the reservoirs and hydraulic connection would be reused to form the roller compacted concrete floors and earth embankment surrounding the impoundments. Suitable access roads to both the upper

and lower reservoirs already exist. Furthermore, the electrical connection for the project extends just a few miles over private land.

TIG completed a Phase I environmental assessment for the Project site.

3) Level of anticipated controversy

TIG anticipates no major controversies as it moves forward with the licensing process. As noted above, the Project is located entirely on private property. TIG has signed a term sheet with landowners affirming their willingness to work with us to develop the Project. The Project would be constructed entirely off any stream or existing body of water and therefore has no anticipated effect on aquatic habitat. TIG has several viable options for procuring both the initial fill and make-up water. Every effort will be made to preserve the pristine nature of the Kiamichi River in full collaboration with affected agencies and entities.

The outreach effort conducted by TIG regarding the use of the TYLP and preliminary study efforts with state agencies has generated no significant comments. Furthermore, throughout the development of the Project, TIG has had extensive engagement with landowners and other interested stakeholders with no opposition. TIG believes that the flexibility that will be available in the TYLP for making adjustments to the study program will allow us to effectively address identified concerns while allowing us to manage the process in a judicious and efficient manner.

4) Relative cost of the two year process compared to the integrated process

TIG believes that using the TYLP will be a more cost effective licensing process. The flexibility of this process will allow for more efficient use of time and management of our and the agencies' resources, resulting in lower costs for us as the project sponsor as well as the stakeholders. TIG anticipates that it will be more cost effective to retain control of the timing and control of the studies as well as maintain the flexibility to develop mitigation strategies resulting from issues identified in the study period.

5) The amount of available information and potential for significant disputes over studies

TIG does not anticipate any significant disputes over studies. It is our intention to conduct comprehensive pre-study consultations with state and federal agencies, as well as interested stakeholders, addressing the most difficult questions on the table and use the studies to resolve all identified concerns to the satisfaction of the parties. Thus far, TIG's

outreach has identified no significant controversial aspects to the Project. Preliminary studies have been performed addressing water rights, site geology, hazardous materials, habitat and agricultural losses, endangered species and cultural resources—no significant concerns have been identified in these preliminary analyses.

6) Other factors believed by the applicant to be pertinent

TIG is committed to comprehensively consulting state and federal agencies, landowners, environmental groups and other interested stakeholders and address concerns they may have in the development of the Project. Thus far, initial outreach efforts have generated positive feedback on the design and location of the Project. It is TIG's belief that utilizing the TYLP over the ILP would give us the flexibility to utilize our, as well as the agencies and stakeholder's, time and resources in the most efficient and cost effective manner possible.

ATTACHMENT 1

DISTRIBUTION LIST

Pushmataha Co. Rural Water District #1	Jerry Buchanan	(918) 569-4326
Pushmataha Co. Rural Water District #2		(918) 563-4318
Pushmataha Co. Rural Water District #3	Buster Bell	(580) 298-3312
Pushmataha Co. Rural Water District #5		(918) 755-4637
Pushmataha Antlers Public Works Authority	Larry Ellison	(580) 298-2315
Pushmataha Clayton Public Works Authority	Thomas Hendershot	(918) 569-4135
U.S. Army Corps of Engineers - Tulsa District	Greg Estep	1645 S 101 E Ave, Tulsa, OK 74128-4609
U.S. Environmental Protection Agency - Region 6: South Central		1445 Ross Avenue, Suite 1200, Dallas, TX 75202
U.S. Fish and Wildlife Service Ecological Services Field Office		9014 E. 21st Street Tulsa, OK 74129
U.S. Geological Survey Denver Federal Center		PO Box 25046 Denver, CO. 80225
U.S. Geological Survey Oklahoma Water Science Center	David N. Mott	Broadway Executive Park, 202 N.W. 66 St. Bldg. 7 Oklahoma City, OK 73116
U.S. Geological Survey Oklahoma Cooperative Fish and Wildlife Unit		404 Life Sciences West Oklahoma State University Stillwater, OK 74078
US Army Corps of Engineers, Sardis Lake		Sardis Lake HC 60 Box 4195 Clayton, OK 74536
City of Clayton		400 N Bell Street Clayton, OK 74534
City of Antlers		100 SE 2nd Street

		Antlers, OK 74523-4000
Town of Albion		P.O. Box 42 Albion, OK 74521-0009
Choctaw Nation of Oklahoma	Scott MacDonald	P.0. Box 1210 Durant, OK 74702-1210
Chickasaw Nation of Oklahoma	Brian McClane	P.O. Box 1548 Ada, OK 74821

Pre-Application Document

Wild Flower Pumped Storage Project

(FERC Project No. 13842-000)

May 2014

Wild Flower Water, LLC

Clayton, OK

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Appendices

Acronyms and Abbreviations

ac-ft.	acre-feet
ALP	Alternative Licensing Process
amsl	above mean sea level
APE	Area of Potential Effect
APEA	Applicant Prepared Environmental Assessment
BIA	U.S. Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BMP	Best Management Practices
BOR	U.S. Bureau of Reclamation
BRFSS	Oklahoma Behavioral Risk Factor Surveillance System
C	Celsius
CaSO4	calcium sulfate
CEII	Critical Energy Infrastructure Information
DLA	Draft License Application
ESA	Endangered Species Act
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FeS	iron sulfide
ft.	feet
TIG	Tomlin Infrastructure Group
GWh	Gigawatt Hour
ILP	Integrated Licensing Process
kV	kilovolt
LA	License Application
LMCD	Lower Kiamichi Conservation District

LWCF	Land and Water Conservation Fund
MW	Megawatt
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPS	National Park Service
NRI	National Rivers Inventory
NWI	National Wetlands Inventory
ODEQ	Oklahoma Department of Environmental Quality
ODWC	Oklahoma Department of Wildlife Conservation
ONRCS	Oklahoma Department of Natural Resources & Conservation
OTRD	Oklahoma Tourism and Recreation Department
OK	Oklahoma
ONHI	Oklahoma Natural Heritage Inventory
PAD	Pre-Application Document
Project	Wild Flower Pumped Storage Project
PSOC	Potential Animal Species of Concern
RTE	Rare, threatened, or endangered
SCORP	Oklahoma Statewide Comprehensive Outdoor Recreation Plan
SOC	Species of concern
SSURGO	Soil Survey Geographic
TLP	Traditional Licensing Process
TYLP	Two-Year Licensing Process
TMDL	Total Maximum Daily Load
USFWS	U.S. Fish & Wildlife Service
USFS	U.S. Forest Service

1. Introduction

Addison, Texas based, Tomlin Infrastructure Group, LLC (TIG) is developing the Wild Flower Pumped Storage Hydropower Project (Project). The Project, which consists of a 1,200 megawatt (MW) closed-loop pumped storage hydropower facility, would be a "greenfield development" located in Pushmataha County, Oklahoma, entirely on private property. The Project would provide necessary ancillary services and energy storage to ERCOT and allow for more reliable management and integration of disparate energy sources into the ERCOT grid.

Within ERCOT, renewable energy development is growing, primarily through wind power generation. The Project would provide additional ramping capacity both up and down as well as firming for wind energy regulation control, coordination and scheduling services, automatic generation control, and support of system integrity and security (reactive power, or spinning and operating reserves).

One potential aspect of the proposed Project would be the delivery of adequate ancillary services that would allow the economic use of existing and potential new transmission and mitigate the variability in wind. Other potential ancillary services for integration include energy time-shift, load following, area regulation, reserve capacity, voltage support, transmission congestion relief, and transmission and distribution deferral.

TIG has prepared this Pre-Application Document (PAD) pursuant to the requirements of 18 CFR § 5.6. Simultaneously with filing of the PAD, TIG has filed with the Federal Energy Regulatory Commission (FERC) a Notice of Intent (NOI) to file for an original license pursuant to 18 CFR § 5.5, and a request to utilize the Two-Year Licensing Process (TYLP) pursuant to the Hydropower Regulatory Efficiency Act of 2013, Docket No. AD13-9-000 (Notice Soliciting Pilot Projects to Test a Two-Year Licensing Process). TIG has also requested permission to be FERC's non-federal designee for purposes of consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA).

1.1. Background

1.1.1. Applicant

Applicant is Tomlin Infrastructure Group, LLC (TIG). TIG was founded in 2011 and has focused its efforts on the development of electric utility scale storage projects.

1.1.2. Activity under the Preliminary Permit

TIG filed for an initial preliminary permit with the FERC on September 23, 2010 and revised its application April 12, 2011. After the FERC's acceptance and no motions to intervene, FERC issued the Preliminary Permit for the Wild Flower Pumped Storage Project, effective April 27, 2011.

Article 4 of the Preliminary Permit requires a progress report be submitted every six months from the date of issuance. These reports describe activities and progress supporting the intent to evaluate the Project site and feasibility. TIG submitted a total of seven progress reports in accordance with the Preliminary Permit.

Preliminary studies regarding local environment and feasibility have been performed.

1.1.3. Early Consultation

Outreach started following the filing of the Preliminary Permit in 2011 and included meetings with landowners around the project area, local county and state elected representatives, the Oklahoma Governor and members of his staff including those at the Department of Commerce, the Department of Natural Resources; and in particular the Water Division, the Department of Environmental Quality and the Department of Fish Wildlife and Parks. TIG also engaged members of the environmental community and others. As part of TIG's outreach, discussions were held regarding the project and its impacts/benefits with the ERCOT.

TIG has had recent meetings with the Governor's staff as well as the Directors of Natural Resources, Environmental Quality and the Deputy Director of Fish Wildlife and Parks.

1.2. Applicant Representatives

The persons listed below are authorized to act as an agent for TIG during the licensing process:

Fred Brown, P.E.

Tomlin Infrastructure Group, LLC

4265 Kellway Circle

Addison, TX 75001

(972) 795-2935

fbrown@tomlininvestments.com

2. Process Plan and Schedule

As an alternative to the default Integrated Licensing Process (ILP), TIG is proposing to use FERC's Two-Year Licensing Process (TYLP) to pursue the license for the Project. TIG provided copies of the request to all affected resource agencies and Indian Tribes (Appendix A). Comments on the request are attached.

In accordance with 18 CFR § 5.8(a) and (b), within 30 days of the filing of a request to use the TYLP, FERC will issue a notice of commencement of the licensing proceedings and notice of public technical meeting to discuss the TYLP pilot process proposal if needed.

2.1. Proposed Licensing Approach

TIG carefully reviewed available licensing processes including the ILP, the Alternative Licensing Process (ALP), and the TYLP. TIG discussed the different strengths and weaknesses of each process and their suitability for the Project's licensing efforts with key agencies and the Governor's staff and indicated a desire to utilize the TYLP.

Based on feedback received from the outreach effort to agencies and other interested stakeholders, and its own evaluation of the licensing process options, TIG believes that a TYLP is the preferred process for the pre-filing consultation and study efforts for the Project. The justification for this request as well as agency statements of concurrence are included with the Notice of Intent.

2.2. Process Plan and Schedule

The following Process Plan and Schedule are based on the assumption that FERC will approve TIG's request to utilize the TYLP. Because the TYLP has less prescriptive timelines and processes relative to FERC's default ILP, it is important to describe how TIG and licensing participants in pre-filing consultation (consultation prior to the filing of the license application) will communicate with each

other for the duration of the licensing process. Should TIG be approved for the TYLP, we intend to follow the timeline and process plan as described in the January 6, 2014 Notice soliciting Pilot projects pursuant to the Hydropower Regulatory Efficiency Act of 2013, Docket No. AD 13-9-000.

TIG believes that the TYLP, as modified by the communication commitments outlined here, would be effective in completing the necessary pre-filing consultation with opportunities for meaningful participation by agencies, other interested organizations, and the public, while not adding undue requirements and costs. Should the TYLP not be approved for use, TIG would continue with consultation utilizing the default ILP and follow the applicable regulations.

This Process Plan would govern communications among all licensing participants and provide public access to information regarding the consultation activities related to licensing of the Project. This includes (1) identification of resource questions and possible studies, (2) review of study plans and results, (3) and review of TIG's draft License Application.

2.3. Communication and Meeting Protocols

2.3.1. Participant Contact List

The licensing process for the Project is open to the general public and interested individuals and organizations are encouraged to participate. A contact list, compiled by TIG, will be maintained to identify those agencies, organizations, individuals, or groups that have been identified as interested parties or who have requested to be included as licensing participants. The contact list will be used to provide notice of any public meetings, as well as notice of the availability of information for public review. The current contact list is included as Appendix A.

2.3.2. Maintenance of the Public Reference File

TIG will maintain a public reference file at its offices in Addison, Texas. The public reference file will include copies of written correspondence, documentation of phone conversations, meeting notices, agendas and summaries, study plans, study reports, status reports, and other documents developed during consultation or submitted for inclusion in the public reference file. All documents in the public reference file will be submitted to FERC as part of the formal licensing record. If a document includes sensitive information—such as a site location for a federally-listed species and/or its designated critical habitat, or for an archaeological site—the document will be clearly marked "Not for Public Disclosure" and appropriate measures will be taken to secure the sensitive material, consistent with federal regulations.

Hard copies of TIG's major licensing submittals to FERC, including this Pre-Application Document and the draft and final License Application, will be made available for review at:

Antlers Public Library
104 SE 2nd St,
Antlers, OK 74523

TIG will also maintain Project information for access to documents developed during the course of the licensing consultation, such as the PAD and NOI, meeting notices, meeting summaries, study plans, and study reports. The Project website will also have an information library that allows licensing participants to access other relevant information in support of the license application.

Physical location where the public reference file will be available:

Tomlin Infrastructure Group, LLC

4265 Kellway Circle

Addison, TX 75001

2.3.3. Meetings

Meetings will be scheduled as required by FERC's regulations and as otherwise needed throughout the licensing process.

TIG shall be responsible for scheduling all consultation meetings involving TIG and licensing participants. For the meeting specified in 18 CFR Section 16.8(b)(3), TIG will provide the required notice in appropriate local and other forums.

TIG will strive to notify licensing participants of meetings scheduled by TIG at least 30 days prior to the meeting date. This notification may be made in writing, via e-mail, or by telephone conversation. When necessary, TIG may hold a meeting with less than 30 days' notice.

TIG will develop the meeting agenda and will strive to provide a written meeting agenda to all participants at least two weeks prior to a scheduled meeting. As necessary, the agenda may be modified at the start of the meeting.

TIG and all participants will strive to make available all documents and other information necessary to prepare for a consultation meeting at least two weeks prior to the scheduled meeting. In the alternative, materials can be provided at the meeting.

2.4. Document Distribution

All of the documentation requirements described below apply to substantive communications regarding the licensing of the Project; communications related to procedural matters (e.g., responding to inquiries regarding meeting scheduling) are not subject to the same documentation requirements.

TIG will distribute, whenever possible, all documents electronically in Microsoft Word or PDF format. Appendix A lists the agencies, tribes, and others on the distribution list as of the filing of this PAD. Everyone on this list will receive notification that an electronic copy of the PAD is available on the Project website. TIG will also use this list to provide notice of the availability of future major licensing documents such as proposed study plans, study reports, and the draft and final License Application, and will provide electronic copies of these documents upon request. In addition, TIG will distribute electronically (via e-mail) public meeting notices, meeting agendas, and meeting summaries upon request.

Certain Project-related documents are not available to the general public in accordance with FERC regulations. Critical Energy Infrastructure Information (CEII) (18 CFR 388.113), which is information about the design and safety of dams and appurtenant facilities that is necessary to protect national security and public safety, is not available to the general public. Anyone seeking CEII from FERC must file a CEII request. Additional information is available on FERC's website at: http://www.ferc.gov/legal/ceii-foia/ceii.asp.

2.4.1. Meeting Summaries

TIG will be primarily responsible for providing a written summary of meetings involving TIG and licensing participants. The meeting summaries will identify topics discussed, areas of agreement and/or disagreement, and action items assigned to meeting participants. TIG will strive to distribute a draft meeting summary to all meeting attendees within 10 days of the meeting. Any corrections to the draft meeting summary should be submitted to TIG within 7 seven days of the draft distribution. TIG will finalize the meeting summary within 7 days after the deadline for receiving corrections. Meeting summaries will be posted on the Project website once they are final.

2.4.2. Oral Communications

Any oral communication (i.e., telephone conversations) between TIG and any licensing participant regarding substantive aspect of the Project licensing shall be documented in writing by TIG and included in the public reference file.

2.4.3. Technical Documents

A variety of technical documents will be produced during the course of licensing consultation, including the PAD, study plans, study reports, and the draft License Application. Whenever comments to documents are solicited, review periods will be established and communicated to licensing participants. Review periods will typically be 30 days, unless longer periods are required by FERC regulations (e.g., 90-day comment period on the draft License Application). TIG will consider adjusting comment periods, making them either longer or shorter; to better utilize available time within the course of pre-filing consultation, without jeopardizing the overall Project schedule. Any such adjustments will be made with the concurrence of the licensing participants.

2.4.4. Written Correspondence

Any written correspondence, including e-mails, regarding substantive matters of the Project licensing between TIG and licensing participants will become part of the public reference file.

All written correspondence should be sent to TIG at the following address:

Tomlin Infrastructure Group
Attention: Fred Brown
4265 Kellway Circle
Addison, Texas 75001
(972) 239-0707
fbrown@tomlininvestments.com

2.4.5. Distribution of Licensing Documentation

Distribution of major licensing documents will be accomplished primarily by posting the documents on the Project website with an e-mail notification to licensing participants. If a licensing participant does not provide TIG with an e-mail address, or if a participant has indicated a preference to receive hard-copy mailings, TIG will send paper documents through regular mail. Licensing documents, aside from brief letters, notices, etc., will include a copy of the distribution list.

2.5. Joint Meeting and Site Visit

Based on the assumption that FERC will authorize TIG's request to utilize the TYLP, TIG does not, at this time, anticipate FERC conducting pre-filing NEPA scoping. Under the TYLP, FERC will conduct NEPA scoping post-filing of the License Application, unless TIG requests and FERC agrees,

to conduct early NEPA scoping. As required under 18 CFR § 4.38, TIG will hold a joint meeting, with afternoon and evening sessions, and a site visit between 30 and 60 days after FERC's authorization to use the TYLP. Written notice of the date, time and location of the joint meeting and site visit will be provided with a written agenda including topics of discussion to FERC at least 15 days in advance. Within 14 days of the joint meeting and site visit, a notice will be published in *The Antlers American* newspaper.

3. Regional Description

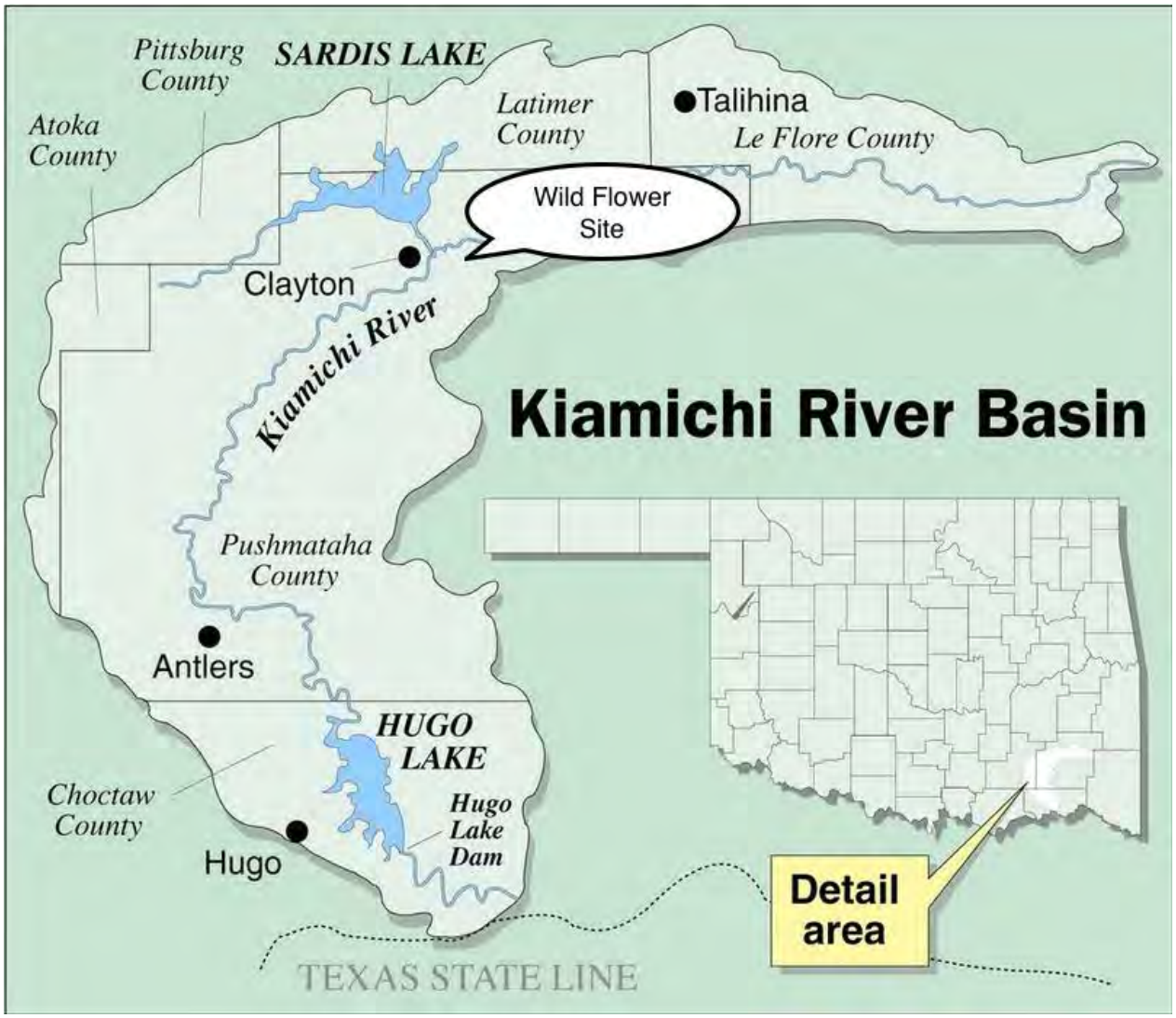
3.1. Overview

The Project is located within the Kiamichi River Basin in southeastern Oklahoma, (see Figure 3.1). The source of the Kiamichi River is in the Kiamichi and Ouachita mountain ranges of southeastern LeFlore County, Oklahoma. It drains approximately 1,830 square miles, and flows in a westerly direction into Pushmataha County near the town of Clayton and then south by southeast through Choctaw County to its confluence with the Red River.

The Kiamichi River Basin is crescent shaped, 110 miles long, and varies in width from 5 to 30 miles. The stream flows through a succession of widely contrasting reaches, alternating from comparatively wide valleys to steep gorges having banks 80 to 90 ft. in height.

Source: Kiamichi River Basin Water Resources Development Plan

Figure 2.4.5-1 Kiamichi River Basin



Source: Kiamichi River Basin Water Resources Development Plan

3.2.Basin Tributary Streams

The river has a large number of tributaries; the major ones are Jackfork, Buck, Tenmile, Buffalo, Cedar, Gates, Anderson, and Pine creeks. The gradient varies from 1.5 ft/mile near the Pushmataha-Choctaw County line to more than 100 ft/mile near the source. The major part of the stream has an average gradient to 2.5 ft/mile. The southern section of the basin lies in the dissected Gulf Coastal Plain region, where the river meanders along a wide alluvial valley at an elevation of 425 ft, with a gradient of 0.8 ft/mile. A combination of trellis and dendritic types of drainage patterns characterize the Kiamichi River and its tributaries. Stream flow of the Kiamichi River is fairly uniform, and consists of a series of pools and shoals during low rainfall. Flooding in the lower reaches of the river is caused

usually by prolonged storms (2-6 days) of moderate to heavy rainfall. Springs are common throughout the drainage.

Source: Fishes of the Kiamichi River, Jimmie Pigg and Loren G. Hill, 1974

3.3.Major Land Uses

Timber is an economic mainstay. Lumber companies own large swaths of the county and operate vast tree plantations. Fast-growing pine trees are the timber of choice, and in many areas of the basin a virtual monoculture of pine trees—at the expense of any other—has been established.

3.4.Major Water Uses

Water within the Kiamichi River Basin is used for public water supply, irrigation, agriculture, power, industrial, commercial and recreation including fish and wildlife purposes.

3.5.Climate

Pushmataha County is part of the Ouachita Mountains in the north and the Cypress Swamps and Forest in the south. The Ouachita Mountains are defined by sharp ridges and the Cypress Swamp and Forest is an area of irregular plains. Average annual precipitation ranges from about 42 inches in southwestern Pushmataha County to 51 inches in the east. April and May are the wettest months, on average, but much of the spring through fall receives sufficient rainfall. One in 3 winters has at least one inch of snow, with one year in 29 having ten or more inches.

Temperatures average near 62 degrees, with a slight increase from north to south. Temperatures range from an average daytime high of 94 degrees in July and August to an average low of 29 degrees in January. Pushmataha County averages a growing season of 214 days, but plants that can withstand short periods of colder temperatures may have an additional 3 to 7 weeks.

Winds from the south to southeast are quite dominant, averaging nearly 5 miles-per-hour. Relative humidity, on average, ranges from 42% to 97% during the day. During the year, humidity is highest in June and lowest in February and March. Winter months tend to be cloudier than summer months. The percentage of possible sunshine ranges from an average of about 55% in winter to nearly 75% in summer.

Thunderstorms occur on about 55 days each year, predominantly in the spring and summer. During the period 1950 - 2003, Pushmataha County recorded 29 tornadoes. The most recent significant

tornado (F2 intensity or greater) occurred on April 23, 2000. Two F2 tornadoes passed through Pushmataha County on this day. The towns of Moyers, Finley and Cloudy were affected. There were no injuries. Typically, there are about 4 events each year of hail exceeding one inch in diameter. As information collection improves, both the number of reported tornadoes and the number of severe hail events have increased.

Source: Oklahoma Climatological Survey, Norman, OK accessed April 2, 2014

Table 3.5-1 Annual and Seasonal Mean Temperatures and Precipitation

Temperature (deg Fahrenheit)												
	AVERAGES (1971-2000)			EXTREMES (1918-2003)				AVG # DAYS PER MONTH (1971-2000)				
	Daily Max	Daily Min	Daily Avg	Record High		Record Low		Max>100	Max>90	Max<32	Min<32	Min<0
Jan	52.3	28.9	40.6	84	(23rd, 1943)	-9	(18th, 1930)			2	21	*
Feb	58.4	33.6	46.0	90	(21st, 1996)	-10	(2nd, 1951)		*	1	13	
Mar	67.2	41.6	54.4	93	(31st, 1974)	8	(19th, 1923)		*	*	6	
Apr	75.2	48.8	62.0	96	(13th, 1936)	24	(3rd, 1936)		1		1	
May	81.5	58.3	69.9	101	(28th, 1927)	31	(1st, 1960)		2			
Jun	88.7	66.1	77.4	107	(21st, 1936)	45	(1st, 1972)	*	14			
Jul	93.8	69.4	81.6	112	(24th, 1934)	50	(6th, 1972)	5	25			
Aug	94.1	68.0	81.1	116	(10th, 1936)	49	(13th, 1967)	6	25			
Sep	86.7	61.3	74.0	110	(1st, 1985)	36	(27th, 1942)	1	12			
Oct	76.8	49.8	63.3	102	(1st, 1938)	21	(31st, 1993)		2		1	
Nov	64.1	40.6	52.4	88	(14th, 1955)	7	(29th, 1976)				7	
Dec	54.7	32.0	43.4	83	(6th, 1945)	-5	(23rd, 1989)			1	16	*
Annual	74.6	50.0	62.3	116	(Aug 10, 1936)	-10	(Feb 2, 1951)	12	80	4	65	*

Precipitation (inches)											
	AVERAGE	EXTREMES (1918-2003)			AVG # DAYS PER MONTH (1971-2000)					
	1971-2000	Monthly Max	Daily Max		any	meas	0.10"+	0.25"+	0.50"+	1.00"+
Jan	2.14"	12.55" (1949)	4.86"	(25th, 1949)	6	4	4	3	1	*
Feb	2.56"	8.83" (1945)	4.53"	(12th, 1950)	5	4	4	3	2	1
Mar	3.92"	9.11" (1977)	5.66"	(19th, 2002)	7	6	6	4	3	1
Apr	4.23"	15.82" (1957)	5.30"	(8th, 2002)	7	7	6	4	3	1
May	5.78"	15.51" (1935)	5.81"	(1st, 1949)	9	8	7	6	4	2
Jun	4.72"	13.39" (1945)	5.72"	(12th, 1945)	7	7	6	5	3	2
Jul	3.07"	10.65" (1950)	5.50"	(3rd, 1985)	5	5	4	3	2	1
Aug	2.42"	9.42" (1926)	7.73"	(17th, 1926)	5	5	4	2	1	1
Sep	4.10"	13.44" (1974)	6.62"	(28th, 1980)	6	5	4	3	2	2
Oct	5.03"	16.57" (1919)	8.58"	(25th, 1991)	6	6	5	4	3	2
Nov	3.94"	13.35" (1946)	3.96"	(7th, 1996)	6	5	4	3	3	1
Dec	3.55"	12.27" (1923)	4.04"	(10th, 1971)	6	5	5	3	2	1
Annual	45.46"	16.57" (Oct 1919)	8.58"	(Oct 25, 1991)	76	67	59	44	29	14

Snow and Sleet (inches)											
	AVERAGE	EXTREMES (1918-2003)					AVG # DAYS PER MONTH (1971-2000)				
	1971-2000	Monthly Max	Daily Max		Greatest Depth		any	meas	0.50"+	1.00"+	Pot. Glazing
Jan	0.3"	8.5" (1940)	7.0"	(6th, 1940)	7.0"	(6th, 1940)	*	*	*	*	1
Feb	0.9"	15.5" (1978)	8.5"	(18th, 1978)	6.0"	(9th, 1948)	*	*	*	*	*
Mar	0.0"	9.5" (1942)	9.5"	(1st, 1942)	40.0"	(1st, 1942)	*	*	*	*	*
Apr		0.0" (1950)	0.0"	(9th, 1938)							
May		0.0" (1949)	0.0"	(1st, 1949)							
Jun											
Jul											
Aug											
Sep					0.1"	(6th, 1919)					
Oct											
Nov	0.0"	3.5" (1952)	3.5"	(29th, 1952)	1.0"	(2nd, 1951)	*				*
Dec	0.2"	6.0" (1932)	6.0"	(16th, 1932)	4.0"	(22nd, 1963)	*	*	*	*	*
Annual	1.5"	15.5" (Feb 1978)	9.5"	(Mar 1, 1942)	40.0"	(Mar 1, 1942)	1	1	1	*	2

TEMPERATURE AND PRECIPITATION

From Antlers Cooperative Observer Station (340256); January 1918 – December 2003

Latitude: 3415N Longitude: 09539W Elevation: 519 ft

First Freezing Temperature in Fall			
Probability	24 F or Lower	28 F or Lower	32 F or Lower
1 Year in 10 Earlier Than –	November 3	October 30	October 19
2 Years in 10 Earlier Than –	November 12	November 4	October 24
5 Years in 10 Earlier Than –	November 25	November 10	November 2
Last Freezing Temperature in Spring			
Probability	24 F or Lower	28 F or Lower	32 F or Lower
1 Year in 10 Later Than –	March 27	April 7	April 18
2 Years in 10 Later Than –	March 18	March 31	April 11
5 Years in 10 Later Than –	March 7	March 21	April 3

4. Project Location, Facilities, and Operations

4.1. Location

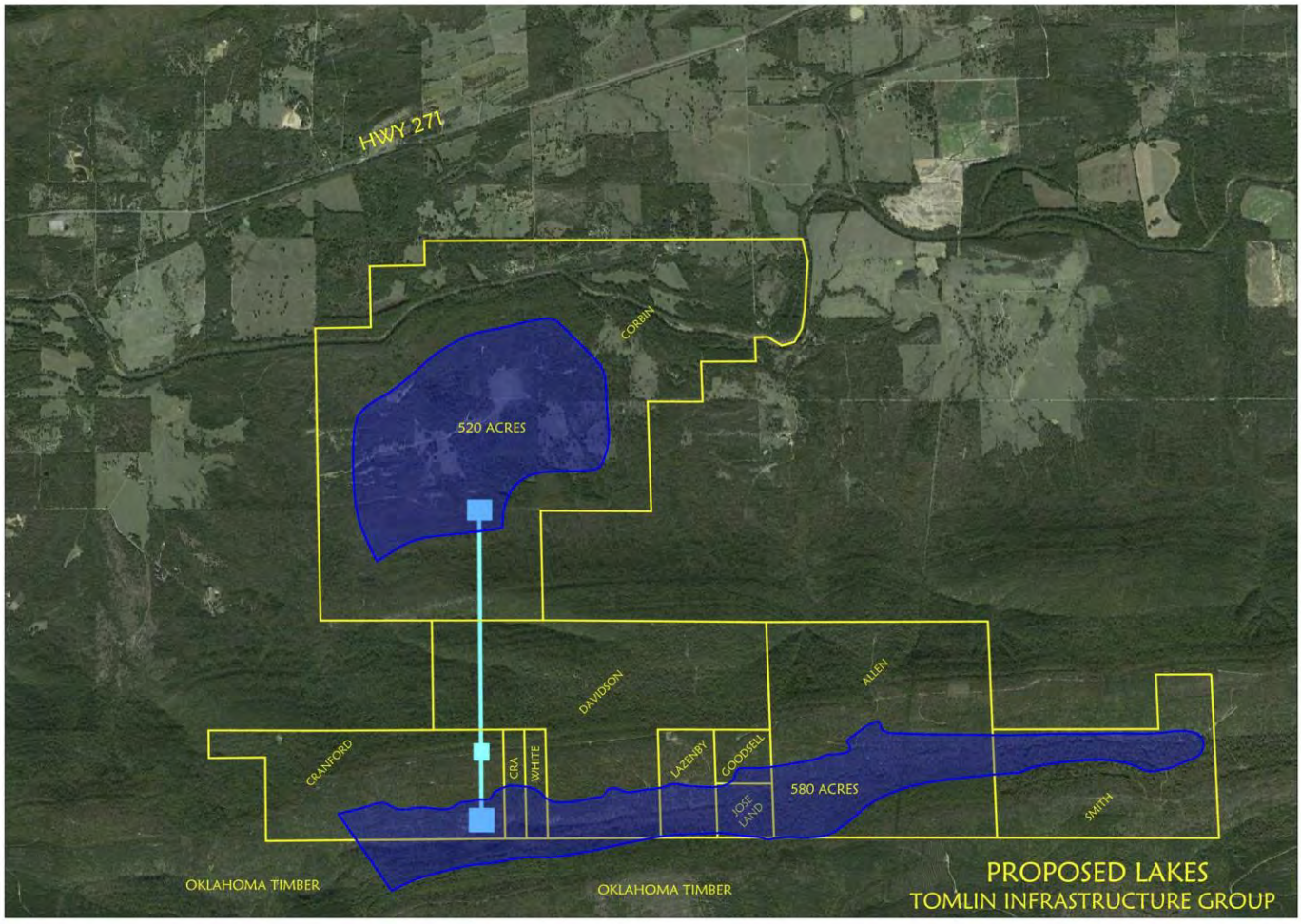
The proposed Project would be located near the city of Clayton in Pushmataha County, Oklahoma on private land approximately ten miles east of Clayton, Oklahoma (population 1,012). Taking advantage of the local geography allows a 1,000 foot elevation drop necessary for an effective pumped storage facility. The site is accessible by Oklahoma State Road E1655 which runs just north of the Project boundary; an access easement will be obtained.

4.1.1. Project Land

The proposed Project site has no federal, state or public lands. All of the property for the pumped storage facility will be on private land. The land use designation of properties within the project boundary, per the county, is: **Timber & Waste**. There are no homes or residences within the project boundary. The market value per the County Tax Assessor records is approximately $405,562.00 for the 4,985 acres required by the project. The property is available and will be procured after the acceptance into the TYLP pilot.

Land ownership adjacent to the Project is shown on Figure 4.1.

Figure 4.1.1-1 Landowners Adjacent to the Proposed Project Boundaries



Source: Tomlin Infrastructure Group, 2013

4.1.2. Project Boundary

A geographic boundary has been determined to encompass all land for the construction and operation of the Project. This Project boundary is outlined in Figure 4.2. As the Project is located entirely on private land, no lands of the United States are included.

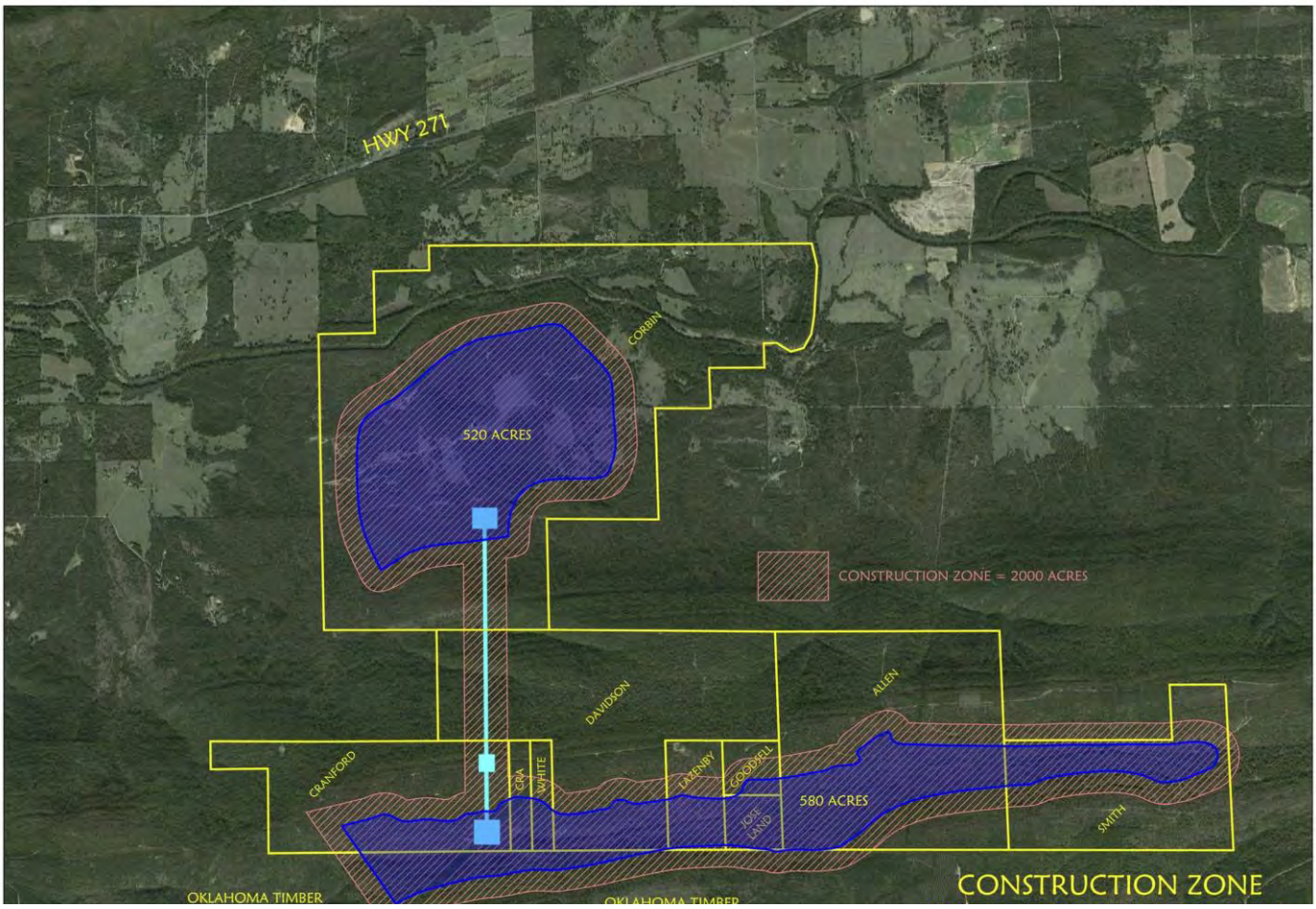


Figure 4.1.2-1 Project Construction Boundaries

4.2. Project Facilities

Project proposes a new facility located in Pushmataha County, Oklahoma. As illustrated in Figure 4.2 above, this hydroelectric facility would consist of an upper and lower off-stream, closed-loop reservoir complex with no river impoundment. The upper reservoir would be located in a valley on top of the Kiamichi Mountains, and the lower reservoir would be located adjacent to the north toe of the mountain range. The reservoirs would be formed by earthen and roller compacted concrete embankments and would be lined with an impervious liner and geotextile mesh. The upper reservoir would be long and narrow; approximately 20,000 feet long and 2,500 feet wide. The lower reservoir would be approximately 7,500 feet long and 5,000 feet wide.

The lower reservoir would have an approximate surface area of 520 acres and storage capacity of 40,000 ac-ft at its normal maximum water surface elevation of 700 ft. The upper reservoir would have an approximate surface area of 580 acres and storage capacity of 40,000 ac-ft. at its normal maximum water surface elevation of 1626 ft.

The Project will interconnect into ERCOT's CREZ lines between the Anna and Krum substation. A new 340-kV transmission line will be constructed and owned by Oncor. The new transmission line will be approximately 120 miles long.

Existing logging roads will provide access to the upper reservoir. The lower reservoir will take its access off an easement from existing Oklahoma Road E1655.

Water would be conveyed between reservoirs through a 3,500-foot-long tunnel, connected to four 18 foot-diameter steel penstocks. The upper reservoir intake conduit begins as a 200-foot long vertical shaft receiving water from the reinforced concrete intake tower. This intake shaft would connect to a sloped concrete lined tunnel daylighting elevation 13,500. Figure 4.4 below provides a cross sectional view of these structures in proximity relative to the reservoirs.

The powerhouse would be located in close proximity to the toe of the mountain, on the south side of the lower reservoir. It would be positioned below grade to obtain proper submergence during operating conditions and house four turbine generator units totaling 1,200 MW. Four pump generating units will be installed: ternary hydraulic short circuit units. Ternary units provide the greatest operating ranges and flexibility, allowing the machines to pump and generate simultaneously. The proposed Project will take fill water from the Kiamichi River on high flow events and make-up water via a pipeline to a reservoir. To obtain water from the Kiamichi River, piping would have to be constructed and water pumped to the project's lower reservoir. Rights to the initial fill and ongoing make-up water volumes would be obtained by TIG through the acquisition of available existing water rights.

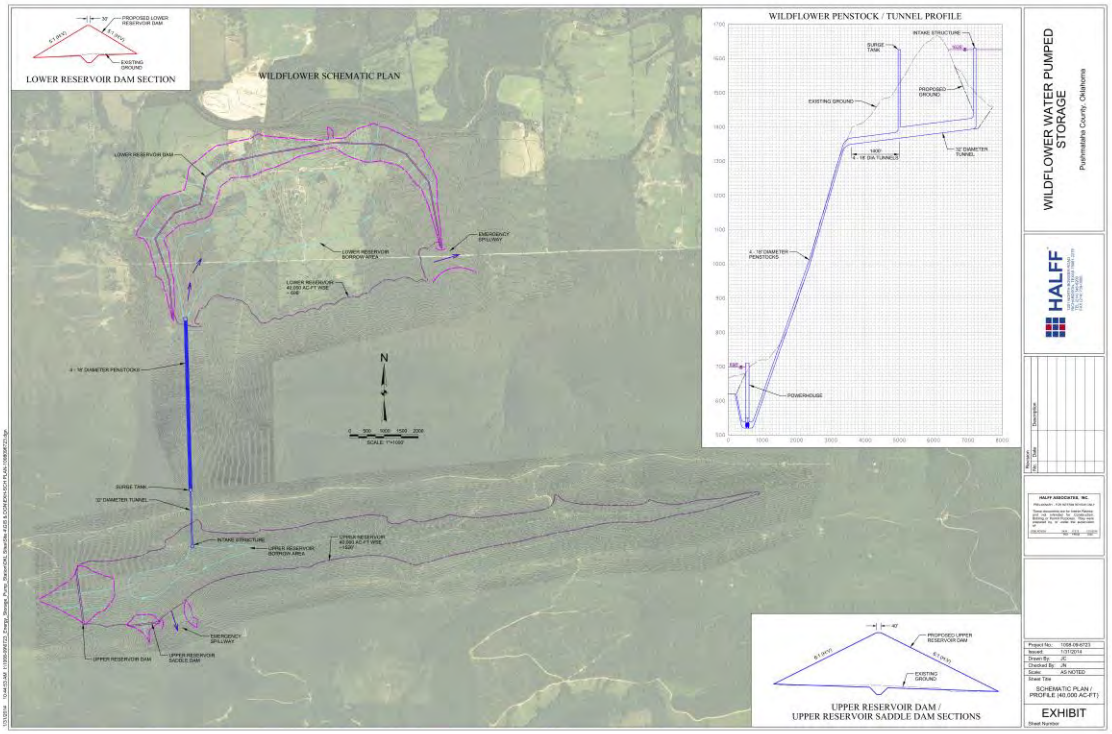
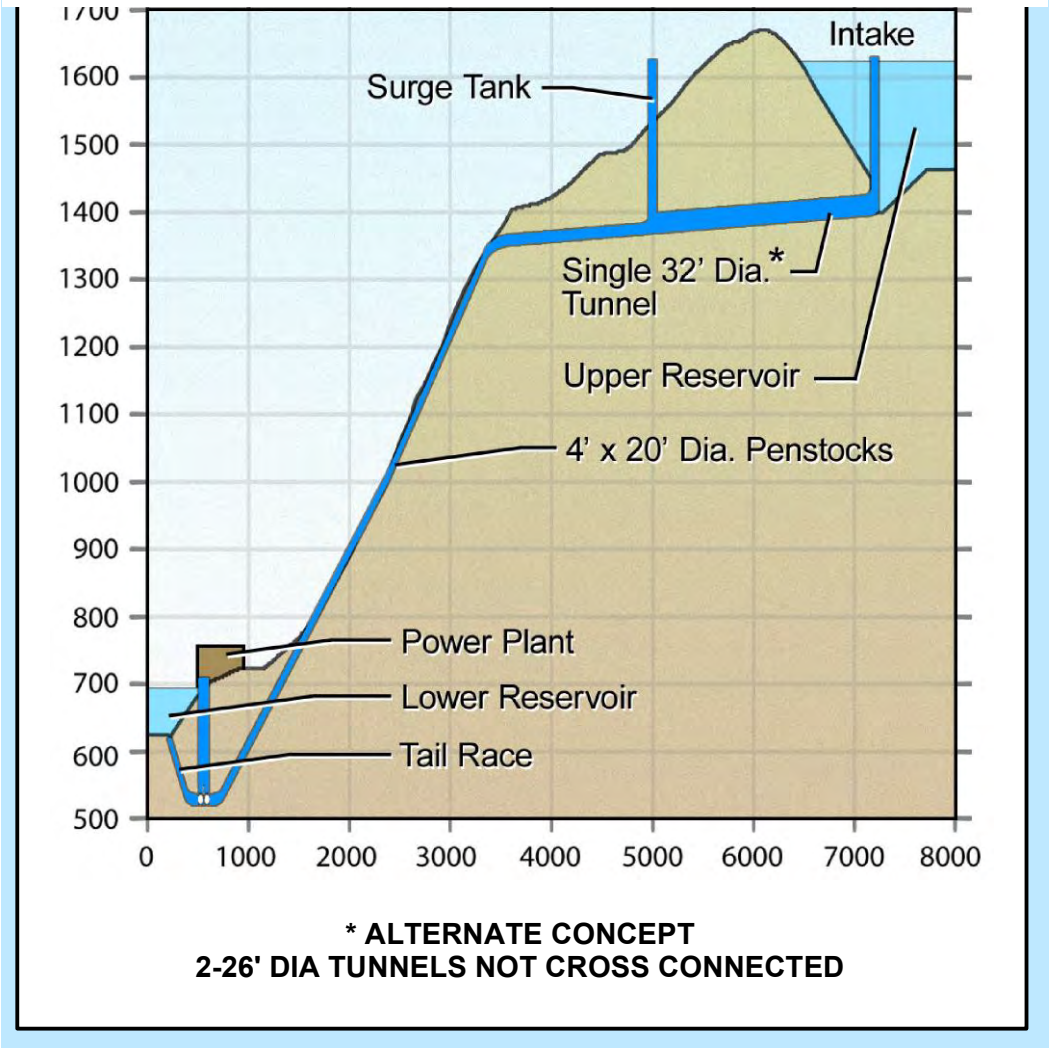


Figure 4.1.2-1 Wild Flower Schematic Plan

Figure 4.1.2-2 Wild Flower Tunnel Profile



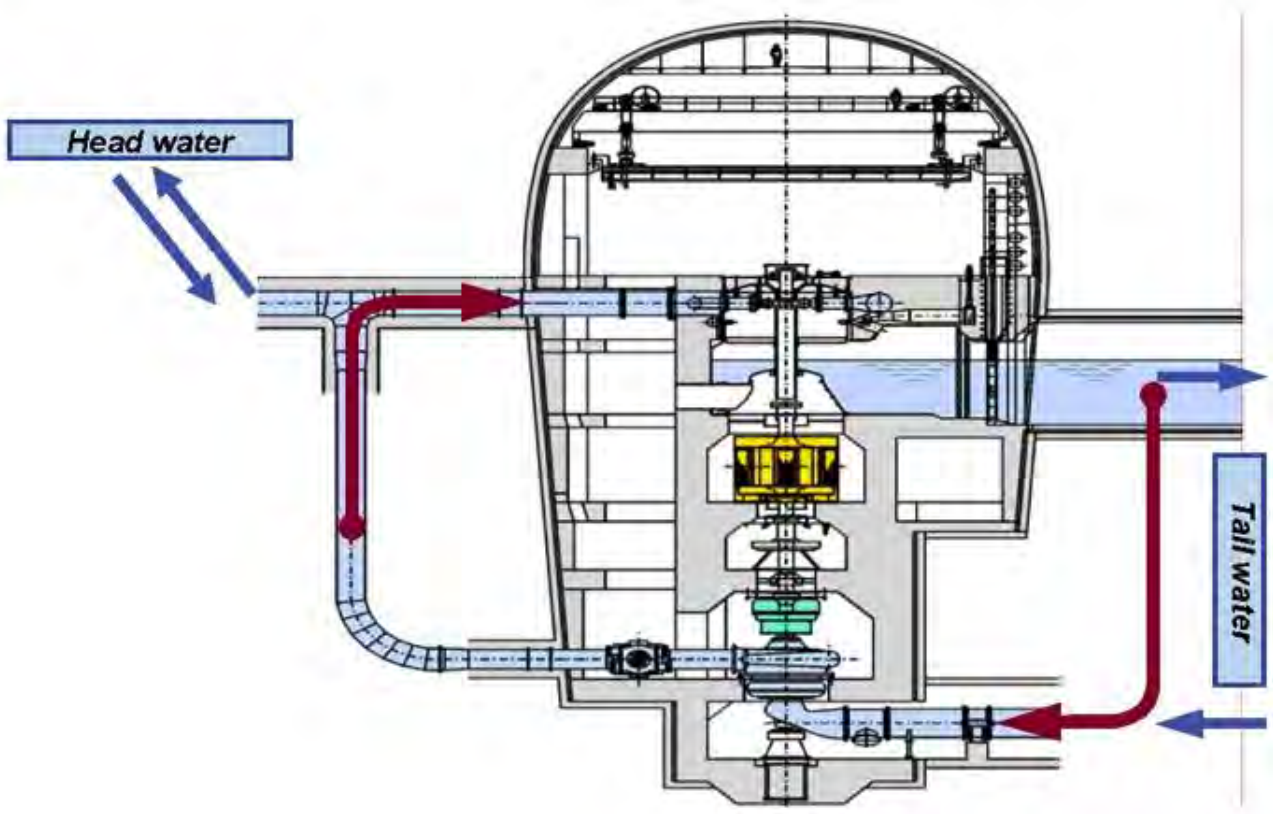
Source: Halff Associates, 2011

4.3. Project Operations

4.3.1. Proposed Project Capacity and Production Potential

Figure 4.5 below shows a conceptual powerhouse cross section. The proposed Project would have an average annual generation of 5 million megawatt-hours. The installed capacity of 1200 MW would be provided by four turbine generators with a rate capacity of 300 MW each. The upper and lower reservoirs have an average hydraulic head of 900 feet.

Figure 4.3.1-1 Wild Flower Powerhouse Section



Source: Voight, 2013

The equipment would be set up with units in a ternary arrangement and include a turbine, a generator, a torque converter as well as a single or multistage pump. They would be regulating in turbine and pump modes with a hydraulic “short-circuit”. This arrangement allows to operate without changing the rotation direction, enabling the steepest load ramp and quickest mode changes with the lowest losses.

4.3.2. Proposed Project Operation Regime

Pumped storage hydropower allows for rapid response to shifts in power demands. The project would create a reliable source for generation and storage of power that would provide additional peaking capacity to the ERCOT electrical grid and allow more effective operation of West Texas wind power generating facilities.

4.3.2.1. Initial Fill Water

Water needed for the initial fill is assumed to be the reservoir and penstock capacity plus losses. Water losses are dependent on evaporation loss, transmission loss, and liner and joint leakage. Water will be secured via acquisition of existing water rights in a manner to avoid impacting the Kiamichi River in full collaboration with all relevant agencies and entities. The volume of water needed for the initial fill is estimated to be equal to the capacity of one reservoir (40,000 ac-ft.), plus capacity of the penstock (200 ac-ft.), plus evaporation losses over one year (3,000 ac-ft.) for an estimated total volume of 43,200 acre-feet. This estimate does not include water losses to liner and joint leakage and water transmission losses. These losses would be evaluated when the final project design is completed and would be dependent on the liner selected and the method, timing, and duration of water transmission. A conservative volume of 50,000 acre-feet is the assumed initial fill volume.

4.3.2.2. Make-Up Water

Evaporation was assumed to occur over a portion of the surface of both reservoirs equally, thus requiring a maximum of 3 million gallons of make-up water per day. Make-up water does not include water losses to liner and joint leakage and water transmission losses. Thus, a conservative volume of 3,500 acre-feet is the assumed annual makeup water volume. Make up water would be obtained via a pipeline to a reservoir.

4.4. Construction Activity

The construction of the Project would take place over a 3-year period.

4.4.1. Construction Year 1

The first year of construction would focus on site preparation for the upper and lower reservoirs, shaft and penstock tunneling activities, powerhouse excavation and establishment of lay down areas for stock piling excavated materials and staging areas for all construction equipment and material handling.

Access to the upper reservoir would be via improving the existing logging road and securing a permanent easement. The lower reservoir and powerhouse location access will be via an easement to existing State Road E1655 located to the north of the site.

The excavation of the powerhouse and the tunneling activities for the tunnel, after site preparation, would be the first major construction activities requiring mobilization of staff and major equipment. Standard road boring equipment would be used for the 3500 tunnel. The goal would be to complete the tunnel excavations during the first year of construction activity. Construction activity would be year-around.

4.4.2. Construction Year 2

The second year of activity would be focused on construction of the upper lower reservoirs, upper reservoir dam and enclosing the powerhouse. The steel penstock construction would begin. Before the end of the second construction year the installation of control and protective components would start. Construction of the 345-kV transmission line would start. The transmission line construction will be broken into 4 phases, each consisting of 30 miles. The powerhouse foundations, equipment and support structures will be nearing completion by the end of the second year which will allow installation of the first turbine generator to begin at the beginning of year three.

4.4.3. Construction Year 3

The third year of construction will be focused on completion of the powerhouse and all operational equipment and testing, the construction and completion of electrical interconnection to the grid and filling and testing of the reservoirs and their operational modes.

5. Description of Existing Environment

There is no designated critical habitat in the proposed project area. Source: http://ecos.fws.gov/crithab/

5.1. Geology and Soils

The Kiamichi River basin is situated within two major geomorphic provinces. The Ouachita-Mountain Province of the headwater region consists of long and sinuous mountain ridges of broadly folded Mississippian and Pennsylvanian sandstones towering above subparallel shale valleys. The lower drainage, which lies in the Dissected Coastal Plains Province and is composed of soft, south-dipping Cretaceous sands, gravels, and clays of the Gulf Coastal Plain, is slightly dissected by streams.

5.1.1. Topography

The Project site includes the land sloping down to the Kiamichi River floodplain in the north and the Kiamichi Mountains on the south. Elevations range from about 1,900 feet AMSL on the top of the upper lake to 620 feet at the lower lake.

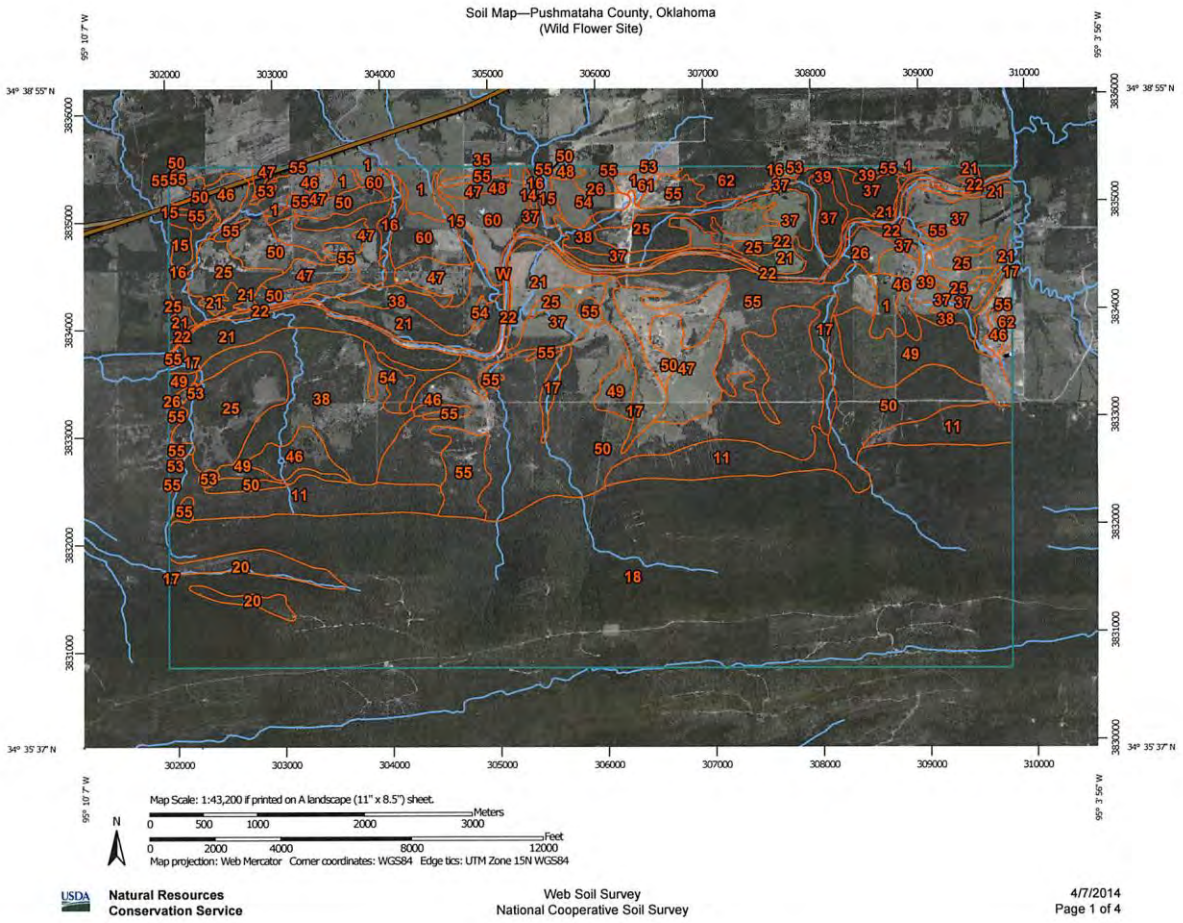
5.1.2. Existing Geological Features

The Wild Flower site is influenced by the Lynn Mountain Formation of the Phanerozoic, Paleozoic Carboniferous Pennsylvanian-Early era and mainly composed of Shale and sandstone as a secondary rock type.

5.1.3. Soils

The Web Soil Survey for Pushmataha County has recognized 32 soil types within the neighboring the Project boundary (Soil Survey Staff, Dec 2013).

Figure 5.1.3-1 Soil map of the Project Area



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pushmataha County, Oklahoma
Survey Area Data: Version 8, Dec 20, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 5, 2010—Jul 27, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Pushmataha County, Oklahoma (OK127)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Alikchi loam, 1 to 3 percent slopes	110.2	1.2%
11	Carnasaw-Pirum-Clebit association, 12 to 20 percent slopes	414.3	4.6%
14	Carnasaw-Stapp association, 8 to 12 percent slopes, dry	6.9	0.1%
15	Ceda gravelly silt loam, 0 to 2 percent slopes, occasionally flooded	49.3	0.5%
16	Ceda gravelly silt loam, 0 to 2 percent slopes, frequently flooded	81.9	0.9%
17	Ceda-Rubble land complex, 0 to 3 percent slopes, frequently flooded	137.6	1.5%
18	Clebit-Pirum-Carnasaw association, 20 to 45 percent slopes	3,118.8	34.4%
20	Clebit-Rock outcrop association, 20 to 45 percent slopes	91.4	1.0%
21	Dela fine sandy loam, 0 to 2 percent slopes, occasionally flooded	401.1	4.4%
22	Dela fine sandy loam, 0 to 2 percent slopes, frequently flooded	280.7	3.1%
25	Guyton silt loam, 0 to 1 percent slopes, occasionally flooded	391.7	4.3%
26	Guyton-Elysian complex, 0 to 3 percent slopes	57.8	0.6%
35	Moyers, Wister, and Burwell soils, 1 to 5 percent slopes, gullied	1.4	0.0%
37	Pushmataha loam, 0 to 1 percent slopes, occasionally flooded	384.7	4.2%
38	Pushmataha, Elysian, and Guyton soils, 0 to 3 percent slopes	484.4	5.3%
39	Rexor loam, 0 to 1 percent slopes, occasionally flooded	19.7	0.2%
46	Shermore fine sandy loam, 1 to 3 percent slopes	155.1	1.7%

Pushmataha County, Oklahoma (OK127)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
47	Shermore fine sandy loam, 3 to 5 percent slopes	300.6	3.3%
48	Shermore fine sandy loam, 3 to 5 percent slopes, eroded	11.7	0.1%
49	Sherwood-Zafra association, 3 to 5 percent slopes	240.3	2.7%
50	Sherwood-Zafra association, 5 to 12 percent slopes	1,291.7	14.3%
52	Sobol clay loam, 3 to 5 percent slopes	2.7	0.0%
53	Sobol-Tuskahoma association, 8 to 12 percent slopes	34.3	0.4%
54	Speer loam, 1 to 3 percent slopes, rarely flooded	81.7	0.9%
55	Tuskahoma-Clebit-Sobol association, 8 to 12 percent slopes	585.7	6.5%
60	Yanush gravelly silt loam, 1 to 3 percent slopes	175.6	1.9%
61	Yanush gravelly silt loam, 3 to 5 percent slopes	2.8	0.0%
62	Yanush gravelly silt loam, 5 to 20 percent slopes	60.1	0.7%
W	Water	87.3	1.0%
Totals for Area of Interest		**9,062.6**	**100.0%**

The majority of the soils are well drained, three soil types (Clebit, Carnassaw and Tuskahoma series), that represent 68.1% of the AOI acreage.

The Soils Map (Figure 5.1) identifies the distribution of soils relevant to the Project area. The 3 main soil types, identification codes are described below as contained in the Soil Survey Geographic (SSURGO) Database for Pushmataha County (Soil Survey Staff, 2013). It must be noted that the Soil Map area applies to a larger area than the proposed Project footprint.

11 – Carnasaw-Pirum-Clebit association, 12 to 20 percent slopes

The Carnasaw association makes up 5 percent of the map unit. Carnasaw soil consists of deep, well drained, slowly permeable soils on upland. These soils formed in material weathered from shales and sandstone that occur in thin tilted interlaminations. Pirum soils have less clay in the control section than Carnasaw soils. Clebit soils are shallow over sandstone.

A1 – 0 to 3 inches, very dark grayish brown (10YR 3/2) stony fine sandy loam; weak medium and fine granular structure; friable; many fine roots; strongly acid; clear smooth boundary.

A2 – 3 to 7 inches; brown (10YR 5/3) stony fine sandy loam; weak fine granular structure; friable; many fine roots; strongly acid; clear smooth boundary.

B21t – 7 to 24 inches; red (2.5YR 4/6) clay; moderate fine blocky structure; very firm; few fine roots; clay film on faces of peds; strongly acid; gradual smooth boundary.

B22t – 24 to 35 inches; red (2.5 YR 4/6) clay; moderate fine blocky structure; very firm; clay film on faces of peds; very strongly acid; gradual smooth boundary.

B3 – 35 to 42 inches; red (2.5YR 4/6) clay; few fine distinct gray mottles; moderate fine blocky structure; very firm; patchy clay films on faces of peds; few fragments of shale; very strongly acid; clear irregular boundary.

Cr – 42 to 46 inches; gray fractured shale bedrock laminated with thin layers of sandstone, tilted 40 degrees from horizontal.

Solum thickness is 30 to 60 inches. Because of the underlying tilted bedrock, solum thickness varies within short linear distances. The A1 horizon has hue of 10YR or 7.5YR, value of 2 to 5, and chroma of 2 or 3. Stones make up to 5 to 20 percent of the volume. Reaction ranges from medium acid to extremely acid. The A2 horizon has hue of 10YR or 7.5YR, value of 4 to 6 and chroma of 3 to 8. Reaction is similar to that of the A1 horizon. The B2t horizon has hue of 2.5YR, 5YR, or 7.5YR, value of 4 to 6, and chroma of 6 to 8. The lower part is mottled in shades of brown and gray in some areas. Texture is clay, silty clay, clay loam, or silty clay loam. Fragments of sandstone or shale make up 0 to 10 percent of the volume. Reaction ranges from strongly acid to extremely acid. The B3 horizon is similar in color, texture and reaction to the B2t horizon. Also, it includes more mottles and fragments of sandstone or shale than the B2t horizon.

18 – Clebit-Pirum-Carnasaw association, 20 to 45 percent slopes

The Clebit association makes up 34 percent of the map unit. Clebit soil consists of shallow, well drained, moderately rapidly permeable soils on upland. These soils formed in material weathered from sandstone. They are on ridge crests and convex side slopes of the mountains. Clebit soils are geographically closely associated with Carnasaw, Pirum and Stapp soils. The associated soils have a thicker solum.

A1 – 0 to 5 inches, very dark grayish brown (10YR 3/2) stony, very fine sandy loam; weak fine granular structure; friable; many fine roots; about 45 percent by volume sandstone fragments; medium acid; clear smooth boundary.

B2 – 5 to 12 inches; brown (10YR 5/3) stony very fine sandy loam; weak fine granular structure; friable; common fine roots; about 45 percent by volume sandstone fragments; slightly acid; clear irregular boundary.

R – 12 to 15 inches; hard sandstone, tilted 40 degrees from horizontal.

Solum thickness is 10 to 20 inches. Reaction ranges from slightly acid to very strongly acid throughout the solum. The A1 horizon has hue of 10YR, value of 3 to 5, and chroma of 2 or 3. Texture is stony very fine sandy loam, stony fine sandy loam or very gravelly fine sandy loam. Fragments of sandstone 2 to 75 mm in diameter make up 25 to 50 percent of the volume, and those more than 75mm in diameter make up 0 to 20 percent of the volume. The B2 horizon has hue of 10YR or 7.5YR, value of 3 to 6 and chroma of 2 to 6. Texture is stony fine sandy loam, stony very fine sandy loam, the gravelly or very gravelly counterpart of fine sandy loam or very fine sandy loam or loam. Fragments of sandstone 2 to 75 mm in diameter make up 25 to 50 percent of the volume and those more than 75 mm in diameter make up 5 to 25 percent of the volume. The R layer is hard sandstone that is massive, fractured and tilted 20 to 90 degrees from horizontal.

50 – Sherwood-Zafra association, sloping

This association consists of deep and moderately deep, well drained Sherwood and Zafra soils that make up 14% of the surface area. The soils occur in a regular and repeating pattern. Slopes range from 5 to 12 percent. The Sherwood soil is on the side slopes and the Zafra soil is on the ridge crests. Individual areas of the unit are 10 to 200 acres.

The Sherwood soil is deep. Typically, the surface layer is dark grayish brown fine sandy loam 3 inches thick. The subsurface layer is strong brown fine sandy loam to a depth of 9 inches. The upper part of the subsoil is yellowish red gravely sand clay loam to 40 inches. The lower part is yellowish red gravelly sandy loam to 50 inches. The underlying material to 60 inches is sandstone that is tilted more than 20 degrees from horizontal. The Sherwood soil is low in fertility. It is medium acid in the surface layer. Permeability is moderate.

The Zafra soil is moderately deep and deep. Typically the surface layer is dark grayish brown fine sandy loam 2 inches thick. The subsurface layer is pale brown fine sandy loams to a depth

of 8 inches. The next layer is yellowish red, very gravelly fine sandy loam to 16 inches. The upper part of the subsoil is yellowish red, very gravelly sand clay loam to a depth of 24 inches. The lower part is strong brown, very gravelly sandy loam to 32 inches. The underlying material is sandstone that is tilted more than 20 degrees from horizontal. The Zafra soil is low in natural fertility. It is medium acid in the surface layer. Permeability is moderate.

55 – Tuskahoma-Clebit-Sobol association, 8 to 12 percent slopes

The Tuskahoma association makes up 7 percent of the map unit. Tuskahoma soil consists of shallow, moderately well drained, very slowly permeable soils on upland. These soils formed in material weathered from shale. They are on the side slopes and in valleys of the Ouachita Mountains. Sobol soils have a thicker solum.

A1 – 0 to 4 inches, dark grayish brown (10YR 4/2) loam; moderate fine granular structure; friable; sandstone fragments less than 3 inches in diameter make up 10 percent by volume; medium acid; abrupt smooth boundary.

B2t – 4 to 12 inches; dark yellowish brown (10YR 4/4) clay; few fine prominent gray and reddish brown mottles; moderate medium blocky structure; firm; clay film on faces of peds; few shale fragments; medium acid; gradual wavy boundary.

B3 – 12 to 18 inches; gray (10YR 5/1) shaly clay; common fine distinct yellowish red (5YR 5/6) mottles; weak fine blocky structure; very firm; patchy clay films on faces of peds; 20 percent fragments of shale by volume; medium acid; gradual irregular boundary.

Cr – 18 to 25 inches; gray shales with thin layers of shaly clay, mildly alkaline, tilted 40 degrees from horizontal.

Solum thickness is 10 to 20 inches. The A1 horizon has hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 4. Reaction ranges from medium acid to neutral. The B2t horizon has hue of 5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 6. Texture is clay, silty clay or silty clay loam. Reaction ranges from slightly acid to strongly acid. The B3 horizon is similar in color to the B2t horizon. In places it has hue of 5Y, value of 3 to 6, and chroma of 1 and 2. Texture is shaly clay, shaly silty clay or shaly silty clay loam. Reaction ranges from medium acid to mildly alkaline. The Cr horizon is shale in shades of gray, olive or brown. Thin layers of shaly clay are in some areas. Reaction ranges from slightly acid to moderately alkaline.

The lower lake is underlain by unconsolidated terrace deposits of Quaternary age, which consists of gravel, sand, silt, clay, and volcanic ash (Marcher and Bergman, 1983; Johnson, 1983). The upper lake is underlain by rocks of the Jackfork Group of Pennsylvanian age, which consists of sandstone, with some shales. Leakage could be considerable, especially in the terrace deposits, and will be addressed through the proposed engineering studies. Much of the area of the lower lake is underlain by soils of the Sherwood-Zafra association consisting of deep (over 6 ft thick), somewhat poorly drained, moderately sloping (5-12 percent) loamy soils (Natural Resources Conservation Service, 2014). The upper lake is primarily underlain by soils of the Clebit-Pirum-Carnasaw association, which consists of 0-7 inches of well drained stony fine sandy loam underlain by less permeable clay, gravelly clay, and bedrock; and are steeply sloping (20-45 percent) (Natural Resources Conservation Service, 2014).

5.1.4. References

Soil Survey Staff. 2013. Natural Resources Conservation Service (NRCS), U. S. Department of Agriculture (USDA). Web Soil Survey. December, 2013. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed March 12, 2014.

5.2. Water Resources

The proposed Project would be located within the Kiamichi River Basin. Figure 3.1-1 shows the location of the proposed Project and the associated water bodies.

As noted above, the proposed Project is in a location close to the Kiamichi River. The initial fill is estimated conservatively at 50,000 acre-feet and make-up water requirements at 3,500 acre-feet annually.

The Project would be an off-stream closed-loop system utilizing outside water sources for only initial and fill purposes make-up water would be obtained through the purchase of existing rights so as to minimize flow impacts to the Kiamichi River. As a pure pumped storage facility, all of the energy produced by the Project will result from releasing water that was pumped from the lower to the upper reservoir through the reversible pump-generator units.

5.2.1. Existing Stream flow Data

Rainfall in the Kiamichi River Basin is relatively high, especially in the eastern portion due to the influence of the Kiamichi Mountains combined with moist air masses from the Gulf of Mexico. Average annual precipitation in the basin is approximately 47 inches, ranging from less than 44 inches in the far western portion to more than 50 inches in the east. The maximum yearly rainfall of 77 inches occurred in 1945, the minimum of 23 inches in 1963. Area rainfall is usually greatest in May and September and lowest during January and February.

Evaporation in the Kiamichi River Basin averages 69 inches per year, varying from almost 71 inches in the western part of the basin to almost 63 inches in the east portion. Although evaporation is greater than precipitation in the basin, substantial runoff causes abundant water to flow in many streams and accumulate in area reservoirs.

Significant precipitation and steep topography make the Ouachita Mountain region of the Kiamichi River Basin one of the highest runoff-per-square-mile regions in the state. Average annual runoff

varies from more than 1,050 ac-ft per square mile in the eastern portion of the basin to almost 750 ac-ft per square mile in the south and west. Three U.S. Geological Survey stream gages exist on the Kiamichi River; an additional gage at Hugo dam was discontinued in 1992, but provides valuable information on river flows at the basin's end prior to construction of Hugo Lake.

The average annual flow of the Kiamichi River at the USGS stream gage near Big Cedar is 62,264 ac-ft/yr. Flow downstream increases as the contributing drainage area measured by each gage increases. At Clayton, the average annual flow for the period of record is 815,948 ac-ft; at Antlers, more than 1.3 million ac-ft. Estimated inflow into Hugo Lake is 1,594,248 ac-ft/yr or 1,422 million gallons per day (mgd). The minimum annual regulated flow ever recorded at the Corps of Engineers' Hugo Lake gage is 484,356 ac-ft; the maximum is 3,050,000 ac-ft.

Table 5.2-1 Water resource records of Kiamichi River Basin.

Historical Streamflow Data, Kiamichi River Basin

Gage	Drainage Area (square miles)	Annual Flow for Period of Record				
		Minimum (ac-ft/yr)	Maximum (ac-ft/yr)	Average (cfs)	Average (ac-ft/yr)	Average (mgd)
Big Cedar	40	24,544	110,048	86	62,264	56
Clayton	708	396,028	1,424,108	1,127	815,948	728
Antlers						
Hugo	1,138	569,064	2,305,216	1,821	1,318,404	1,176

All data from U.S. Geological Survey stream gages, except Hugo, which is estimated inflow from the Corps of Engineers reservoir gage.

5.2.1.1. Existing Water Uses and Water Rights

The OWRB, the State's water use permitting agency, has on file 44 active permits for the use of 84,112 ac-ft/yr of stream water from the Kiamichi River, its tributaries and impoundments (Table 5.1; figures do not include domestic uses from Sardis and Hugo Lakes, approved by the Corps of Engineers).

Table 5.2-1 Surface Water Use Permits, Kiamichi River Basin

Surface Water Use Permits, Kiamichi River Basin					
Permit #	**County**	**Name**	**Amount (ac-ft/yr)**	**Used (ac-ft/yr)**	**Purpose**
19520394	Choctaw	Leslie	600	100	Irrigation
19540795**	Choctaw	Hugo Municipal Authority	1700	943	Industrial
19540874	Pushmataha	City of Antlers	235	235	Public Water Supply
19560158	Pushmataha	Dept. Tourism & Recreation	10	10	Recreation
19560472	Choctaw	Dept. Wildlife Conservation	200	200	Recreation
19560642	Pushmataha	Evans	8	6	Irrigation
19570121	Pushmataha	Dept. Wildlife Conservation	100	100	Recreation
19570376	Pushmataha	Dept. Wildlife Conservation	130	130	Recreation
19610143	Pushmataha	Miller	25	11	Irrigation
19620079	Latimer	Talihina PWA	300	300	Public Water Supply
19620087	Pushmataha	Clayton PWA	50	50	Industrial
19640593	Pushmataha	Debolt, MD	30	5	Irrigation
19640844	Pushmataha	Talihina PWA	5000	0	Public Water Supply
19660510	LeFlore	Kelley	4	4	Irrigation
19660677	Choctaw	Dept. Wildlife Conservation	90	90	Recreation
19680415	LeFlore	Talihina PWA	1500	815	Industrial
19710003	Pushmataha	Gilbert	84	17	Irrigation
19710567	Choctaw	Leslie	1000	50	Irrigation
19720048**	Choctaw	Hugo Municipal Authority	28800	0	Public Water Supply
19720060**	Pushmataha	Antlers, City of	523	232	Industrial
19760079	Choctaw	Critchlow	60	14	Irrigation
19770160**	Choctaw	Western Farmers Elec. Coop.	32000	5454	Power
19780141	Choctaw	Easterwood	40	80	Irrigation
19800075	Pushmataha	Clayton PWA	400	284	Public Water Supply
19820018*	Pushmataha	U S Army Corps of Engineer	8	4	Recreation
19820134	Pushmataha	Redman	262	9	Irrigation
19830049	Pushmataha	Emery	636	97	Irrigation
19850010	Pushmataha	Corbin	100	5	Irrigation
19860023	Pushmataha	Redman	82	9	Irrigation
19880016	Choctaw	Foster Land & Cattle Co	180	11	Irrigation
19880022*	Pushmataha	Latimer Co RWD #2	1000	0	Public Water Supply
19910037*	Latimer	Addington	30	15	Commercial
19910054*	Latimer	Sardis Lake Water Authority	6000	0	Public Water Supply
19920022**	Pushmataha	Pushmataha Co RWD #3	400	464	Public Water Supply
19930017**	Pushmataha	Pushmataha Co RWD #3	300	0	Public Water Supply
19930039	Pushmataha	Decker Revocable Trust	428	0	Agriculture
19960001	LeFlore	Weatherford	10	5	Agriculture
19960028	Latimer	Kennedy	10	2	Agriculture
19970022	Pittsburg	Wilson	98	0	Irrigation
19980004	Pittsburg	Wilson	300	0	Irrigation
19980005	Pushmataha	Jackson	310	0	Irrigation
19980031	Latimer	Lockhart	295	0	Irrigation
19980032	Pushmataha	Ralston	228	0	Irrigation
19980044	Choctaw	Heddlesten	546	0	Irrigation
Total			**84112**	**9751**	
***Sardis Lake (7,038 ac-ft allocated; 149,762 available; pending applications = 486,424 ac-ft)**					
****Hugo Lake (63,723 ac-ft allocated; 1,237 ac-ft available)**					

Stated uses include public water supply, irrigation, agriculture, power, industrial, commercial and recreation including fish and wildlife purposes. The latest reported surface water use in the basin is 9,751 ac-ft/yr, or 11.6 percent of the total water appropriated from surface sources.

In Sardis, four permits for 7,038 ac-ft., including 6,000 ac-ft. allocated to the Sardis Lake Water Authority which is under development, are on file at the OWRB, leaving 149,762 ac-ft. of the lake's

yield for appropriation. Five additional permits for a total of 486,424 ac-ft -- more than three times the reservoir's dependable yield -- are pending. The applicants are all local entities.

Reported water use in 1998 was 3.1 ac-ft.

In Hugo Lake, six permits for 63,723 ac-ft. are on file, leaving 1,237 ac-ft. of water available for appropriation to other users from the water supply pool. There are no pending applications for the use of water from Hugo Lake. Reported water use in 1998 was 6,150 ac-ft.

Use of groundwater in the Kiamichi River Basin is largely insignificant compared to surface water use. Currently, 10 active permits allocate 3,926 ac-ft/yr of water.

Table 5.2-2 Groundwater Use Permits, Kiamichi River Basin

Groundwater Use Permits, Kiamichi River Basin					
Permit #	**County**	**Name**	**Amount (ac-ft/yr)**	**Used (ac-ft/yr)**	**Purpose**
19690402	Pushmataha	Brents	100	0	Irrigation
19710047	Choctaw	Town of Fort Towson	40	2	Public Water Supply
19740127	Choctaw	Ouachita Mountains RC&D	680	25	Irrigation
19770876	Choctaw	Western Farmers Elec. Coop.	2420	86	Industrial
19810544	Pushmataha	Hutson	159	0	Irrigation
19820520	Pushmataha	Sardis Project Office	6	1	Recreation
19880535	Choctaw	American Rock Products Inc	351	0	Industrial
19890504	Pushmataha	Boykin	2	0	Industrial
19910563	Latimer	Addington	68	1	Public Water Supply
19950634	Latimer	Price	100	0	Agriculture
Total			**3926**	**115**	

The last reported groundwater use is only 115 ac-ft/yr (three percent of water appropriated). Stated water uses include irrigation, public water supply, industrial, recreation and agriculture.

Regarding individual water use, more than 88 percent of the Kiamichi River Basin's surface and groundwater rights are allocated to only four users – Western Farmers Electric Cooperative (including both a stream and groundwater use permit), Hugo Municipal Authority (two permits), Sardis Lake Water Authority (one permit) and the Talihina Public Works Authority (three permits). These four entities (including SLWA, which reports no use to date) account for 77 percent of the total water used in the basin. Western Farmers, the largest single user with a 34,420 ac-ft/yr allocation, reports usage of 5,540 ac-ft/yr. The second largest user, Hugo, uses only three percent (943 ac-ft/yr) of its total permitted amount (30,500 ac-ft/yr).

Of the total annual average flow of the Kiamichi River (1,594,248 ac-ft/yr, estimated from the total average inflow into Hugo Lake), approximately 5.3 percent (84,112 ac-ft/yr) is appropriated to local users in the basin. Of the estimated 472,320 ac-ft of groundwater available in the basin (from OWRB groundwater basin studies), only 0.8 percent is appropriated. In all, less than 4.3 percent (88,038 ac-ft/yr) of the Kiamichi River Basin's total estimated available surface and groundwater resources have been appropriated, leaving almost 96 percent of the area's total water currently available for future use.

Comparing water use and population in the basin with similar figures from southeast Oklahoma municipalities, the City of McAlester, with a population of approximately 17,000, uses slightly more than 5,000 ac-ft/yr of its allocated water. The entire Kiamichi River Basin, with a little more than

double McAlester's population, uses less than 10,000 ac-ft/yr. When compared to the 20,000 ac-ft/yr of water set aside specifically for future use in the Kiamichi River Basin area through the OWRB's recent rulemaking, these and the other water usage figures specified above appear to more than substantiate adequate protection for future local supply. The Kiamichi Group agrees, however, that similar measures – such as negotiating with Western Farmers or other water rights holders to free-up currently appropriated water at Hugo Lake -- should be taken to ensure future supply for the Hugo area.

5.2.1.2. Existing Water Rights in the Project Boundary

The water rights for the Kiamichi River are managed by the OWRB for the specific purpose of "sale." The Kiamichi River would be considered the primary water source for ongoing make-up water.

Rights to the initial fill and ongoing make-up water volumes would be obtained through an allocation of available water rights, as 5.3% of the annual average flow of the Kiamichi are currently appropriated to local users. The Project water rights will be used to initially fill the lower reservoir to its normal operating level, and for future fill requirements from seepage and evaporative losses.

During rainfall events, the proposed upper and lower lakes will capture an estimated 4,150 ac-ft/yr which would satisfy the gross evaporation losses. The Kiamichi make-up water option will remain in standby if needed.

5.2.2. References

OWRB. 2000, Oklahoma Water Resources Board. Kiamichi River Basin Working Group Pursuant to HCR 1066, February 1, 2000. Prepared by the Oklahoma Water Resources Board. Duane A. Smith, Executive Director. 65 pgs.

5.3. Fish and Aquatic Resources

The proposed Wild Flower Pumped Storage Project will be located within the upper Kiamichi River Basin (see Figure 3.1) near the town of Clayton in eastern Pushmataha County, Oklahoma (see Figure 3.2). As noted above, the proposed Project is in a location close to the Kiamichi River. The Project would be a closed-loop system.

5.3.1. Federally and State Listed Species in the Project area

Satisfying listed species concerns is a fundamental aspect in protecting the integrity of the Kiamichi River and its ecosystem. Any project must address requirements of the Endangered Species Act and related local environmental concerns, including potential impacts to the Kiamichi River.

Nine federally listed species, including 3 mussel species, are known to occur within Pushmataha County. Of primary concern, according to the U.S. Fish and Wildlife Service, is the Ouachita Rock Pocketbook Mussel, which is particularly dependent upon river flows. A list of listed species is presented in Table 5.3. There no State-listed Species per the Oklahoma Department of Wildlife Conservation: http://wildlifedepartment.com/wildlifemgmt/endangeredspecies.htm.

Table 5.3-1 Listed Species known to occur in Pushmataha County

Birds	**Status**
Piping Plover (*Charadrius melodus*)	Threatened
Least tern (*Sterna antillarum*) Population: interior pop.	Endangered
Red-Cockaded woodpecker (*Picoides borealis*) Population: Entire	Endangered
Clams	
Ouachita Rock pocketbook (*Arkansia wheeleri*) Population: Entire	Endangered
Scaleshell mussel (*Leptodea leptodon*)	Endangered
Winged Mapleleaf (*Quadrula fragosa*) Population: Entire; except where listed as experimental populations	Endangered
Fishes	
Leopard darter (*Percina pantherina*) Population: Entire	Threatened
Insects	
American Burying beetle (*Nicrophorus americanus*) Population: Entire	Endangered
Mammals	
Indiana bat (*Myotis sodalis*) Population: Entire	Endangered

Source: http://ecos.fws.gov/ipac/wizard/trustResourceList!prepare.action

Per the letter from the U.S. Department of Interior regarding the proposed project, dated June 16, 2011, the red-cockaded woodpecker and the leopard darter do not occur within the Kiamichi River Basin. The other seven federally-listed species that may occur within Pushmataha County are the Indiana bat, interior least tern, American burying beetle, Ouachita rock pocketbook, scaleshell mussel, winged mapleleaf, and the piping plover.

5.3.2. Federally and State Listed Species in the Transmission Line area

The transmission line crosses Choctaw and Bryan counties in Oklahoma and Fannin County in Texas. Natural resources of concern in those counties are listed in table 5.3-2

Table 5.3-2 Listed Species known to occur Bryan & Choctaw County, OK & Fannin County, TX

Birds	**Status**
Piping Plover (*Charadrius melodus*)	Threatened
Least tern (*Sterna antillarum*) Population: interior pop.	Endangered
Red Knot (*Calidris canutus rufa*)	Proposed threatened
Whooping crane (*Grus Americana*) Population: except where EXPN	
Clams	
Ouachita Rock pocketbook (*Arkansia wheeleri*) Population: Entire	Endangered
Scaleshell mussel (*Leptodea leptodon*)	Endangered
Winged Mapleleaf (*Quadrula fragosa*) Population: Entire; except where listed as experimental populations	Endangered
Fishes	
Leopard darter (*Percina pantherina*) Population: Entire	Threatened
Insects	
American Burying beetle (*Nicrophorus americanus*) Population: Entire	Endangered
Mammals	
Indiana bat (*Myotis sodalis*) Population: Entire	Endangered

Source: http://ecos.fws.gov/ipac/wizard/trustResourceList!prepare.action

5.3.3. Life History Information on Project Species

5.3.3.1. Piping Plover

Description: Small sand-colored, sparrow-sized shorebird that nests and feeds along coastal sand and gravel beaches in North America. The adult has yellow-orange legs, a black band across the forehead from eye to eye, and a black ring around the neck. This chest band is usually thicker in males during the breeding season, and it's the only reliable way to tell the sexes apart. The bird is difficult to see when it is standing still, as it blends well with open, sandy beach habitats. It typically runs in short spurts and stops.

Habitat: Lives the majority of its life on open sandy beaches or rocky shores, often in high, dry sections away from water. They can be found on the Atlantic Coast of the U.S. and Canada on the ocean or bay beaches and on the Great Lakes shores. It builds its nests higher on the shore near beach grass and other objects. It is very rare to see a Piping Plover anywhere outside of sand or rocky beaches/shores while not migrating.

Distribution: Total population is currently estimated at about 6,510 individuals. A preliminary estimate showed 3,350 birds in 2003 on the Atlantic Coast alone, 52% of the total. The population has been increasing since 1999. Their breeding habitat includes beaches or sand flats on the Atlantic coast, the shores of the Great Lakes, and in the mid-west of Canada and the United States.

5.3.3.2. Least Tern

Description: Least terns are the smallest member of the gull and tern family. They are approximately 9" in length. Unlike gulls, terns will dive into the water for small fish. The body of least terns is predominately gray and white, with black streaking on the head. Least terns have a forked tail and narrow pointed wings. Least terns less than a year old have less distinctive black streaking on the head and less of a forked tail.

Habitat: Usually forms colonies on sandy and pebbly beaches along the coast; sandbars in large rivers. Often on landfill.

Distribution: Breeds along California coast, along rivers in Mississippi Valley, and coastally from Maine south to Florida. Winters from Southern Mexico, Caribbean south to coast of South America. Listed by USFWS as Endangered on U.S. west coast (subspecies browni) (June 2, 1970; Federal Register 35:8495) and on interior U.S. rivers, with the following caveats: Louisiana, Mississippi River and tributaries north of Baton Rouge; Mississippi, Mississippi River only, and Texas, everywhere except the Texas coast and a 50 mile zone inland from the coast (May 28, 1985; Federal Register 50:21792).

5.3.3.3. Red Knot

Description: Length: 25-28 cm. Adults in spring: Above finely mottled with grays, black and light ochre, running into stripes on crown; throat, breast and sides of head cinnamon-brown; dark gray line through eye; abdomen and undertail coverts white; uppertail coverts white, barred with black. Adults in winter: Pale ashy gray above, from crown to rump, with feathers on back narrowly edged

with white; underparts white, the breast lightly streaked and speckled, and the flanks narrowly barred with gray. Adults in autumn: Underparts of some individuals show traces of the "red" of spring.

Habitat: The Red Knot nests on the ground, near water, and usually inland.

Distribution: Breeds in tundra and the Arctic Cordillera in the far north of Canada, Europe, and Russia. North American breeders migrate to coastal areas in Europe and South America, while the Eurasian populations winter in Africa, Papua New Guinea, Australia, and New Zealand.

5.3.3.4. Whooping Crane

Description: An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight. The species can stand up to 1.5 meters (5 feet) and have a wingspan of 2.3 meters (7.5 feet). Males weigh on average 7.3 kg (16 lb.), while females weigh 6.2 kg (14 lb.) on average (Erickson, 1976). The body length averages about 132 cm (52 in). The standard linear measurements of the Whooping cranes are a wing chord length of 53–63 cm (21–25 in), an exposed culmen length of 11.7–16 cm (4.6–6.3 in) and a tarsus of 26–31 cm (10–12 in).

Habitat: They nest on the ground, usually on a raised area in a marsh.

Distribution: The muskeg of the taiga in Wood Buffalo National Park, Alberta, Canada, and the surrounding area was the last remnant of the former nesting habitat of the Whooping Crane Summer Range. However, with the recent Whooping Crane Eastern Partnership Reintroduction Project, Whooping Cranes nested naturally for the first time in 100 years in the Necedah National Wildlife Refuge in central Wisconsin, USA.

5.3.3.5. Ouachita Rock Pocketbook

Description: This is a medium-sized freshwater mussel with a dark brown to nearly black, and slightly oval-shaped shell. It is a filter-feeder that filters particles of decaying vegetation and microscopic animals and algae from the water that flows around it. It reaches a maximum length of about 4.5 inches, is subovate in outline, and moderately inflated.

Habitat: The Ouachita Rock Pocketbook embeds itself in coarse sediment and gravel at the bottom of the river channel in the Kiamichi and Little rivers in southeastern Oklahoma.

Current and Historic Distribution: The Ouachita Rock Pocketbook is a very rare mussel and makes up a fraction of one percent of the mussel community of the rivers in which it occurs. Currently, the last remaining populations exist in the Kiamichi River in Oklahoma, the Little River in southeastern Oklahoma and southwestern Arkansas, and the Ouachita River in Arkansas. Historically, they were more widespread in these three rivers and occurred in other river systems in the Red River drainage of Arkansas.

5.3.3.6. Scaleshell mussel

Description: This mussel is generally up to 10 centimeters long but old individuals may reach 12 centimeters. The shell is very thin and translucent in parts, and is yellowish, greenish, or brownish in color. The nacre is very iridescent and is blue or purple in color with a pinkish or copper tinge. The species is sexually dimorphic, with males having a pointed posterior end and females having a ruffled end.

Habitat: This mussel inhabits medium-sized to large rivers and can be found in riffles with a slow or moderate current. It often buries itself a few centimeters deep in the substrate, which may be sand, gravel, rocks, or mud.

Current and Historic Distribution: This mussel had a historical distribution in 56 rivers in 13 states throughout the Mississippi River drainage: Alabama, Arkansas, Illinois, Indiana, Iowa, Kentucky, Minnesota, Missouri, Ohio, Oklahoma, South Dakota, Tennessee, and Wisconsin. While it had a widespread distribution, it was considered rare throughout its range. Today it is considered extirpated from nine of these states, with scattered occurrences remaining in Missouri, South Dakota, Arkansas, and Oklahoma. It has been seen in 18 rivers in the last 25 years. The largest known populations, which are very small and isolated, are in the Meramec, Bourbeuse, and Gasconade Rivers of Missouri.

5.3.3.7. Winged Mapleleaf

Description: The anterior end of the Quadrula fragosa shell is slightly rounded and the posterior end of the shell is more of a square shape. The shell can range in color from a yellowish-green to light or dark brown. The inside of the shell is white, and there is sometimes iridescent coloring at one end of the shell. The diameter of a mature mussel of this species is usually about 4 inches (10.2 cm). The shells of these mussels are very thick, and unlike many other mussels, there are bumps on the shell surface running down from the hinge of the shell to the outside edges. It is the patterns of these bumps that help to distinguish the winged mapleleaf from many other mussels that look very similar in appearance.

Habitat: The winged mapleleaf is found in medium to large streams and rivers. It can sometimes be found in the mud, but it is more commonly either found in gravel or sandy bottoms. The mussel does need to be in moving water in order to survive, the depth of this running water also needs to be somewhere between 0.4 to 2.0 meters. The water must be free of pollutants and clean.

Current and Historic Distribution: At one time the winged mapleleaf could be found in thirteen states. It lived in nearly all the rivers and streams that flow into the Mississippi River. It was once also found in some rivers and streams that flow into the Missouri River.

Today however, the mussel can only be found in four rivers in the Midwestern United States, and only found in limited areas of those four rivers: in a five-mile stretch of the St. Croix River, which flows between the states of Minnesota and Wisconsin; In Arkansas it can be found in the Ouachita River and also the Saline River, and some populations have been located in the Bourbeuse River in

Missouri. Of these 4 locations, the population of these mussels in the St. Croix River is the only one that has been proven to actually be reproducing and growing in population. The mussels in the other 3 locations have no evidence that their populations are growing or that there is actually offspring is being produced. It is currently estimated that there is somewhere between 50-1000 individuals that are still alive today.

5.3.3.8. American Burying beetle

Description: N. americanus is between 25 and 45 mm long and can be identified by its striking, distinctive coloring. The body is shiny black, and on its wing covers are four scalloped, orange-red markings. Most distinctively, there is an orange-red marking on the beetle's pronotum, a large shield-like area just behind the head. N. americanus has orange facial markings and orange tips on their large antennae. The beetle is nocturnal and is a strong flier, moving as far as a kilometer in one night.

Habitat: Historical records offer little insight into what type of habitat was preferred by the American burying beetle. Current information suggests that this species is a habitat generalist, or one that lives in many types of habitat, with a slight preference for grasslands and open understory oak hickory forests. However, the beetles are carrion specialists in that they need carrion the size of a dove or a chipmunk in order to reproduce. Carrion availability may be the greatest factor determining where the species can survive.

Current and Historic Distribution: Historical records show that this beetle once lived in 35 states of the United States, the District of Columbia, and three Canadian provinces: Ontario, Quebec, and Nova Scotia. Now, natural populations are known to occur in only five states and at least one province: on Block Island in Rhode Island, Oklahoma, Arkansas, South Dakota, Nebraska and Ontario. They have also been reintroduced to Ohio.

5.3.3.9. Indiana Bat

Description: The Indiana bat is gray, black, or chestnut in color and is 1.2–2 inches and weighs 4.5 – 9.5 grams (0.16 – 0.34 oz.). It is similar in appearance to the more common little brown bat but is distinguished by its feet size, toe hair length, pink lips and a keel on the calcar.

Habitat: Indiana bats live in hardwood forests and hardwood-pine forests. It is common in old-growth forest as well as in agricultural land like croplands and old fields. Overall, the bats mostly live in forest, crop fields, and grasslands.

Current and Historic Distribution: The Indiana bat spends summer months living throughout the eastern United States. During winter, however, they cluster together and hibernate in only a few caves. Since about 1975, the population of Indiana bats has declined by about 50%. Based on a 1985 census of hibernating bats, the Indiana bat population is estimated at about 244,000. About 23% of these bats hibernate in caves in Indiana. The Indiana bat lives in caves only in winter; but, there are few caves that provide the conditions necessary for hibernation. Stable, low temperatures are required to allow the bats to reduce their metabolic rates and conserve fat reserves. These bats hibernate in large, tight clusters which may contain thousands of individuals.

5.3.4. Essential Fish Habitat

There is no known essential fish habitat which occurs within the proposed Project boundary or in the immediate upstream or downstream areas.

5.3.5. Section 7 Consultation Process

Per the U.S. Department of Interior letter, evidence of federally-listed species (especially the Ouachita rock pocketbook) may be encountered in the project area, and "a determination of the effects of the proposed project on state and federally-listed threatened and endangered species" would be required. Dixie Bounds, Field Supervisor, Oklahoma FWS Ecological Services Field Office will be contacted for coordination during the project planning process.

5.4. Wildlife and Botanical Resources

The Project area supports wildlife and botanical resources that are common to Oklahoma's Ouachita Mountains ecoregion and is located in the Ouachita Mountains, Ecoregion 36. The regional information on wildlife and botanical resources in the Project area was derived from the EPA Ecoregions of Oklahoma for the five major ecological systems/habitat types occupying the Project study area based on land cover. These five ecological systems/habitat types identified in Figure 5.4-1 include the Athens Plateau, the Central Mountain Ranges, the Fourche Mountains, the low mountains of Western Ouachita and the Western Ouachita Valleys.

These ecological systems/habitat types represent groupings of biological communities occurring in similar physical environments, and influenced by similar ecological processes such as flooding, fire, wind, and snowfall. The forested low mountains of Ecoregion 36 are characteristically underlain by folded, sedimentary rocks of the Paleozoic age. Oak-hickory-shortleaf pine forest is native on uplands. Ecoregion 36 remains mostly forested, but pastureland and hayland occur in wider valleys. Logging and recreation are major land uses. Most streams have gravel, cobble, boulder, or bedrock substrates but a few have sandy bottoms. Common fishes include the longear and green sunfishes, yellow bullhead, brook silverside, blackstripe and blackspotted topminnows, largemouth bass, smallmouth bass, redfin darter, suckers, and the bigeye, Ouachita Mountain, and ribbon shiners.

Figure 5.3.5-1 Ecological Systems/Habitat Types

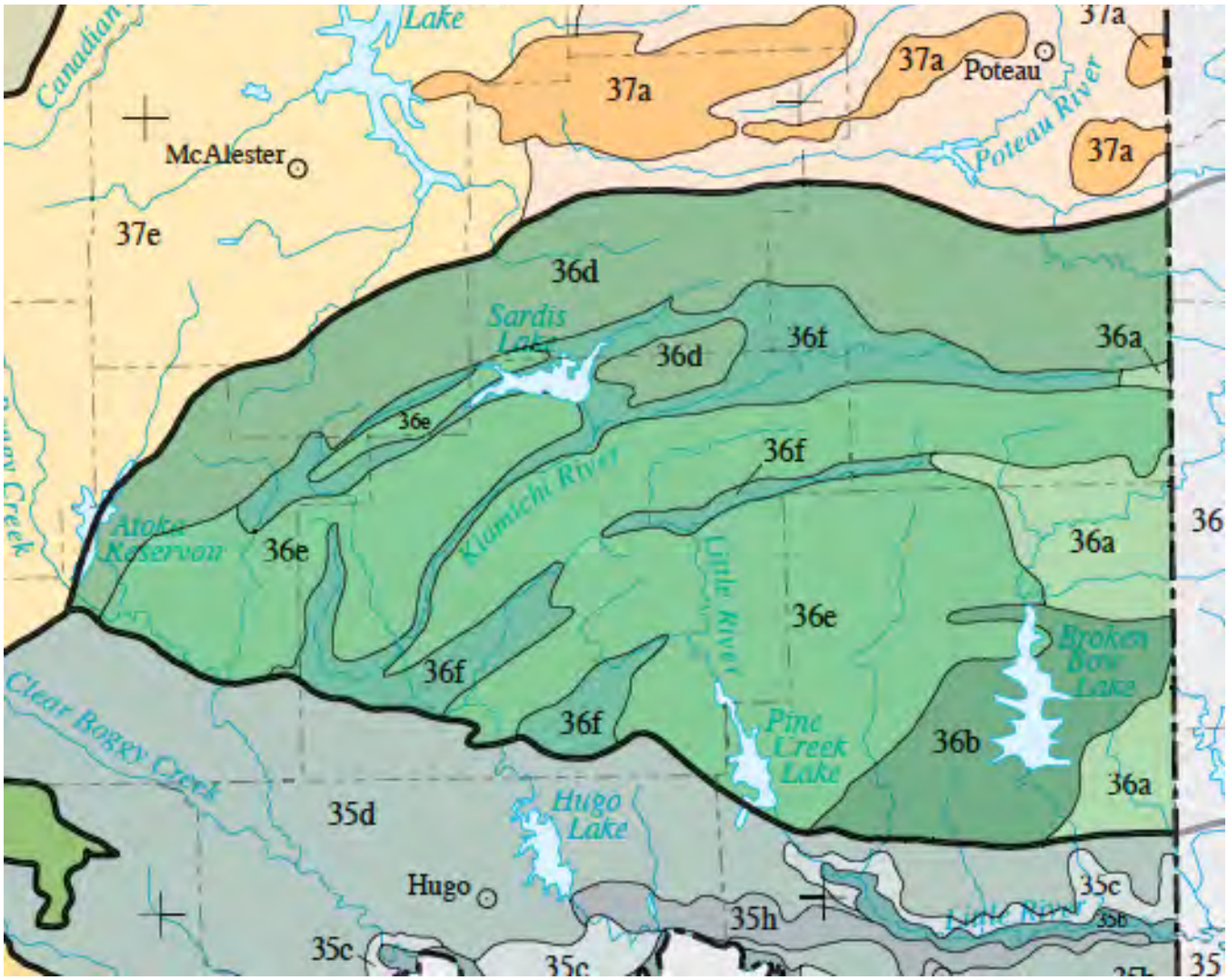


Table 5.4-1 Ecological Systems / Habitat Types

Ecological Systems / Habitat Types Keys	
36a	The Athens Plateau ecoregion is composed of open hills and low ridges that are widely underlain by Mississippian Stanley Shale, lithology contrasts with the sandstone, shale, and chert of the Central Mountain ranges (36b), the sandstone and shale of the more rugged Fourche Mountains (36d), and the unconsolidated sediments of the lower, less rugged South Central Plains (35). Today commercial pine plantations are widespread, and pastureland and hayland also occur. Logging, as in the Western Ouachitas (36e), is an important land use that impacts stream quality. Cattle and broiler chickens are important farm products.

36b	The Central Mountain Ranges are underlain sandstone, chert, conglomerate and shale; resistant chert is more extensive than elsewhere in Ecoregion 36. Shallow, stony soils are common and support oak-hickory-pine forest. Ridges are steep enough to limit logging. Ecoregion 36b contains the largest remaining tract of unlogged, old growth oak-shortleaf pine habitat in the United States. Its pine woodlands are managed to increase the population of the red-cockaded woodpecker, which is federally listed as endangered. Perennial springs and seeps are common, and support diverse vegetation; they are not large enough to strongly contribute to summer stream flow. Thus, all except the largest streams stop flowing during the driest parts of the summer. Constricted valleys between ridges have waterfalls and rapids. Streams have very low nutrient, mineral and biochemical water quality parameter concentrations. Surface waters are more oligotrophic and have less kaolin and less turbidity than the rest of Ecoregion 36. Bottomland forests along the Mountain Fork River were drowned by the Broken Bow Lake.
36d	The Fourche Mountains ecoregion is composed of east to west trending, folded, sandstone-capped ridges and intervening shale valleys. It is more rugged than regions 36a and 36f. Ridges are longer, and habitat continuity is greater than in other parts of Ecoregion 36. Natural vegetation is oak-hickory-pine forest. Forests on steep, north-facing slopes are more mesic than on southern aspects. Steepest, south-facing slopes with shallow, moisture deficient soils support shrubs and rocky glades. Pastureland and hayland are restricted to broad valleys. Logging is not as intensive as in the commercial pine plantations of Ecoregions 36a and 36e. Surface waters usually have low nutrient, mineral and biochemical water quality parameter concentrations, but turbidity can be high. Although most streams stop flowing during the driest part of summer, enduring deep pools, high quality habitat, and good water quality allow sensitive aquatic species to survive during the summer.
36e	The low mountains, hills, and valleys of the Western Ouachitas are covered with oak-hickory-pine forest, and largely underlain by sandstone and shale. Ecoregion 36e is not as rugged as Ecoregion 36d or adjacent parts of Ecoregion 36b. Ridgetop elevations and forest density generally decline westward. Logging, recreation and woodland grazing are the main land uses; commercial pine plantations occur. Ecoregion 36e (when aggregated with interfingering parts of Ecoregion 36f), contains one of the greatest concentrations of imperiled or critically imperiled, aquatic and terrestrial species in Mid-North America (as classified by the Natural Heritage Network).
36f	The broad Western Ouachita Valleys are etched into Mississippian Stanley Shale and veneered with terrace, alluvial, and colluvial deposits. Ecoregion 36f includes the Kiamichi River, one of the few tributaries to the Red River that has not been heavily impacted by water diversion or major land use changes. The Kiamichi River is home to more than half of Oklahoma's mussel species, including eight imperiled or vulnerable species. Natural vegetation is oak-hickory-pine forest on uplands and bottomland forest on floodplains and low terraces. Prairies occurred in Ecoregion 36f prior to the 20th century, but were lacking from the other, more mountainous parts of Ecoregion 36. Today, pastureland, woodland and hayland are common; poultry, cattle and hogs are the main farm products.

Source: EPA Ecoregions Map of Oklahoma

5.5. Wetlands, Riparian and Littoral Habitat

Within the proposed Project boundary, no riparian, wetland, and littoral habitat have been identified.

Table 5.5-1 Wetland Status Report, OK

WETLAND STATUS REPORTS - OKLAHOMA DUCK STAMP PROJECTS
(As of Sept. 11th, 2013)

Project Site	Size (Acres)	Unit Name	Status of Flooding	Dominant forage and Related Comments
Billy Creek	100	Main unit	60%	smartweed, barnyardgrass – good condition.
Chouteau	40	North (unit 1)	80%	smartweed – good cond.
	90	Middle (unit 2)	dry	smartweed – good cond.
	70	South (unit 3)	100%	disced, open water, invertebrates– good.
	60	East (unit 4)	100%	totally disced – open water, in mgmt. rotation; good invertebrates.
	100	GT/MS (unit 5)	80%	mast, smartweed - fair condition.
Fourche Maline (LeFlore Co.)	50	Moist Soil unit (east side)	100%	sedges, smartweed – good. cond.
Okmulgee West (Okmulgee Co.)	250	All	<10%	smartweed – fair cond.
Overcup Bottoms (Nowata Co.)	45	Unit 1	50%	smartweed, barnyardgrass – good.
	40	Unit 4	40%	smartweed, barnyardgrass – fair/poor
	60	Unit 6	20%	smartweed – good, barnyardgrass-fair cond.
	35	Unit 7	70%	mast, emergent vetetation.
Hulah Whipporwill Unit (Osage Co.)	80	Main unit	100%	sedges, smartweed, buttonbush - good cond.
Red Slough (McCurtain Co.)	37	Unit 21	60%	emergent vegetation – fair cond.
Upper Verdigris	40	Unit 1	80%	sedges, spikerush- good cond.
	40	Unit 2	80%	moist soil plants – poor cond.

Source: www.wildlifedepartment.com/hunting/wetland-status-rpt-1.13.pdf

Visited March 18, 2014

5.5.1. Floodplains

There are no current, future or historic FEMA issued flood maps for unincorporated areas (including Clayton) in Pushmataha County, Oklahoma (FEMA, 2014)

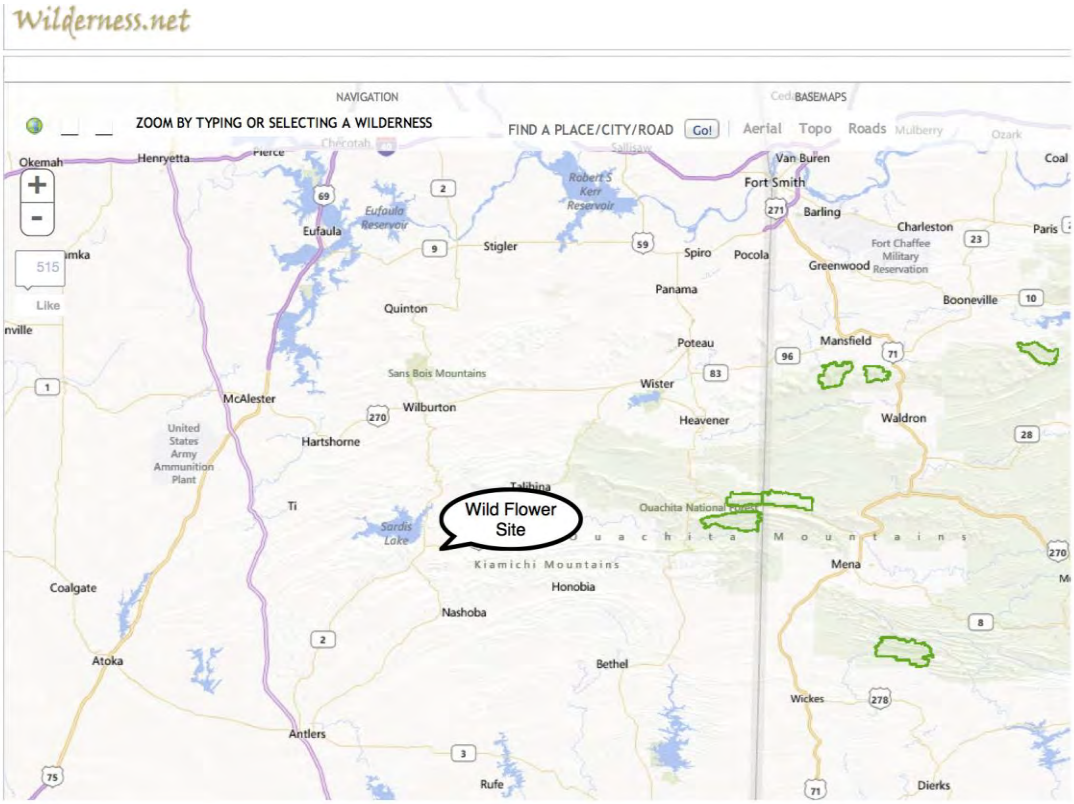
5.6. Recreation and Land Use

In 2007, Oklahoma celebrated its 100th year of statehood. With that milestone, the Oklahoma Tourism and Recreation Department also marked the 9th generation of Statewide Comprehensive

Outdoor Recreation Plan development as mandated by the Land and Water Conservation Fund Act of 1965 (16 U.S.C. § 460*l*-4 through 460*l*-11).

The Talimena Scenic Drive, traversing the crest of the Winding Stair Mountain Range in the Ouachita National Forest, is one of the Sooner State's premier destinations for fall foliage, located approximately 30 miles North East of the project site. Beavers Bend Resort Park, adjacent to Broken Bow Lake, is a favorite spot for trout and fly fishing, boating, eagle watching, horseback riding and nature hikes. Other recreation areas include the Glover River, the Kiamichi River and the Little River, as well as five other state parks. (Source: www.travelok.com)

Figure 5.5.1-1 Recreation Land Use, Pushmataha County, OK



5.6.1. Primary Recreational Activities and Locations near Proposed Project

There are no developed recreational facilities located adjacent to or in the immediate vicinity of the proposed Project site. The primary recreational areas located in Pushmataha and neighboring counties within 10 miles of the proposed Project are located in the Ouachita Mountains National Forest.

5.6.2. Existing Recreational Facilities within Proposed Project Boundaries

There are no existing recreational facilities within the proposed Project boundary.

5.6.3. Specially Designated Lands within Proposed Project Boundary

There are no specially designated lands within the proposed Project boundary.

5.7. Aesthetic Resources

There are no state designated aesthetic or scenic resources found at or adjacent to the Project site. The following scenic roads are the nearest scenic resources to the proposed Project site at Wild Flower:

- Talimena Scenic Drive, traversing the crest of the Winding Stair Mountain Range in the Ouachita National Forest, is one of the Sooner State's premier destinations for fall foliage, located approximately 30 miles North East of the project site.

5.8. Cultural and Tribal Resources

5.8.1. Associated Indian Tribes

The Project is within the traditional territorial range of the Choctaw, Chickasaw Nations of Oklahoma. Any Traditional Cultural Properties (TCP) within and adjacent to the Project boundary will be identified through consultation with these Native American tribes.

6. Preliminary List of Potential Issues and Study Needs

Based on the available resource information regarding the project area and the initial assessment of potential resource impacts from project construction, operation and maintenance activities, the following potential issues and study needs have been identified. These preliminary issues will warrant further discussions with licensing participants to determine whether:

1) sufficient information exists to address the issue or 2) existing information is not sufficient to complete an evaluation of potential impacts and therefore a study or other information gathering efforts are needed. Through this process, the relevant information needs to address potential Project effects and can be determined.

TIG presents this information as a starting point for discussions with resource agencies and other interested participants during Stage 1 Consultation under the Two-Year Licensing Process (TYLP).

6.1. Geology and Soils

Future studies will be conducted as necessary to determine whether soil conditions are present which would require special consideration during design and construction activities. Best Management Practices (BMPs) would be employed to mitigate any identified concerns.

6.2. Water Resources

The proposed Project would involve a one-time withdrawal of water for initially filling the lower reservoir and ongoing smaller withdrawals for makeup water.

TIG has conducted searches to find and review information related to water quantity and water quality for the Kiamichi River. The timing and magnitude of potential Project withdrawals should be assessed to determine potential effects.

Based on the water quantity and water quality information presented in this PAD, below is an initial list of potential questions which appear to warrant further consideration:

a. Confirm how the Project will obtain water for the initial Project fill. This would include timing, magnitude and duration and the source(s) of water.

b. Confirm how the Project will obtain water for routine maintenance filling. This would include timing, magnitude and duration and the source(s) of water.

c. If Project water use would change the timing, magnitude or duration of water withdrawals from existing conditions, initiate studies to determine if the changes from current water practices would impact downstream water users or resources in affected water bodies.

d. Review proposed construction plans for roads, dams, reservoirs, powerhouse, transmission line and buildings to identify potential resource impacts (e.g., erosion, sedimentation) of water resources in the Project area.

e. Develop a Spill Management Plan.

6.3. Fish and Aquatic Resources

TIG has conducted searches to find and review information related to fish communities, aquatic habitats, macro invertebrate communities and amphibian observations available for the Kiamichi River. TIG has presented the available data in this PAD to provide a basis for assessing the potential construction and operational effects of the proposed Project on the aquatic resources of both water bodies.

Based on the fish and aquatic resource information presented in this PAD, below is an initial list of potential questions which appear to warrant further consideration:

a. Confirm how the Project will obtain water for the initial Project fill. This would include timing, magnitude and duration and the source(s) of water.

b. Confirm how the Project will obtain water for routine maintenance filling. This would include timing, magnitude and duration and the source(s) of water.

c. Initiate studies to determine if any proposed change in the timing, magnitude or duration of current diversion practices would impact the fish and aquatic resources in any potential water source.

TIG will continue to consult with OWRB to identify additional information needs or protection measures, if any, for any state-listed species identified as likely to occur in the Project area that could be affected by Project construction and operation.

6.4. Wildlife and Botanical Resources

The majority of Project-related activities, such as the creation of the upper and lower reservoirs, would be located in pasture/rangelands. Hay/crop areas and some forested areas may also be affected during Project construction.

Studies will be conducted as necessary to quantify the potential Project effects on wildlife and botanical resources.

6.5. Wetlands, Riparian and Littoral Habitat

Minimal or isolated effects may occur, due to temporary or permanent access routes, siting of power poles or other activities.

Under Section 404 of the Clean Water Act, the discharge of earth materials into water of the United States and jurisdictional wetlands, which includes wetlands that are connected to waters of the United States, are regulated.

The relevant information needed to assess potential Project effects will be identified based on proposed Project construction activities and the identification of potentially disturbed areas. An onsite survey will be required to identify any wetland habitat located within the Project boundary that could be affected by the Project. This survey would also include a reconnaissance of the area possessing hydric soils located within the proposed transmission line.

6.6. Recreation and Land Use

Most Project-related activities would not occur in forested land areas, given the steep terrain. However, should construction-related activities disturb the forested areas, the disturbance would be expected to have localized and have minimal quantifiable effect.

The relevant information needed to assess potential Project effects will be identified based on proposed Project construction activities and potentially disturbed areas.

6.7. Aesthetic Resources

It is TIG's intent to construct the Project in a manner that will minimize any adverse effects on aesthetic resources.

Future studies will be conducted as found necessary and best Management Practices (BMPs) would be employed to mitigate potential adverse effects.

6.8. Cultural and Tribal Resources

The preliminary field reconnaissance was a pedestrian examination not designed to meet SHPO, FERC, or Department of Interior standards for a Class III Cultural Resource Inventory required to fulfill Section 106 requirements of the National Historic Preservation Act (1966, as amended). Such an inventory is required prior to ground disturbance related to the construction of the Project as specified by the U. S. Secretary of Interior Standards and Guidelines for Archeology and Historic Preservation that would require the identification and mapping of any prehistoric and historic cultural properties located through an intensive pedestrian survey. An initial step in planning the inventory is determining the Area of Potential Effect (APE) in consultation with the SHPO and other interested participants.

The physical and ethnohistoric setting of Wild Flower may require Native American consultations to ascertain any potential Traditional Cultural Properties (TCP) within and adjacent to the Project boundary.

6.9. Socio-economic Resources

There is the potential for both positive and negative effects of the Project on socio-economic resources in the Project area. Examples of potential positive effects include construction related jobs and purchases of services and materials in the Project area. Potential adverse effects could include additional pressure on local government services.

A detailed construction and workforce plan has not yet been developed. Some work crews may commute. Other crew members may bring their camp trailers and use trailer hook-ups in the villages in the vicinity of the Project.

An evaluation of the potential effects will be conducted once the construction plan is further developed.

6.10. Federal and State or Tribal Comprehensive Plans

TIG has reviewed the list of qualifying comprehensive plans and determined the following plans as applicable to the Project.

- Oklahoma Department of Environmental Quality. Oklahoma's State Water 2006 assessment

  .
- Oklahoma Water Resource Board Water Development Plan 2002

APPENDIX A

Phase I Environmental Site Assessment

Phase I Environmental Site Assessment
Wild Flower
Clayton, OK

Prepared for:

Wild Flower Water, LLC
Addison, TX

April 2014

Table of Contents

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List of Appendices

1 Executive Summary

Tomlin Infrastructure Group, LLC requested a Phase I Environmental Site Assessment (ESA) for the Wild Flower Project

There is no evidence of recognized environmental conditions that would indicate the presence or likely presence of any hazardous substances or petroleum products on the subject property from an existing release, past release, or material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. There is no evidence of historic recognized environmental conditions within the required search areas.

This Phase I ESA has been completed following the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM, 2005) and the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forested or Rural Land*" (ASTM 2008). This Phase I ESA does not address asbestos-containing materials, radon, lead-based paint, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species or indoor air quality. The findings and conclusions generated or produced here are intended exclusively for the use of Wild Flower Water, LLC and specific parties designated by Wild Flower Water, LLC.

2 Introduction

Tomlin Infrastructure Group, LLC has requested a Phase I Environmental Site Assessment (ESA) for the Wild Flower Project.

If additional investigation or an update is required in the future, this document will serve as a starting point and is in a format that should be familiar to engineering, environmental, real estate and legal entities.

This Phase I ESA has been performed in conformance with the scope and limitation of American Standard for Testing Materials (ASTM) Practice E 1527-05 (ASTM, 2005) and ASTM Practice E 2247-08 (ASTM, 2008). Maps and aerial photographs in Figures 1 and 2 show the location of the site. The Phase I ESA has been performed for Wild Flower, LLC, Addison, TX, for their use and their client's use.

The purpose of the environmental site assessment is to perform "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in 42 USC 9601(35)(B). The goal of a Phase I ESA is to identify recognized environmental conditions that would indicate the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

3 Site Description

The property of interest is located south of the Kiamichi River. Figure 1 shows the site location on a topographic map of regional scale. Aerial photographs of the site and vicinity of the site are shown on Figures 2 and 3. Site photos showing the property of interest and adjacent parcels are included in Appendix A.

The proposed Project would be a new facility located near the city of Clayton in Pushmataha County, Oklahoma on private land. The Project site is located approximately 10 miles east of Clayton, Oklahoma (2010 Census: population 1,012). The site is accessible by Oklahoma State Road E1655 which runs just north of the Project boundary.

The area surrounding the proposed project site is primarily forestland used for logging around the upper lake and pastureland and hay land around the lower lake.

4 User Provided Information

Fred Brown represents the user(s) of this Phase I ESA. The User Questionnaire that is suggested for use by the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM, 2005) was filled out by Fred Brown and is included in Appendix D, pages D5 – D6.

The user has no knowledge of any environmental liens filed or recorded against the property of interest. No purchase price has been determined for the property, so the consideration of whether the purchase price reasonably reflects the fair market value cannot be made at this time. The user does not know of any specific chemicals present, past spills, other releases or environmental cleanup on the property of interest. The user has no knowledge that there are any obvious indicators that point to the presence or likely presence of contamination at the property

4.1 Records Review

Supporting information for the records review is included in the Appendices.

4.1.1 Regulatory Records Review

Records were reviewed (record types and databases, pertinent search distances) according to *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM, 2005) and the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forested or Rural Land*" (ASTM 2008). The search radius required for each type of site differs according to the type of regulation, potential hazard, and regulatory agency. The following classification scheme organizes the search radius requirements in order of decreasing required search radius; each level of records review is from the defined required radius inward, and includes the subject property(ies).

Required Records Search Radius Of One Mile:

1. The search radius is one mile for Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). These sites are commonly referred to as Federal Superfund Sites.
2. The search radius is one mile for Oklahoma Comprehensive Environmental Cleanup and Responsibility Act (CECRA) sites. These sites are commonly referred to as State Superfund Sites.
3. Resources Conservation and Recovery Act (RCRA) Treatment, Storage or Disposal (TSD) facilities, which have had a corrective action are also required to be noted if within one mile from the proposed project site.

Required Records Search Radius Of One-Half Mile:

1. RCRA TSD sites that have not had a corrective action are to be noted if within one-half mile of the proposed project site.
2. The search radius is also one-half mile for Solid Waste Landfills (SWLFs); or
3. Leaking Underground Storage Tank (LUST) sites.

Required Records Search of Adjacent Properties:

1. Records for property adjacent to the proposed property are searched for Underground Storage Tanks (USTs); and
2. RCRA generators.

Required Records Search of Subject Properties:

1. Records are searched for the proposed project property for toxic chemical releases.

Additional databases that are not included in the standard that have been searched for the property of interest and the area within one mile of that site include the Oklahoma Conservation Commission abandoned coal mine land databases, the Oklahoma Department of Mines mining databases, and various ground water and surface water databases. Database queries are made for different variables in different combinations to provide redundancy to the searches and to minimize the affect of database errors on the results of the queries.

4.1.1.1 Facilities within One Mile of the Site of Interest

The area within one mile of the property of interest is shown on Figure 3.

There are no listed Federal Superfund (CERCLA) sites within one mile of the site.

There are no known RCRA treatment, storage or disposal (TSD) facilities for which a corrective action has been required within one mile of the site.

There are no listed Oklahoma Superfund (CECRA) sites within one mile of the property of interest. There are also no listed CALA, VCRA or WQA sites listed within one mile of the property of interest.

4.1.1.2 Facilities within One-Half Mile of the Site of Interest

The area within one-half mile of the parcel of interest is shown on Figure 3. There are no listed RCRA TSD facilities within one-half mile of the site.

There are no LUST facilities within one-half mile of the site of interest.

There are no recorded open or closed solid waste landfills within one-half mile of the site.

4.1.1.3 Facilities Adjacent to or within the Site of Interest

There are no Large Quantity RCRA Generators on the parcels of property or directly adjacent to the property of interest.

There are no active registered USTs located adjacent to the property of interest.

There have been no toxic chemical releases reported on parcels or at facilities adjacent to the site of interest.

There are no records of mine sites or abandoned mines adjacent to the property of interest.

4.2 Surface Water Quality

There is no readily available surface water quality data for the streams running off Wild Flower. There is no surface water quality information (or fisheries data) available through Oklahoma DEQ's Clean Water Act Information Center database nor the TMDL assessment.

4.3 Ground Water Quality

Ground water level and quality data in Oklahoma is publicly available from the DEQ Ground Water Aquifer Maps). There is very little pertinent ground water quality data available in the publicly accessible databases.

5 Site Reconnaissance

Tomlin Investment Group personnel performed a site reconnaissance on April 8th, 2014. The site reconnaissance was documented by photographs, which are included in the project files. Representative site photos are included in Appendix A. Only areas that were accessible by roads were assessed during the site visit. The main areas of interest included the area where the storage ponds and the utility corridors would be located.

5.1.1 Subject Property

The property of interest consists of rangeland and forestland. The area where the upper reservoir would be located lies on the top of Wild Flower at an elevation of approximately 1,600 feet amsl (Appendix A). The area is comprised of forestland. No signs of development or storage were observed in the area on top of the butte. The area where the lower reservoir would reside lies north of the upper reservoir at the base of Wild Flower (elevation 650 feet amsl).

For the subject property, there were no visible signs within the proposed development areas that would yield concerns relating to evidence of problematic uses, or storage / disposal of hazardous materials or petroleum products.

5.1.2 Adjoining Property

The area surrounding the subject property is rural privately-owned land consisting of grazing and logging production. A map showing adjacent landowners is included in Appendix A. There is no evidence of problematic uses, storage or disposal of hazardous materials on any adjacent property that was discovered from roadside review of those parcels, aerial photos, database research, or reviews of maps.

6 Findings

There is no evidence of recognized environmental conditions that would indicate the presence or likely presence of any hazardous substances or petroleum products on the subject property from an existing release, past release, or material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. There is no evidence of historic recognized environmental conditions within the required search areas.

This Phase I Environmental Site Assessment has been completed following the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM, 2005) and the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property* (ASTM, 2008), with a few omissions that are noted in the text. The primary omission is that deed research was only performed to confirm property ownership and absence of environmental liens (no historical deed research). This Hazardous Materials Fatal Flaw Analysis and Phase I Environmental Site Assessment does not address asbestos-containing materials, radon, lead-based paint, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species or indoor air quality. The findings and conclusions generated or produced here are intended exclusively for the use of Wild Flower Water, LLC, and specific parties designated by them.

7 Opinion

It is the opinion of the professional engineer that none of the conditions identified in the findings section impact the property. Potential environmental material threats identified adjacent, or within the approximate minimum search distance of the parcel of interest have been evaluated and determined to not present a serious potential environmental threat or recognized environmental condition on the parcel of interest.

The scientific and technical reasons for concluding that identified potential environmental material threats within the minimum approximate search distance from the parcel of interest do not present a potential threat or recognized environmental condition on the parcel as discussed in Section 7 include:

- The potential environmental material threat would not impact the parcel of interest due to spatial distance from the site (examples: Sites that were identified in the databases at distances greater than the recognized distances defined by ASTM standards);
- The potential environmental material threat would not impact the parcel of interest due to the amount of time since the potential environmental material threat was present (examples: spills that occurred in the past would dissipate and no longer be hazardous over time);
- The potential environmental material threat would not impact the parcel of interest because it is down-hill or down-hydraulic gradient of the parcel of interest (examples: impacted ground water that is down gradient of the parcel of interest; metals-impacted soils that are down-hill of the parcel of interest and thus not likely to be transported by wind; source of impacts to surface water that is downstream of the parcel of interest).

The findings of this Phase I ESA indicate no need for additional investigations.

8 Conclusions

The Professional Engineer has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527 for the Wild Flower Project. Any exceptions to, or deletions from, this practice are described in Section 10 of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the property.

9 Deviations

There were no deletions or deviations from ASTM Practice E 1527 in performance of this Phase I ESA.

10 References

American Society for Testing Materials, 2005, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," ASTM Standard E 1527 -- 05, West Conshohocken, PA.

American Society for Testing Materials, 2008, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forested or Rural Land," ASTM Standard E 2247--08, West Conshohocken, PA.

ASTM -- see American Society for Testing Materials

DNRC – see Oklahoma Department of Natural Resources and Conservation

EPA – see United States Environmental Protection Agency

DEQ -- see Oklahoma Department of Environmental Quality

Oklahoma Department of Mines.

Oklahoma Conservation Commission

Appendix A

Location Map and Example Site Photos

Location Map

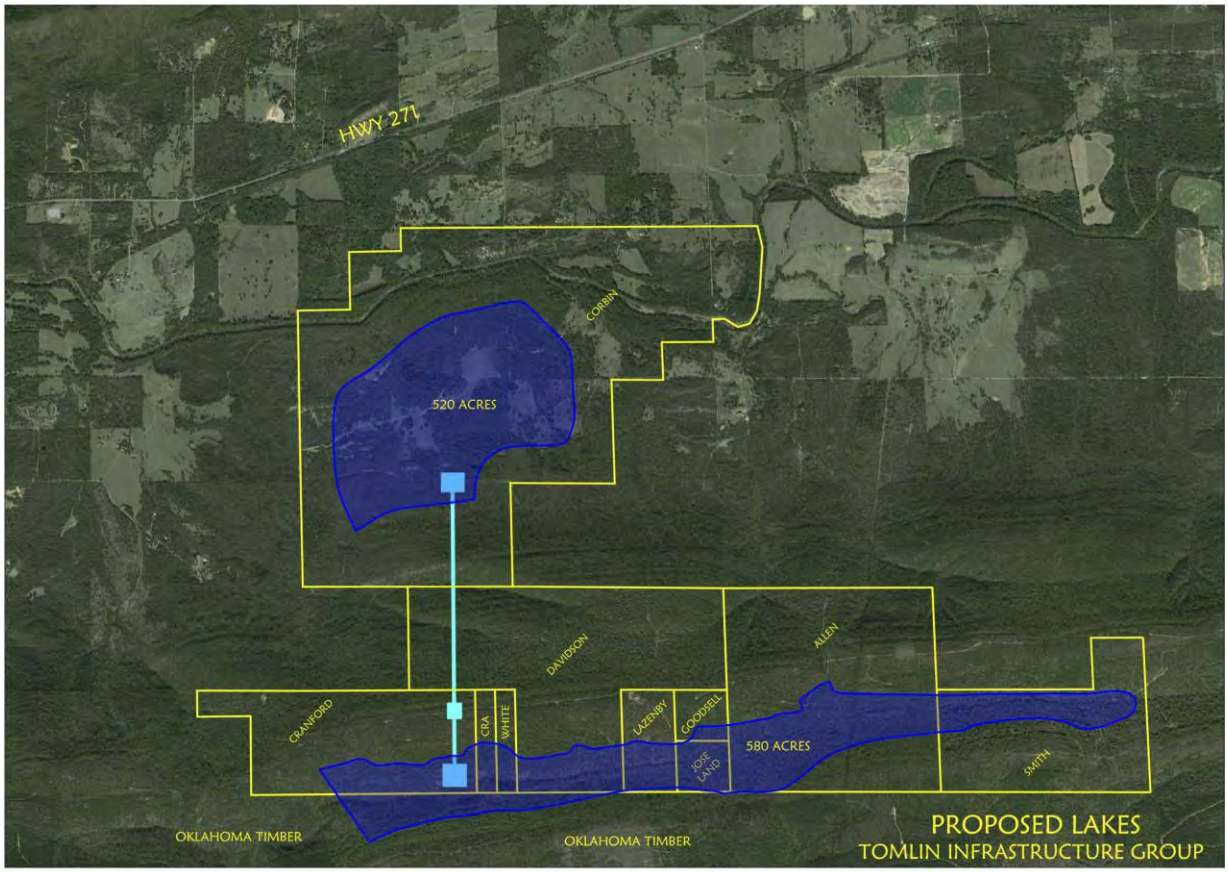

Photo 1. Wild Flower. Lower lake site south from Oklahoma State Road E1655.

Photo 2. Lower Lake site Wild Flower – Treeline looking south.

Photo 3. Lower Lake site

Photo 4. Looking south to upper lake site

Photo 7. Upper Lake Site looking West

Photo 8. Upper Lake Site

Photo 9. Upper Lake site looking south

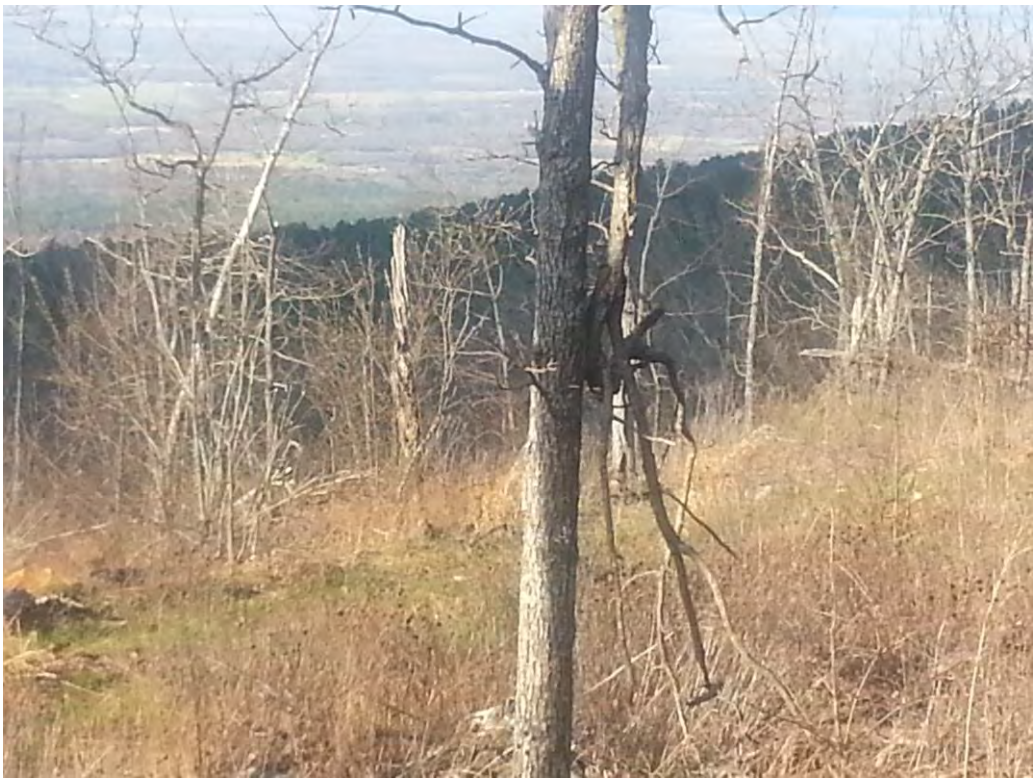

Photo 10. Upper Lake Site looking southeast.

Appendix B

Property Information

Wild Flower Closed Loop Pump Storage Property List

Present Land: timber/waste (no homes will be affected)

Properties	Acres Needed	Market Value per per Tax Assessor Records
1	400	$20,284
1	160	$7,802
2	50	$2,552
2	50	$2,552
2	60	$3,062
2	20	$1,600
2	20	$1,600
2	170	$8,677
3	100	$8,365
3	100	$8,587
3	100	$8,913
4	360	$13,270
4	640	$43,839
5	500	$30,950
6	90	$4,511
7	40	$2,042
8	80	$6,400
9	13	$1,067
10	20	$1,021
11	20	$1,072
12	10	$511
13	80	$4,083
14	22	$1,123
14	10	$536
15	40	$3,383
15	50	$5,182
15	150	$15,076
15	420	$106,942
15	600	$36,480
15	370	$36,243
16	80	$9,621
17	80	$4,181
18	80	$4,036
	4985	$405,562

Property 15

Property Cards

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Legal Description	Parcel Information	Owner(s)
E2NENWSWNE SEC 26-2N-19E 365/918	0000-26-02N-19E-0-056-01 Rural Property Township T2N Range R19E 1.25 Acres Deed Book : 365 | Deed Page : 918	CORBIN, RONNIE J 1503 WILSON ST SHELBYVILLE TN, 371600000

Parcel Location

0 26219561
Tuskahoma School District

Values

Assessed Land	$220
Assessed Buildings	$139
Assessed Other	$0
TOTAL ASSESSED VALUE	$359
Market Land	$2,000
Market Buildings	$1,260
Market Other	$0
TOTAL MARKET VALUE	$3,260
Exemption	$0
Double Exemption	$0
Tax	$26.48

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Rural Res			$2,000/Site

Parcel Features

Type	Size	Year Built
Shelter	50 x 14	0000

Buildings

Building	Sq Ft	Year Blt

REMARKS

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Property Cards

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Legal Description	Parcel Information	Owner(s)
NESENE 24-2N-20E 308/854 351/141 414/922 426/312 446/854	0000-24-02N-20E-0-005-01 Rural Property Township T2N Range R20E 10 Acres Deed Book : 446 | Deed Page : 854	CORBIN, DONNIE HC 64 BOX 2660 TUSKAHOMA OK, 74574

Parcel Location

0 03814
Albion School District

Values

Assessed Land	$660
Assessed Buildings	$2,537
Assessed Other	$0
TOTAL ASSESSED VALUE	$3,197
Market Land	$5,000
Market Buildings	$23,066
Market Other	$0
TOTAL MARKET VALUE	$29,066
Exemption	$0
Double Exemption	$0
Tax	$246.04

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Homesite	Single Family Residence	1 Acres	$1,500/Acre
Rural Res		9 Acres	$500/Acre

Parcel Features

Type	Size	Year Built
WOOD DECK	x	1995
EncPorch Cls D	x	1995
OpnPorch Cls D	x	1986
Storage	x	0000
Storage	x	0000
Storage	x	0000

Buildings

Building	Sq Ft	Year Blt
One 1/2 Story	2,472	1980

REMARKS

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Property Cards

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Legal Description

W2SWNW,NWNWSW,PT.NENWSW, PT.E2SWNW WEST OF KIA. RIVER LESS A TRACT 500'X 600' 20-2N-21E 302/590

Parcel Information

0000-20-02N-21E-0-010-01
Rural Property
Township T2N
Range R21E
50.91 Acres
Deed Book : | Deed Page :

Owner(s)

CORBIN, DONNIE
HC 64 BOX 2880
TUSKAHOMA OK, 74574

Values

Assessed Land	$570
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$570
Market Land	$5,182
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$5,182
Exemption	$0
Double Exemption	$0
Tax	$43.87

Parcel Location

0 04085
Albion School District

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alikchi Variant Silt 2	Timber & Waste	23 Acres	$47/Acre
Bernow-Romia Complex 4	Timber & Waste	9 Acres	$70/Acre
Bernow Fine Sandy Loam 8	Native Pasture	20 Acres	$54/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property Cards

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Legal Description

N2SWNE,E2NWNE 25-2N-20E 347/233 359/723 403/1

Parcel Information

0000-25-02N-20E-0-002-01
Rural Property
Township T2N
Range R20E
40 Acres
Deed Book : 403 | Deed Page : 1

Owner(s)

CORBIN, DONNIE (ETUX)
HC 64 BOX 2880
TUSKAHOMA OK, 74574

Values

Assessed Land	$372
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$372
Market Land	$3,383
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$3,383
Exemption	$0
Double Exemption	$0
Tax	$28.64

Parcel Location

0 03816
Albion School District

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Apr 07, 2000	THE PATHFINDER CO.	CORBIN, DONNIE (ETUX)	$5000	403	1	7.5	WD
Dec 05, 1994	JORDAN, JAMES	THE PATHFINDER CO.	$5000	359	723	7.5	WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Bernow Fine Sandy Loam 8	Timber & Waste	6 Acres	$54/Acre
Alikchi Variant Silt 5	Timber & Waste	34 Acres	$47/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 15

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Legal Description

N2NW,S½NW,NESENW,SWSENW SEC 30-2N-21E 338/612 339/515 438/491

Parcel Information

0000-30-02N-21E-0-005-01
Rural Property
Township T2N
Range R21E
150 Acres
Deed Book : 438 | Deed Page : 491

Parcel Location

0 04151
Albion School District

Owner(s)

CORBIN, DORIS K (FAMILY TRUST)
HC 64 BOX 2870
TUSKAHOMA OK, 745740000

Values

Assessed Land	$1,658
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$1,658
Market Land	$15,076
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$15,076
Exemption	$0
Double Exemption	$0
Tax	$127.61

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Bernow Fine Sandy Loam 6	Native Pasture	6 Acres	$66/Acre
Bernow Fine Sandy Loam 8	Native Pasture	44 Acres	$54/Acre
Bernow Fine Sandy Loam 8	Timber & Waste	100 Acres	$54/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Legal Description

SESENW, SEC 30-2N-21E 356/34 389/218 407/338

Parcel Information

0000-30-02N-21E-0-002-01
Rural Property
Township T2N
Range R21E
10 Acres
Deed Book : 407 | Deed Page : 338

Parcel Location

0 04148
Albion School District

Owner(s)

CORBIN, DONNIE
HC 64 BOX 2880
TUSKAHOMA OK, 74574

Values

Assessed Land	$165
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$165
Market Land	$1,500
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$1,500
Exemption	$0
Double Exemption	$0
Tax	$12.7

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
May 13, 1996	GLENDENING TRUST ETAL	BOWEN, JOE ETUX	$2000	389	218	3	WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Rural Res		10 Acres	$150/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 15

Property Cards Page 1 o

Legal Description

S2NE N2SESWSE SWSENW E2SWNW W19.72 OF LOT 2 201/202 338/612 338/615 438/491 19-2N-21E

Parcel Information

0000-19-02N-21E-0-001-01
Rural Property
Township T2N
Range R21E
420.28 Acres
Deed Book : 438 | Deed Page : 491

Parcel Location

0 04068
Albion School District

Owner(s)

CORBIN, DORIS K (FAMILY TRUST)
HC 64 BOX 2870
TUSKAHOMA OK, 745740000

Values

Assessed Land	$5,196
Assessed Buildings	$5,667
Assessed Other	$0
TOTAL ASSESSED VALUE	$11,763
Market Land	$47,238
Market Buildings	$59,704
Market Other	$0
TOTAL MARKET VALUE	$106,942
Exemption	$1,000
Double Exemption	$0
Tax	$828.27

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Homesite		2 Acres	$3,000/Acre
Bernow Fine Sandy Loam 7	Native Pasture	49 Acres	$54/Acre
Bernow-Romia Complex 4	Native Pasture	27 Acres	$70/Acre
Allochi Variant Silt 2	Native Pasture	7 Acres	$47/Acre
Bernow-Romia Complex 0	Native Pasture	2 Acres	$38/Acre
Bernow-Romia Complex 5	Native Pasture	3 Acres	$25/Acre
Allochi Variant Silt 1	Timber & Waste	119 Acres	$72/Acre
Bernow Fine Sandy Loam 8	Timber & Waste	200 Acres	$54/Acre
Bernow-Romia Complex 5	Timber & Waste	28 Acres	$25/Acre
Allochi Variant Silt 2	Timber & Waste	3 Acres	$47/Acre

Parcel Features

Type	Size	Year Built
Gen. Purpose Barn	60 x 30	1988
Gen. Purpose Barn	x	0000
Shed, Wood	16 x 12	0000
Storage	21 x 11	2006
ATT SHED	21 x 13	2006
MT CP	20 x 18	2006

REMARKS

Buildings

Building	Sq Ft.	Year E
One Story	1,426	1975
One Story	1,568	1971

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Property 15

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Legal Description

S2,NW,W2NWNE,E2NE,S2SWNE SEC 25-2N-20E 338/612 338/615 438/491

Parcel Information

0000-25-02N-20E-0-001-01
Rural Property
Township T2N
Range R20E
600 Acres
Deed Book : 438 | Deed Page : 491

Parcel Location

0 03815
Albion School District

Owner(s)

CORBIN, DORIS (FAMILY TRUST)T
HC 64 BOX 2870
TUSKAHOMA OK, 745740000

Values

Assessed Land	$4,013
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$4,013
Market Land	$36,460
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$36,460
Exemption	$0
Double Exemption	$0
Tax	$308.79

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Bernow-Romia Complex 5	Timber & Waste	69 Acres	$25/Acre
Bernow-Romia Complex 3	Timber & Waste	45 Acres	$25/Acre
Allochi Variant Silt 6	Timber & Waste	3 Acres	$47/Acre
Allochi Variant Silt 5	Timber & Waste	69 Acres	$47/Acre
Allochi Loam, 1 TO 3 1	Timber & Waste	141 Acres	$34/Acre
Bernow Fine Sandy Loam 9	Timber & Waste	29 Acres	$43/Acre
Allochi Variant Silt 0	Timber & Waste	50 Acres	$20/Acre
Allochi Loam, 1 TO 3 7	Timber & Waste	13 Acres	$38/Acre
Allochi Loam, 1 TO 3 6	Timber & Waste	107 Acres	$28/Acre
Bernow Fine Sandy Loam 8	Timber & Waste	30 Acres	$54/Acre
Bernow Fine Sandy Loam 6	Timber & Waste	21 Acres	$66/Acre
Bernow-Romia Complex 0	Timber & Waste	23 Acres	$38/Acre

Parcel Features

Type	Size	Year Built

REMARKS

Buildings

Building	Sq Ft	Year Bl

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Property 2

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Legal Description

E2E2SE SWSESE 35-2N-20E 366/624 398/948 469/943

Parcel Information

0000-35-02N-20E-0-006-01
Rural Property
Township T2N
Range R20E
50 Acres
Deed Book : 469 | Deed Page : 943

Parcel Location

0 03876
Albion School District

Owner(s)

CRANFORD, LEON (ETUX)
P.O. BOX 524
TALIHINA OK, 745710000

Values

Assessed Land	$281
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$281
Market Land	$2,552
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$2,552
Exemption	$0
Double Exemption	$0
Tax	$21.61

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Nov 27, 1996	SHOEMAKER, STAN	CRANFORD, LEON	$7000	366	624	10.5	WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Allichi Loam, 1 TO 3 8	Timber & Waste	50 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 15

Property Cards Page 1

Legal Description

N2SE,E2S13E,SWSE,S2N2SW, S2SW,S2SENW,SWNE,NWSENE, N2NESW,S2SENE SEC24-2N-20 201/235 232/533 338/612 338/615,438/491

Parcel Information

0000-24-02N-20E-0-001-01
Rural Property
Township T2N
Range R20E
370 Acres
Deed Book : 438 | Deed Page : 491

Parcel Location

0 03810
Albion School District

Owner(s)

CORBIN, DORIS K. (FAMILY TRUS)
HC 64 BOX 2870
TUSKAHOMA OK, 745740000

Values

Assessed Land	$3,623
Assessed Buildings	$364
Assessed Other	$0
TOTAL ASSESSED VALUE	$3,987
Market Land	$32,938
Market Buildings	$3,305
Market Other	$0
TOTAL MARKET VALUE	$36,243
Exemption	$0
Double Exemption	$0
Tax	$398.78

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Homesite		1 Acres	$3,000/Acre
Bernow Fine Sandy Loam 8	Timber & Waste	43 Acres	$54/Acre
Allichi Variant Silt 5	Timber & Waste	76 Acres	$47/Acre
Allichi Variant Silt 2	Timber & Waste	24 Acres	$47/Acre
Allichi Variant Silt 1	Timber & Waste	98 Acres	$72/Acre
Allichi Loam, 1 TO 3 6	Timber & Waste	20 Acres	$38/Acre
Bernow-Romia Complex 0	Timber & Waste	11 Acres	$38/Acre
Bernow-Romia Complex 5	Timber & Waste	31 Acres	$25/Acre
Allichi Loam, 1 TO 3 7	Timber & Waste	24 Acres	$38/Acre
Bernow Fine Sandy Loam 9	Timber & Waste	20 Acres	$43/Acre
Allichi Variant Silt 6	Timber & Waste	14 Acres	$47/Acre
Bernow-Romia Complex 3	Timber & Waste	8 Acres	$25/Acre

Buildings

Building	Sq Ft.	Yea
One Story	936	1

REMARKS

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http://pushmataha.oklahoma.usassessor.com/Shared/scripts/printCard.php?id=000002N20E24000101&RLid=2 4/25/

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Property 2

Property Cards

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Legal Description

N2NWSE,W2NESE,NWSESE SEC.35-2N-20E 390/886 396/990 407/152 419/439 418/308 418/510 418/511 423/107 442/834

Parcel Information

0000-35-02N-20E-0-008-01
Rural Property
Township T2N
Range R20E
50 Acres
Deed Book : 442 | Deed Page : 834

Parcel Location

0 03674
Albion School District

Owner(s)

CRANFORD, LEON DALE
P.O. BOX 524
TALIHINA OK, 745710000

Values

Assessed Land	$281
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$281
Market Land	$2,552
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$2,552
Exemption	$0
Double Exemption	$0
Tax	$21.61

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Aug 12, 2003	KEMP, WESLEY	CRANFORD, LEON DALE	$7000	442	834	10.5	WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alikchi Loam, 1 TO 3 S	Timber & Waste	50 Acres	$28/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 2

Property Cards

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Legal Description

E 495 OF W 560'OF W2SE & W 495' OF E 660'OF W2SE SEC.36-2N-20E 362/631 364/908 372/83 391/653

Parcel Information

0000-36-02N-20E-0-008-01
Rural Property
Township T2N
Range R20E
60 Acres
Deed Book : 391 | Deed Page : 653

Parcel Location

0 362281
Albion School District

Owner(s)

CRANFORD, LEON DALE (ETUX)
P.O. BOX 524
TALIHINA OK, 745710000

Values

Assessed Land	$337
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$337
Market Land	$3,062
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$3,062
Exemption	$0
Double Exemption	$0
Tax	$25.92

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Feb 23, 1996	KING, LARRY (ETUX)	CRANFORD, LEON D. (ETUX)	$9000	391	653	13.5	QC
Oct 16, 1995	SHORE, NANCY (ETAL)	KING, LARRY (ETUX)	$9000	372	83	13.5	QC
Jul 13, 1995	ARNALL, HENRY O. JR. ESTA	WHITE, GENE (ETAL)	$37000	364	908	55.5	SD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alikchi Loam, 1 TO 3 S	Timber & Waste	60 Acres	$28/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 2

Property Cards

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Legal Description

E/2E/2W/2SE, W/2W/2E/2SE SEC 36-2N-20E 333/158 363/294 364/166 365/159 382/911 382/912 469/943

Parcel Information

0000-36-02N-20E-0-007-01
Rural Property
Township T2N
Range R20E
20 Acres
Deed Book : 469 | Deed Page : 943

Parcel Location

0 03883
Albion School District

Owner(s)

CRANFORD, LEON (ETUX)
P.O. BOX 524
TALIHINA OK, 745170000

Values

Assessed Land	$176
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$176
Market Land	$1,600
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$1,600
Exemption	$0
Double Exemption	$0
Tax	$13.55

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Apr 10, 1968	TERRY	CRANFORD	$4000	382	912	8	WD

Land Information

Classification	Type	Size	Value
Alikchi Loam, 1 TO 3 8	Timber & Waste	20 Acres	$29/Acre

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 2

Property Cards

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Legal Description

E2W2W2E2SE, W2E2W2E2SE SEC 36-2N-20E 332/540 388/607 388/609 389/796 391/655

Parcel Information

0000-36-02N-20E-0-006-01
Rural Property
Township T2N
Range R20E
20 Acres
Deed Book : 391 | Deed Page : 655

Parcel Location

0 03882
Albion School District

Owner(s)

CRANFORD, LEON D (ETUX)
P.O. BOX 524
TALIHINA OK, 745710000

Values

Assessed Land	$176
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$176
Market Land	$1,600
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$1,600
Exemption	$0
Double Exemption	$0
Tax	$13.55

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Feb 06, 1939	HAYES, CHARLES M.	CRANFORD, LEON D. (ETUX)	$6000	391	655	9	WD
Nov 25, 1998	TURNEY, DOUGLAS H.	HAYES, CHARLES M.	$7500	388	809	11.25	WD

Land Information

Classification	Type	Size	Value
Alikchi Loam, 1 TO 3 8	Timber & Waste	20 Acres	$29/Acre

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 2

Property Cards

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Legal Description	Parcel Information	Owner(s)
SW & W 155' OF SE SEC.36-2N-20E 307/771 362/643 384/908 398/72 365/74 372/83	0000-36-02N-20E-0-001-01 Rural Property Township T2N Range R20E 170 Acres Deed Book : 372 | Deed Page : 83	CRANFORD, LEON (ETUX) P.O. BOX 524 TALIHINA OK, 745710000

Parcel Location

0 03877
Albion School District

Values

Assessed Land	$954
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$954
Market Land	$8,677
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$8,677
Exemption	$0
Double Exemption	$0
Tax	$73.46

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst.
Oct 16, 1990	SHORE, NANCY (ETAL)	CRANFORD, LEON (ETUX)	$25000	372	82	37.5	QC

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Allochi Loam, 1 TO 3 6	Timber & Waste	170 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 1

Property Cards

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Legal Description	Parcel Information	Owner(s)
N2,SW, SEC.31-2N-21E 328/314 434/477 470/840 508/230	0000-31-02N-21E-0-001-01 Rural Property Township T2N Range R21E 480 Acres Deed Book : 509 | Deed Page : 230	DAVIDSON, CAROLYNE A. REVOC TR 2207 LOVEBIRD LANE IDABEL OK, 747453746

Parcel Location

0 04152
Albion School District

Values

Assessed Land	$2,878
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$2,878
Market Land	$24,341
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$24,341
Exemption	$0
Double Exemption	$0
Tax	$206.03

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst.
Sep 30, 2002	CABE LAND CO., INC.	DAVIDSON, JOHN L. (ETUX)	$1583693	434	477	2375.54	WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Allochi Loam, 1 TO 3 8	Timber & Waste	470 Acres	$29/Acre
Allochi Variant Silt 9	Timber & Waste	10 Acres	$20/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 1

Property Cards

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Legal Description	Parcel Information	Owner(s)
NE. SEC 36-2N-20E 329/314 434/477 470/940 509/230	0000-36-02N-20E-0-003-01 Rural Property Township T2N Range R20E 160 Acres Deed Book : 509 | Deed Page : 230	DAVIDSON, CAROLYNE A. REVOC TR 2207 LOVEBIRD BIRD IDABEL OK, 747453748

Parcel Location

0 03879
Albion School District

Values

Assessed Land	$858
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$858
Market Land	$7,802
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$7,802
Exemption	$0
Double Exemption	$0
Tax	$86.05

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alkchi Variant Silt 0	Timber & Waste	23 Acres	$20/Acre
Alkchi Loam, 1 TO 3 8	Timber & Waste	137 Acres	$29/Acre

Buildings

Building	Sq Ft	Year Blt

REMARKS

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Property 17

Property Cards

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Legal Description	Parcel Information	Owner(s)
W2NW SEC.36-2N-20E 458/573-578 458/579-580	0000-36-02N-20E-0-002-01 Rural Property Township T2N Range R20E 80 Acres Deed Book : 458 | Deed Page : 573	FENWICK, RALPH A LIVING TRUST HC 60 BOX 3270 CLAYTON OK, 748360000

Parcel Location

0 03878
Albion School District

Values

Assessed Land	$460
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$460
Market Land	$4,181
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$4,181
Exemption	$0
Double Exemption	$0
Tax	$35.38

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alkchi Loam, 1 TO 3 8	Timber & Waste	72 Acres	$29/Acre
Alkchi Loam, 1 TO 3 7	Timber & Waste	4 Acres	$35/Acre
Alkchi Loam, 1 TO 3 1	Timber & Waste	4 Acres	$34/Acre

Buildings

Building	Sq Ft	Year Blt

REMARKS

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Property 4

Property Cards

Legal Description

S2 SENE SEC 33-2N-21E 328/314 434/477 456/75

Parcel Information

0000-33-02N-21E-0-001-01
Rural Property
Township T2N
Range R21E
360 Acres
Deed Book : 456 | Deed Page : 75

Parcel Location

0 04156
Albion School District

Owner(s)

SMITH, GARY (ETAL)
P.O. BOX 224
BETHEL OK, 747240000

Values

Assessed Land	$1,460
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$1,460
Market Land	$13,270
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$13,270
Exemption	$0
Double Exemption	$0
Tax	$112.33

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Nov 04, 2004	DAVIDSON, JOHN L. (ETUX)	SMITH, GARY (ETUX)	$300000	4567	8	450	WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Allochi Loam, 1 TO 3 8	Timber & Waste	360 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 4

Property Cards

Legal Description

ALL SEC. 34-2N-21E 434/477 456/75

Parcel Information

0300-34-02N-21E-0-001-01
Rural Property
Township T2N
Range R21E
640 Acres
Deed Book : 456 | Deed Page : 75

Parcel Location

0 04162
Albion School District

Owner(s)

SMITH, GARY (ETAL)
P.O. BOX 224
BETHEL OK, 747240000

Values

Assessed Land	$4,822
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$4,822
Market Land	$43,839
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$43,839
Exemption	$0
Double Exemption	$0
Tax	$371.08

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Allochi Loam, 1 TO 3 1	Timber & Waste	6 Acres	$34/Acre
Allochi Loam, 1 TO 3 8	Timber & Waste	250 Acres	$29/Acre
Allochi Loam, 1 TO 3 8	Timber & Waste	384 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 7

Property Cards

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Legal Description

NESE SEC 31-2N-21E 343/128 466/752 475/328 475/329 491/848 494/439-441 496/159

Parcel Information

0000-31-02N-21E-0-004-01
Rural Property
Township T2N
Range R21E
40 Acres
Deed Book : 496 | Deed Page : 159

Parcel Location

0 3122141
Albion School District

Owner(s)

GOODSELL, JACOB A. (ETAL)
6617 DEWSBURY STREET
NORTH RICHLAND HILLS TX, 761800000

Values

Assessed Land	$225
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$225
Market Land	$2,042
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$2,042
Exemption	$0
Double Exemption	$0
Tax	$17.29

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Mar 17, 2006	WEST, GARY INVESTMENTS	GOODSELL, JACOB A.	$28500	496	159	42.75	WD
Jun 21, 2005	DORMAN, SUSAN HOPE	GARY WEST INVESTMENTS	$6000	475	329	9	WD
Jun 16, 2005	LYLE, DAVID (ETAL)	GARY WEST INVESTMENTS	$6000	475	328	9	WD
Apr 15, 1992	LAND, J. HAROLD	BOREN, LYLE H.	$2500	343	128		WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alikchi Loam, 1 TO 3 8	Timber & Waste	40 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 18

Property Cards

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Legal Description

E2NW, SEC.36-2N-20E 325/379 335/463 533/475

Parcel Information

0000-36-02N-20E-0-004-01
Rural Property
Township T2N
Range R20E
80 Acres
Deed Book : 533 | Deed Page : 475

Parcel Location

0 03680
Albion School District

Owner(s)

GREEN, INA JANICE
211 SO.2 1/2 ST
NEDERLAND, TX, 776270000

Values

Assessed Land	$444
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$444
Market Land	$4,036
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$4,036
Exemption	$0
Double Exemption	$0
Tax	$34.17

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Jan 19, 2012	GREEN, ARTHUR LEWIS	GREEN, INA JANICE	$	533	475		

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alikchi Variant Slt 0	Timber & Waste	6 Acres	$20/Acre
Alikchi Loam, 1 TO 3 7	Timber & Waste	3 Acres	$38/Acre
Alikchi Loam, 1 TO 3 8	Timber & Waste	71 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 6

Property Cards

Page 1 of 1

Legal Description	Parcel Information	Owner(s)
S2SW,S1WSE SEC:30-2N-21E 317/618 321/541 346/819	0000-30-02N-21E-0-003-01 Rural Property Township T2N Range R21E 120 Acres Deed Book : 346 | Deed Page : 819	GREGORY, C.W. (ETAL) 2673 CR. 1174 SULPHUR SPRINGS TX, 754820000
	Parcel Location 0.04149 Albion School District	

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst.

Land Information

Classification	Type	Size	Value
Alkchi Variant Silt 0	Timber & Waste	7 Acres	$20/Acre
Alkchi Loam, 1 TO 3 8	Timber & Waste	113 Acres	$29/Acre

REMARKS

Values

Assessed Land	$662
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$662
Market Land	$8,014
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$8,014
Exemption	$0
Double Exemption	$0
Tax	$50.92

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

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Property 5

Property Cards

Page 1 of 1

Legal Description	Parcel Information	Owner(s)
ALL SEC 32 2N 21E 361/575 358/271 474/220 496/603	0000-32-02N-21E-0-001-01 Rural Property Township T2N Range R21E 640 Acres Deed Book : 496 | Deed Page : 603	ALLEN, JEFFREY L. (ETAL) 2901 WINSON LANE PLANO TX, 750930000
	Parcel Location 0.04155 Albion School District	

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst.
Apr 07, 2008	WEST, GARY INVESTMENTS	ALLEN, JEFFREY L. (ETAL)	$352000	496	603	528	WD
Jun 12, 2006	TIMBER INVESTORS LLC	GARY WEST INVESTMENTS	$	474	223		WD
Jun 07, 2006	LAND, JOSEPH JR. (ETUX)	TIMBER INVESTORS, LLC	$74866	474	222	112	WD
May 17, 2006	MILLS, JOHN (ETAL)	TIMBER INVESTORS, LLC	$124833	474	220	187.25	WD

Land Information

Classification	Type	Size	Value
Alkchi Loam, 1 TO 3 8	Timber & Waste	400 Acres	$29/Acre
Alkchi Loam, 1 TO 3 8	Timber & Waste	240 Acres	$29/Acre

REMARKS

Values

Assessed Land	$4,358
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$4,358
Market Land	$39,616
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$39,616
Exemption	$0
Double Exemption	$0
Tax	$335.34

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

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Property 12

Property Cards

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Legal Description	Parcel Information	Owner(s)
THAT PT. E2W2NE LYING N. OF COUNTY RD. SEC. 33-2N-21E 289/250 364/169 360/658	0000-33-02N-21E-0-004-01 Rural Property Township T2N Range R21E 18 Acres Deed Book : 360 | Deed Page : 658	HOWELL, ROBERT B. 527967 HWY 95 BONNERS FERRY ID, 838050000
	Parcel Location 0 04159 Albion School District	

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Alkoni Loam, 1 TO 3 8	Timber & Waste	18 Acres	$29/Acre

REMARKS

Values

Assessed Land	$101
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$101
Market Land	$919
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$919
Exemption	$0
Double Exemption	$0
Tax	$7.78

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft	Year Blt.

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Property 11

Property Cards

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Legal Description	Parcel Information	Owner(s)
PT. NWNE 33-2N-21E 289/250	0000-33-02N-21E-0-006-01 Rural Property Township T2N Range R21E 20.78 Acres Deed Book : | Deed Page :	SMITH, KENNETH 10629 LEAVENWORTH TRAIL MEAD OK, 734490000
	Parcel Location 0 04161 Albion School District	

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Alkoni Loam, 1 TO 3 8	Timber & Waste	21 Acres	$29/Acre

REMARKS

Values

Assessed Land	$118
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$118
Market Land	$1,072
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$1,072
Exemption	$0
Double Exemption	$0
Tax	$9.07

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft	Year Blt.

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Property 9

Property Cards

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Legal Description	Parcel Information	Owner(s)
UND 1/3 INT SESE SEC 31-2N-21E 358/271	0000-31-02N-21E-0-002-01 Rural Property Township T2N Range R21E 13.33 Acres Deed Book : 358 | Deed Page : 271	LAND, JOSEPH HAROLD JR 8704 BASSWOOD CANYON ROAD OKLAHOMA CITY OK, 731620000

Parcel Location

0 04153
Albion School District

Values

Assessed Land	$117
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$117
Market Land	$1,067
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$1,067
Exemption	$0
Double Exemption	$0
Tax	$8.03

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Allkchi Loam, 1 TO 3 8	Timber & Waste	40 Acres	$29/Acre

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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http://pushmataha.oklahoma.usassessor.com/Shared/scripts/printCard.php?id=000002N21E31000201&RLid=1 4/25/2014

Property 13

Property Cards

Page 1 of 1

Legal Description	Parcel Information	Owner(s)
UND 1/2 INT N NW 165/991 305/582 446/210 446/823 SEC 33-2N-21E 452/416 417	0000-33-02N-21E-0-002-01 Rural Property Township T2N Range R21E 80 Acres Deed Book : 452 | Deed Page : 416	LUZ L L C OKLAHOMA LIMITED COMPANY ETAL BOX 29 LAWTON OK, 735020000

Parcel Location

0 04157
Albion School District

Values

Assessed Land	$449
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$449
Market Land	$4,083
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$4,083
Exemption	$0
Double Exemption	$0
Tax	$34.57

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Allkchi Loam, 1 TO 3 8	Timber & Waste	80 Acres	$29/Acre

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 8

Legal Description

W2SE 31-2N-21E 448/210 462/337 470/308 470/309 489/751

Parcel Information

0000-31-02N-21E-0-003-01
Rural Property
Township T2N
Range R21E
80 Acres
Deed Book : 489 | Deed Page : 751

Parcel Location

G 04154
Albion School District

Owner(s)

LAZENBY, RANDY
3718 WINDMILL LN
PLANO TX, 750740000

Values

Assessed Land	$704
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$704
Market Land	$8,400
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$8,400
Exemption	$0
Double Exemption	$0
Tax	$54.17

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Jul 20, 2007	GEE, MARK (ETUX)	LAZENBY, RANDY	$29000	489	751	43.5	WD
Jun 01, 2005	LUZ, L.L.C.	CAMPBELL, CLEVELAND R	$68900	462	337	102	QC

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alikchi Loam, 1 TO 5 S	Timber & Waste	80 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 3

Property Cards

Page 1 of 1

Legal Description	Parcel Information	Owner(s)
ALL SEC 1-1N-20E 361/650 364/419 436/184 481/479 532/438	0000-01-01N-20E-0-001-01 Rural Property Township T1N Range R20E 640.56 Acres Deed Book : 532 | Deed Page : 438	RAYONIER GULF TIMBERLANDS % TAX DEPT PO BOX 728 FERNANDINA BEACH FL, 32035

Parcel Location

0 00785
Nashoba School District

Values

Assessed Land	$5,869
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$5,869
Market Land	$53,536
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$53,536
Exemption	$0
Double Exemption	$0
Tax	$432.84

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Allkchi Loam, 1 TO 3 8	Timber & Waste	640.56 Acres	$29/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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http://pushmataha.oklahoma.usassessor.com/Shared/scripts/printCard.php?id=000001N20E01000101&RLid=1 4/25/2014

Property 3

Property Cards

Page 1 of 1

Legal Description	Parcel Information	Owner(s)
ALL SEC 6-1N-21E 361/178 361/660 364/419 401/420 464/182 481/479 532/438 ACQUISITAPACE & NIX	0000-06-01N-21E-0-001-01 Rural Property Township T1N Range R21E 636.68 Acres Deed Book : 532 | Deed Page : 438	RAYONIER GULF TIMBERLANDS % TAX DEPT PO BOX 728 FERNANDINA BEACH FL, 32035

Parcel Location

0 00867
Nashoba School District

Values

Assessed Land	$8,097
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$8,097
Market Land	$54,611
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$54,611
Exemption	$0
Double Exemption	$0
Tax	$441.54

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Allkchi Loam, 1 TO 3 8	Timber & Waste	556 Acres	$29/Acre
Allkchi Loam, 1 TO 3 7	Timber & Waste	21 Acres	$38/Acre
Allkchi Loam, 1 TO 3 1	Timber & Waste	60 Acres	$34/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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Property 3

Property Cards

Page 1 of 1

Legal Description

ALL SEC 5-1N-21E 361/680 364/419 401/420 454/182 481/479 532/438 ACQUISTAPACE & NIX

Parcel Information

0000-05-01N-21E-0-001-01
Rural Property
Township T1N
Range R21E
633.32 Acres
Deed Book : 532 | Deed Page : 438

Parcel Location

0 00866
Nashoba School District

Owner(s)

RAYONIER GULF TIMBERLANDS
% TAX DEPT
PO BOX 728
FERNANDINA BEACH FL, 32035

Values

Assessed Land	$6,206
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$6,206
Market Land	$56,422
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$56,422
Exemption	$0
Double Exemption	$0
Tax	$456.17

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Aikchi Loam, 1 TO 3 8	Timber & Waste	423 Acres	$29/Acre
Aikchi Loam, 1 TO 3 1	Timber & Waste	164 Acres	$34/Acre
Aikchi Loam, 1 TO 3 7	Timber & Waste	46 Acres	$38/Acre

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft	Year Blt

REMARKS

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Property 14

Property Cards

Page 1 of 1

Legal Description

BEG 662.47' E. & 1318.33' S. OF NW COR NE THEN N79E 299.07 N1E 373.14' S 1439.02' W 661.83', N 1324.67' POB 360/598 363/756 SEC 33-2N-21E

Parcel Information

0000-33-02N-21E-0-007-01
Rural Property
Township T2N
Range R21E
22 Acres
Deed Book : 363 | Deed Page : 756

Parcel Location

0 3322171
Albion School District

Owner(s)

RUSSELL, KENNETH JOE (ETAL)
P.O. BOX 1302
DURANT OK, 747020000

Values

Assessed Land	$124
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$124
Market Land	$1,123
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$1,123
Exemption	$0
Double Exemption	$0
Tax	$9.52

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Apr 20, 1995	HOWELL, REBECCA A.	RUSSELL, KENNETH JOE	$5000	363	756	7.5	WD

Land Information

Classification	Type	Size	Value
Aikchi Loam, 1 TO 3 8	Timber & Waste	22 Acres	$29/Acre

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft	Year Blt

REMARKS

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http://pushmataha.oklahoma.usassessor.com/Shared/scripts/printCard.php?id=000002N21E33000701&RLid=2 4/25/2014

Property 14

Property Cards

Legal Description	Parcel Information	Owner(s)
PT. NWNE, PT. NWSWNE 33-2N-21E 277/108 549/488	0000-33-02N-21E-0-005-01 Rural Property Township T2N Range R21E 20.74 Acres Deed Book : 549 | Deed Page : 488	RUSSELL, CURTIS C. P. O. BOX 5005 DURANT OK, 747020000
	Parcel Location 0 04160 Albion School District	

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Oct 18, 2013	RUSSELL, TOMMY	RUSSELL, CURTIS C.	$	549	488		WD

Land Information

Classification	Type	Size	Value
Allochi Loam, 1 TO 3 8	Timber & Waste	21 Acres	$29/Acre

REMARKS

Values

Assessed Land	$118
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$118
Market Land	$1,072
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$1,072
Exemption	$0
Double Exemption	$0
Tax	$9.07

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

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Property 10

Property Cards

Legal Description	Parcel Information	Owner(s)
NENE 33-2N-21E 515/368 519/326 520/784	0000-33-02N-21E-0-003-01 Rural Property Township T2N Range R21E 40 Acres Deed Book : 520 | Deed Page : 784	VAN HORN, MICHAEL L. P. O. BOX 327 CLAYTON OK, 745380000
	Parcel Location 0 04158 Albion School District	

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst

Land Information

Classification	Type	Size	Value
Allochi Loam, 1 TO 3 8	Timber & Waste	40 Acres	$29/Acre

REMARKS

Values

Assessed Land	$225
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$225
Market Land	$2,042
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$2,042
Exemption	$0
Double Exemption	$0
Tax	$17.29

Parcel Features

Type	Size	Year Built

Buildings

Building	Sq Ft.	Year Blt.

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Property 16

Legal Description

S2NE 16-1S-20E 501/316 511/389 511/396-406 511/567 511/568 511/982 515/309 518/191 554/91

Parcel Information

0000-16-01S-20E-0-005-01
Rural Property
Township T1S
Range R20E
80 Acres
Deed Book : 518 | Deed Page : 191

Parcel Location

0 02596
Nashoba School District

Owner(s)

WHITE, GENE H. (ETAL)
304 END OF ROAD
POTEAU OK, 749530000

Values

Assessed Land	$1,058
Assessed Buildings	$0
Assessed Other	$0
TOTAL ASSESSED VALUE	$1,058
Market Land	$9,621
Market Buildings	$0
Market Other	$0
TOTAL MARKET VALUE	$9,621
Exemption	$0
Double Exemption	$0
Tax	$77.8

Sales Information

Date	From	To	Sale Amount	Book	Page	Stamps	Inst
Sep 01, 2009	WHITE, GENE H.	WHITE, GENE H. (ETAL)	$	511	568		WD
Nov 17, 2008	HENRY, LOIS MAY	WHITE, GENE H.	$40000	511	396	60	WD

Parcel Features

Type	Size	Year Built

Land Information

Classification	Type	Size	Value
Alikchi Variant Silt 5	Timber & Waste	4 Acres	$47/Acre
Bernow Fine Sandy Loam 7	Timber & Waste	3 Acres	$72/Acre
Bernow Fine Sandy Loam 9	Timber & Waste	10 Acres	$86/Acre
Alikchi Variant Silt 2	Timber & Waste	9 Acres	$47/Acre
Bernow-Romia Complex 4	Timber & Waste	54 Acres	$70/Acre

Buildings

Building	Sq Ft.	Year Blt.

REMARKS

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http://pushmataha.oklahoma.usassessor.com/Shared/scripts/printCard.php?id=000001S20E16000501&RLid=1 4/28/2014

Appendix C

Communication Records

Appendix C Communication Records

Tomlin Infrastructure Group, LLC, Communication Record

Re:	Wild Flower Phase I	Date:	4/8/14
Contact:	**Fred Brown**		
	Tomlin Infrastructure Group	Project:	WFW
Phone:	(972) 239-0707	Pages:	1

FB: Professional Engineer, field recon at site 4/8/2014

FB: didn't see any hazardous materials or problems

FB: no stressed vegetation

FB: has no knowledge of any misuse, spills, leaks or storage of hazardous materials on the parcels of interest

EIS27-05 USER

QUESTIONNAIRE:

In order to qualify for one of the Landowner Liability Protections Offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *"Brownfields Amendments"*, the *user* must provide the following information (if available) to the *environmental professional*.Failure to provide this information could result in a determination that *"all appropriate inquiry"* is not complete.

(1.) Environmental cleanup liens that: are filed or recorded against the site (40 CFR 312.25).

Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law?

NO

(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).

Are you aware of any Activity and Use Limitations, such as *engineering controls,* land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

NO

(3.) Specialized knowledge or experience of the person seeking to qualify for the Landowner Liability Protections (40 CFR 312.28).

As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

NO

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this *properly* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property?*

PRICE YET TO BE DETERMINED, THERE IS CURRENTLYNO KNOWLEDGE OF

CONTAMINATION.

(5.) Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).

Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases?

For example, as *user,*

(a.) Do you know the past uses of the *property? AGRICULTURAL; LOGGING, GRAZING OR HAY CROPS*

(b.) Do you know of specific chemicals that are present or once were present at the *property?*
UNKNOWN

(c.) Do you know of spills or other chemical releases that have taken place at the *property? UNKNOWN*

(d.) Do you know of any environmental cleanups that have taken place at the *property? NO*

(6.) The degree of obviousness of the presence of likely presence of contamination at the *property,* and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the *user* of this *ESA,* based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property?*

NO

Fred Brown, P.E. 4/14/2014
Name
Date

Position/Company Affiliation / Relationship to User of Phase 1 ESA

Partner, Tomlin Investments

Appendix D

Environmental Professional Statement

Environmental Professional Statement as required by 40 CFR § 312.21(a) for conducting the Phase I Environmental Site Assessment and preparation of the report.

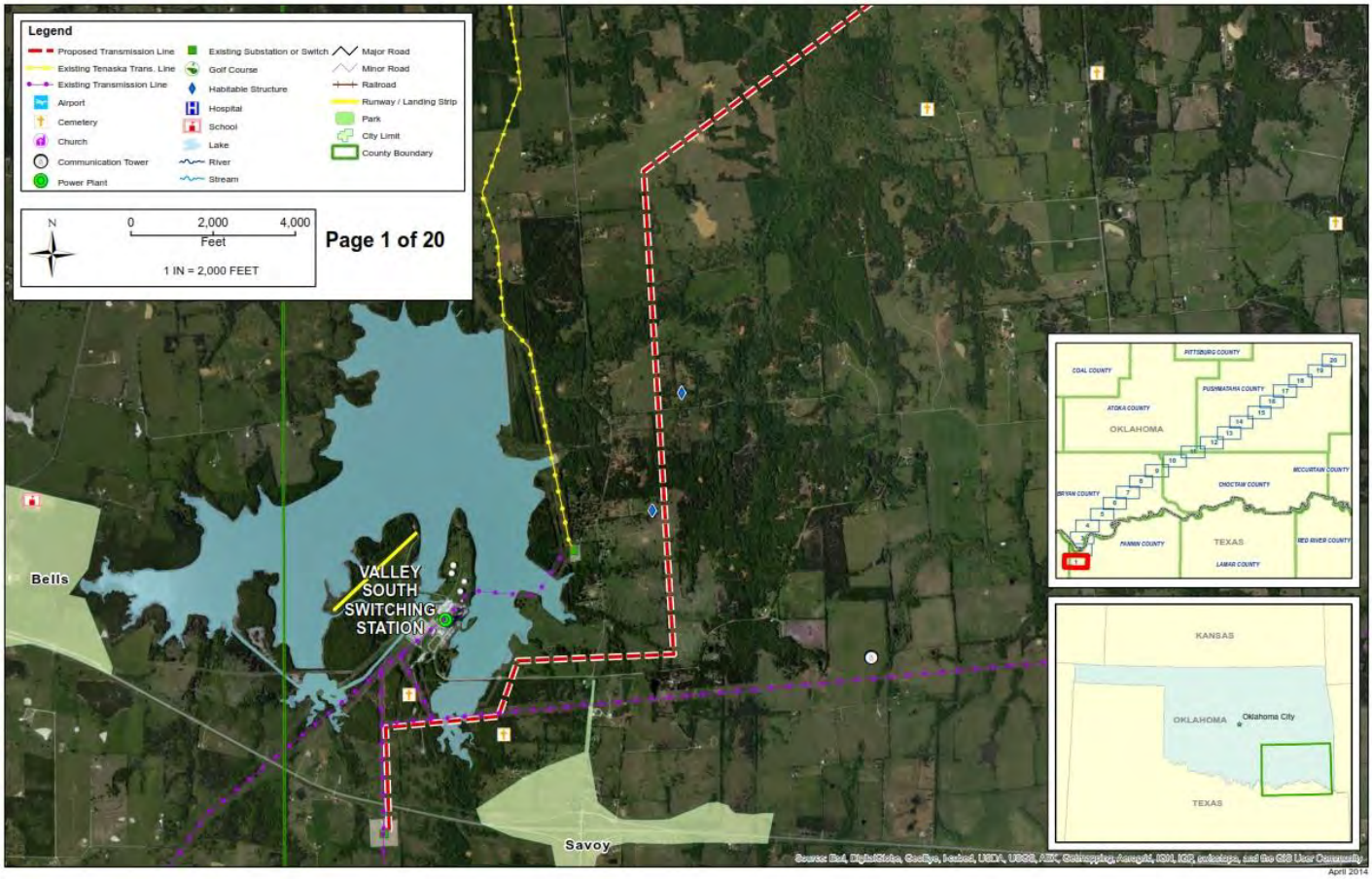
I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined in §312.10 of 40 CFR § 312" and 12.13.2 I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."

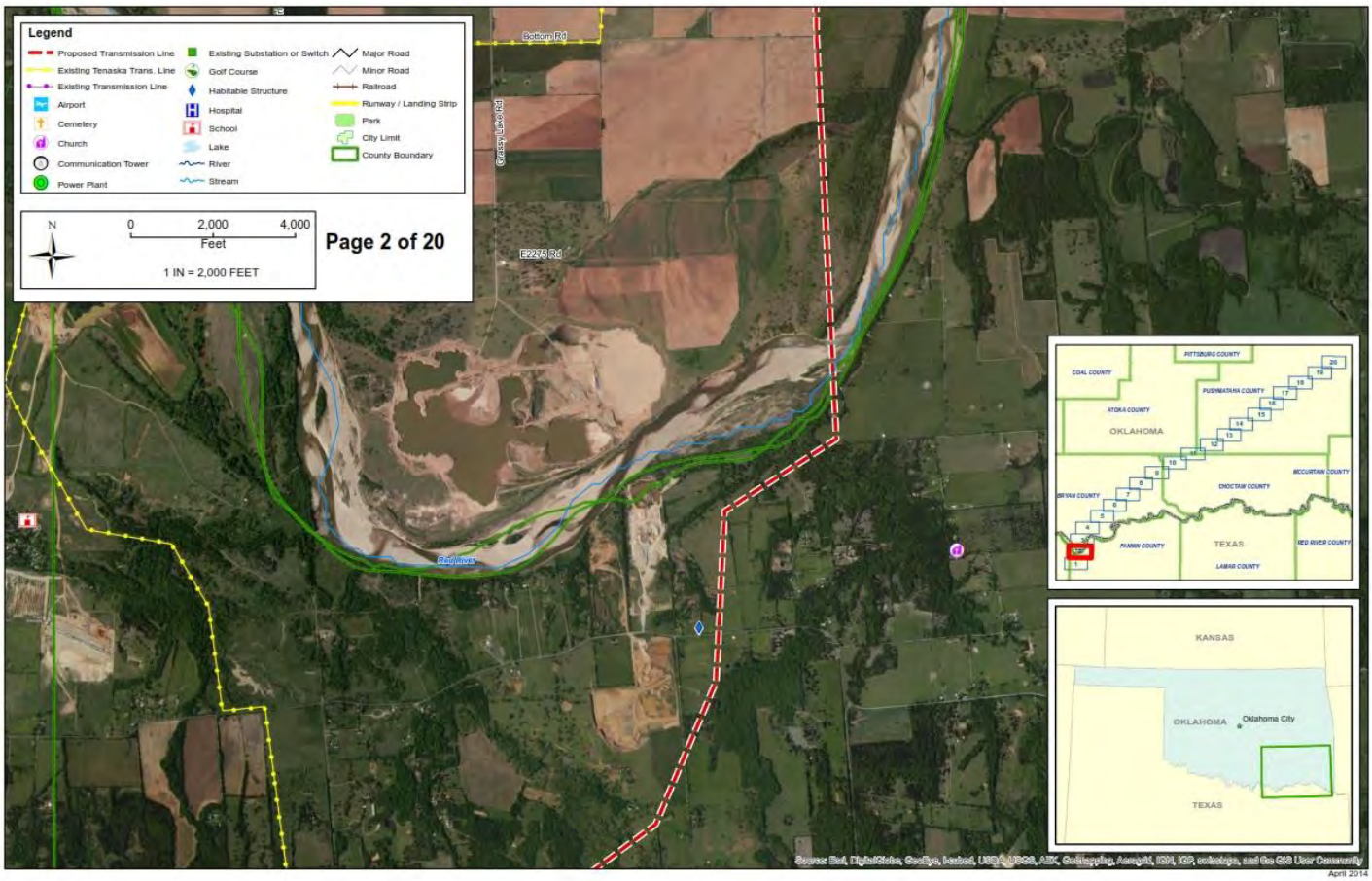
Fred Brown, P.E.

Appendix E

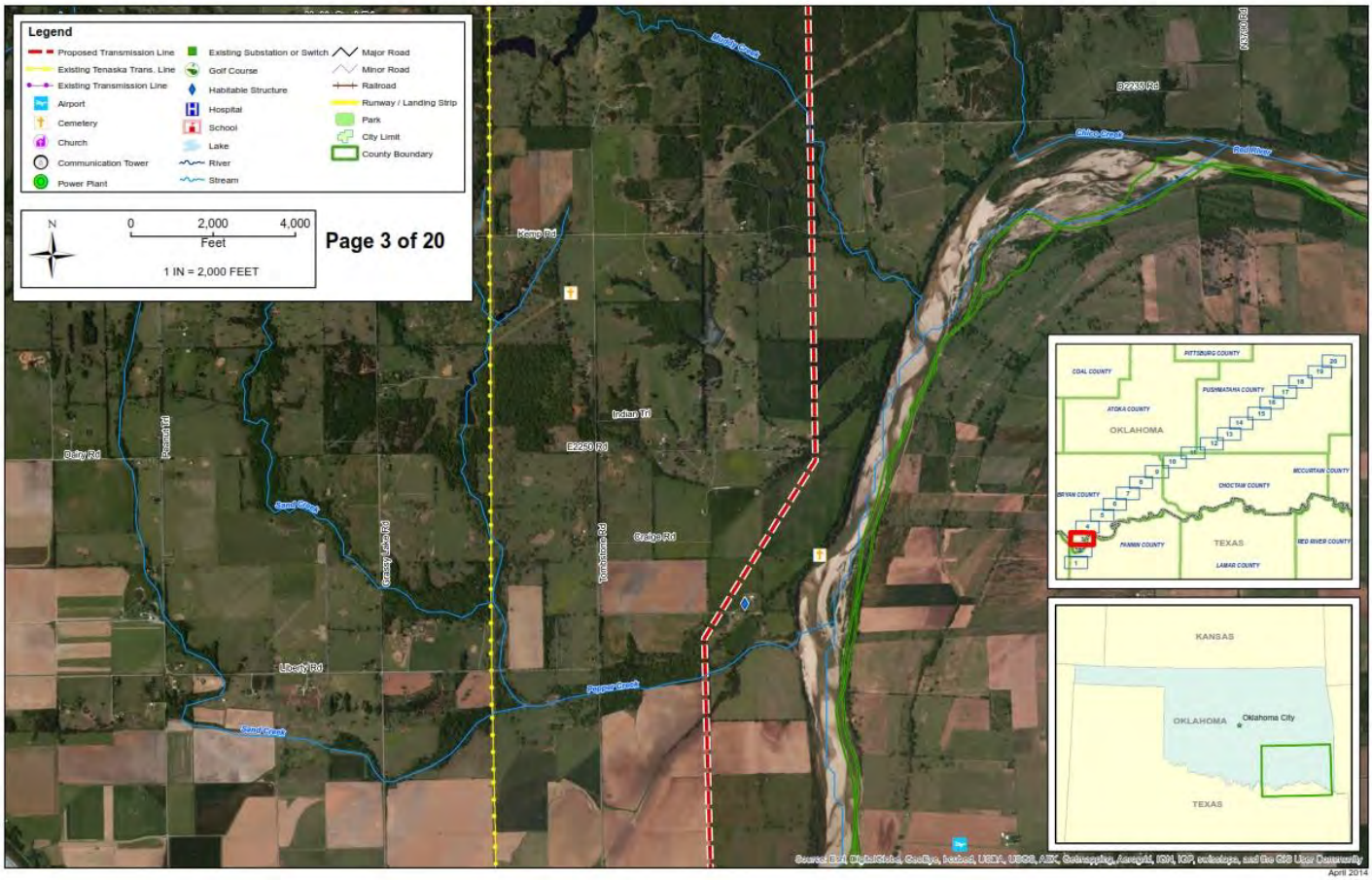
Transmission Line



April 2014



April 2014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Proposed Transmission Line
Existing Tenaska Trans. Line
Existing Transmission Line
Airport
Cemetery
Church
Communication Tower
Power Plant
Existing Substation or Switch
Golf Course
Habitable Structure
Hospital
School
Lake
River
Stream
Major Road
Minor Road
Railroad
Runway / Landing Strip
Park
City Limit
County Boundary
N
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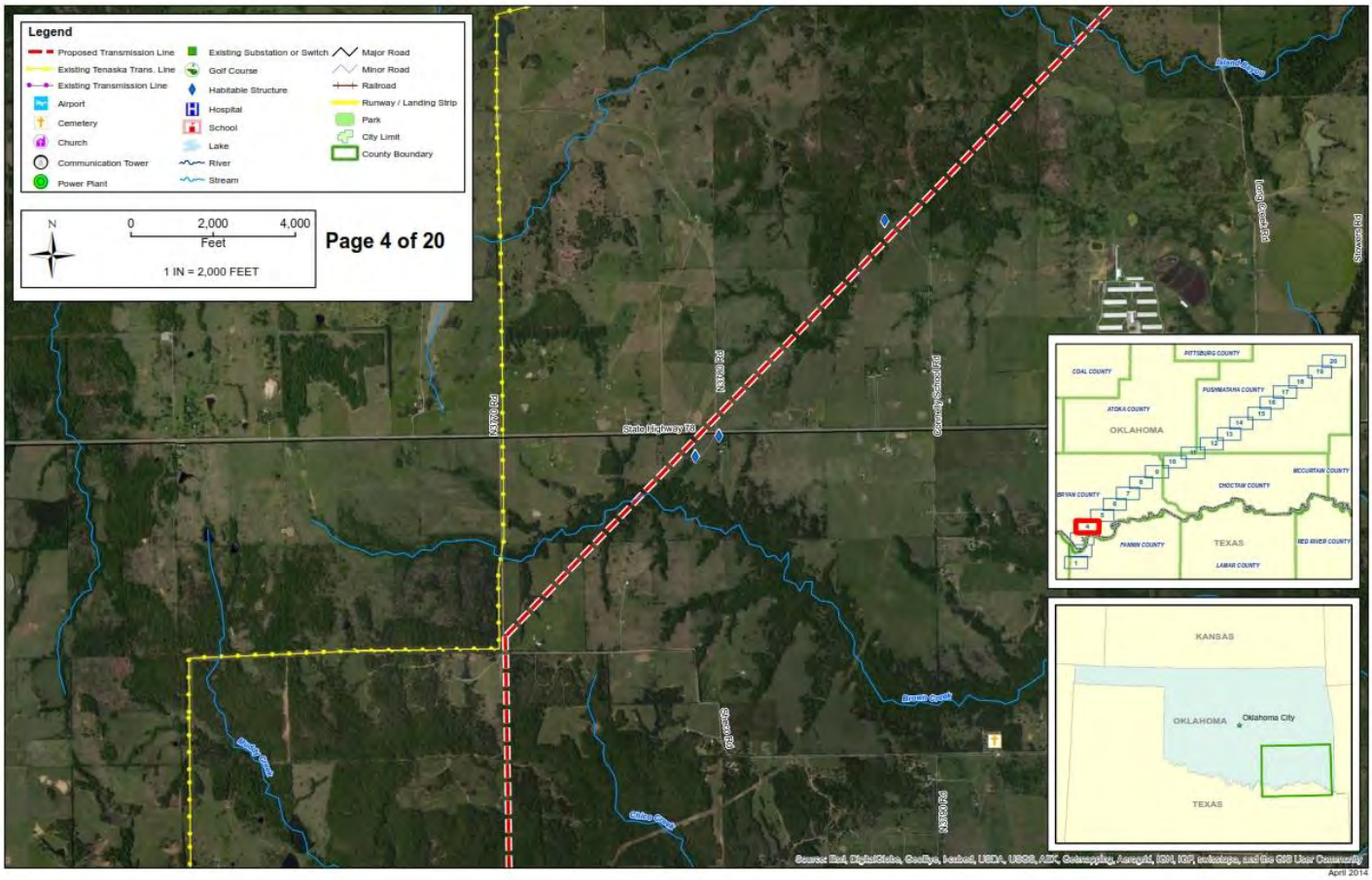
2,000
4,000
Feet
1 IN = 2,000 FEET
Page 3 of 20
Hemp Rd
Indian Trl
E2250 Rd
Duley Rd
Peanut Rd
Sand Creek
Cressy Lake Rd
Tomahawk Rd
Cedar Rd
Liberty Rd
Pepper Creek
Sand Creek
N3760 Rd
B2265 Rd
Bilbo Creek
Red River
KANSAS
OKLAHOMA
Oklahoma City
TEXAS
April 2014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Existing Tenaska Trans. Line
Existing Transmission Line
Airport
Cemetery
Church
Communication Tower
Power Plant
Existing Substation or Switch
Golf Course
Habitable Structure
Hospital
School
Lake
River
Stream
Major Road
Minor Road
Railroad
Runway / Landing Strip
Park
City Limit
County Boundary
N
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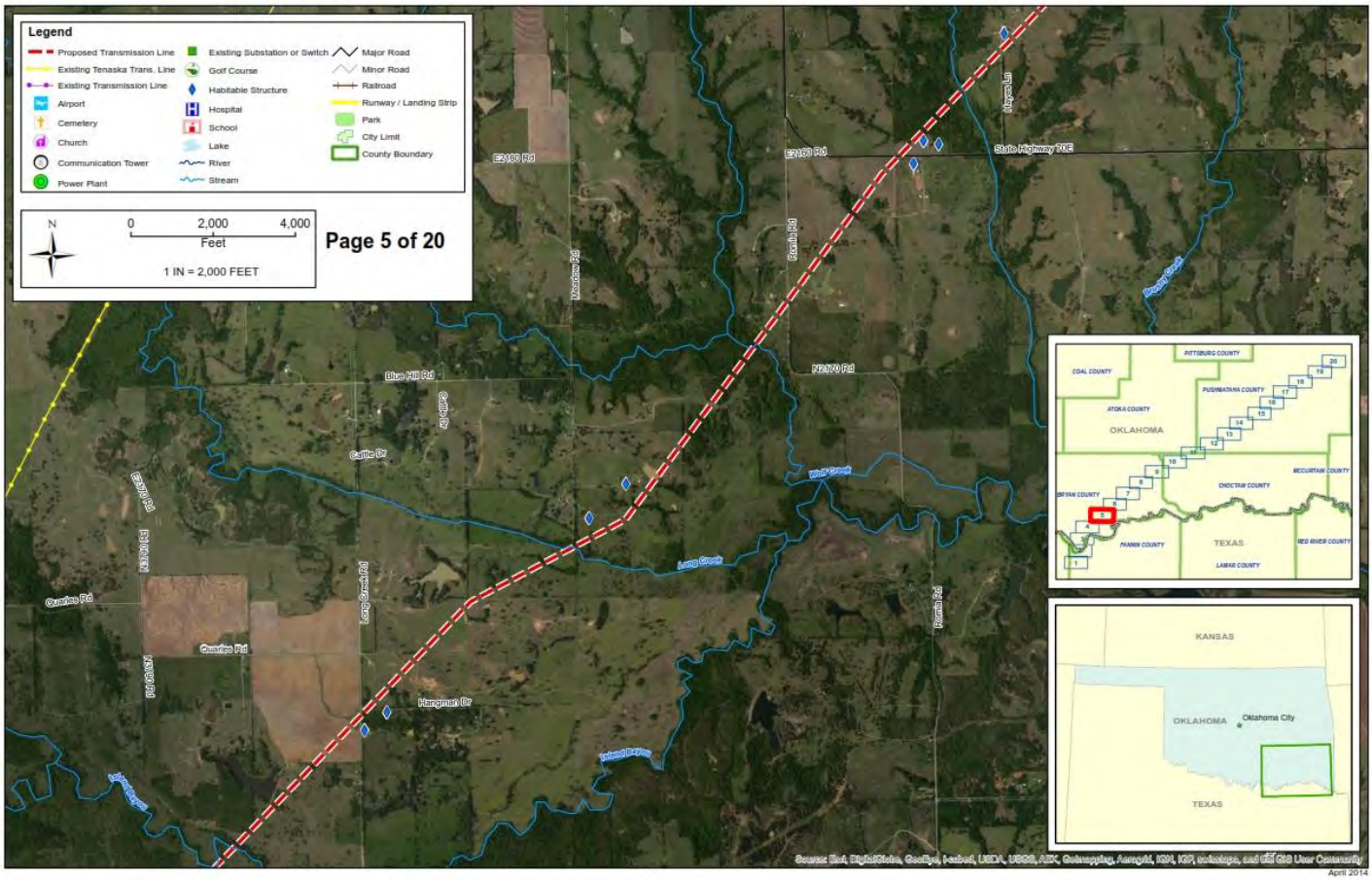
2,000
4,000
Feet
1 IN = 2,000 FEET
Page 4 of 20
N3770 Rd
N3760 Rd
Cressy Sands Rd
State Highway 78
Lake Charles Rd
Shreve Rd
Brushy Creek
Bilbo Creek
KANSAS
OKLAHOMA
Oklahoma City
TEXAS
April 2014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Airport
Cemetery
Church
Communication Tower
Power Plant
Existing Substation or Switch
Golf Course
Habitable Structure
Hospital
School
Lake
River
Stream
Major Road
Minor Road
Railroad
Runway / Landing Strip
Park
City Limit
County Boundary
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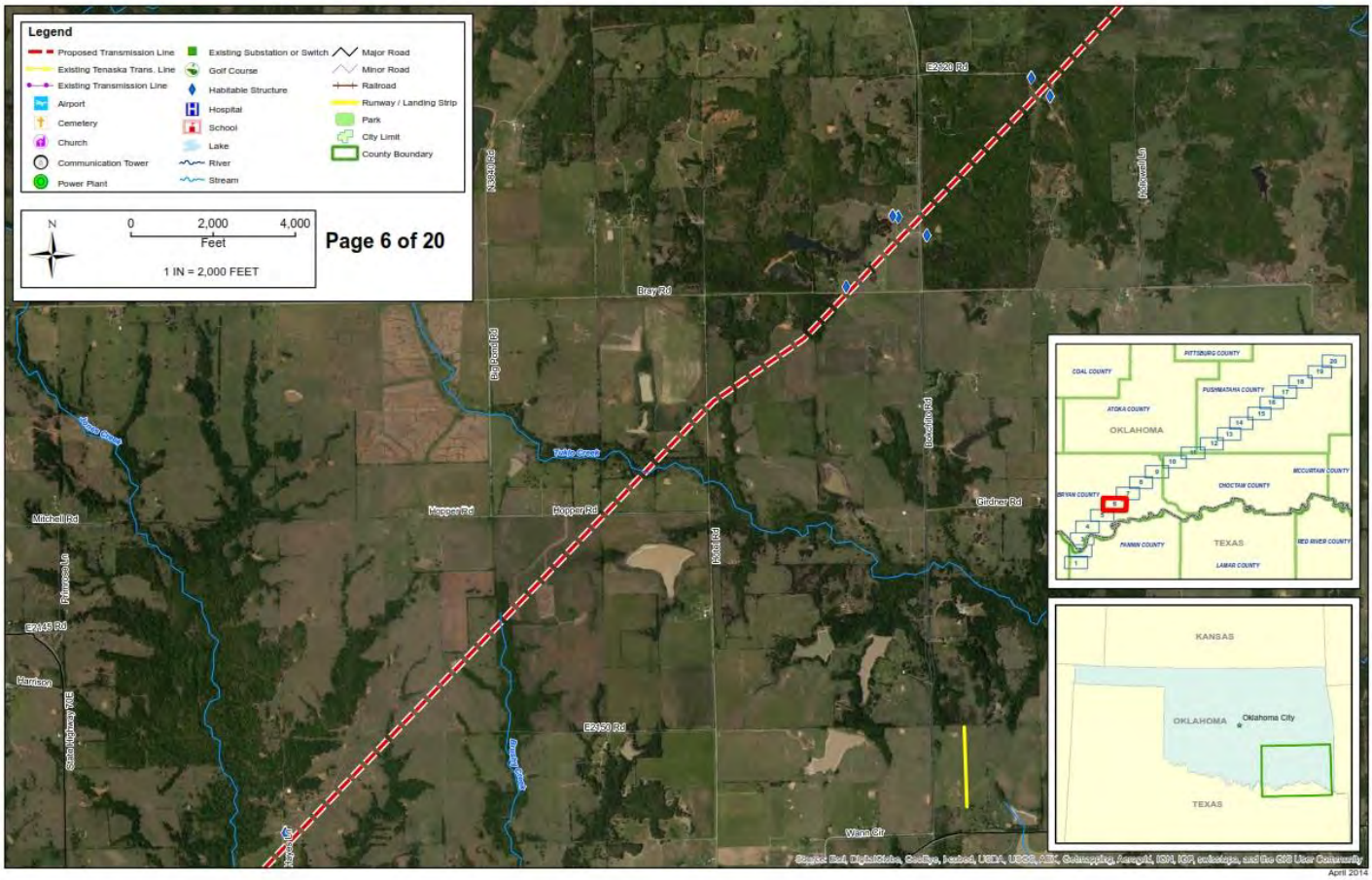
2,000
4,000
Feet
1 IN = 2,000 FEET
Page 5 of 20
E2100 Rd
E2120 Rd
State Highway 70E
Morgan Ln
Moreau Rd
Bonds Rd
Bruce Creek
Blue Hill Rd
N3170 Rd
Cattle Dr
Wolf Creek
Long Creek
Long Creek Rd
Ramm Rd
Quarles Rd
Hangman Dr
Island Bayou
Yellow Creek
OKLAHOMA
TEXAS
KANSAS
Oklahoma City
April 2014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Cemetery
Church
Communication Tower
Power Plant
Existing Substation or Switch
Golf Course
Habitable Structure
Hospital
School
Lake
River
Stream
Major Road
Minor Road
Railroad
Runway / Landing Strip
Park
City Limit
County Boundary
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4,000
Feet
1 IN = 2,000 FEET
Page 6 of 20
E2200 Rd
N3548 Rd
Hopewell Ln
Bray Rd
Big Pond Rd
Yellow Creek
Yahola Creek
Hooper Rd
Girdner Rd
Mitchell Rd
Princess Ln
E2140 Rd
Harrison
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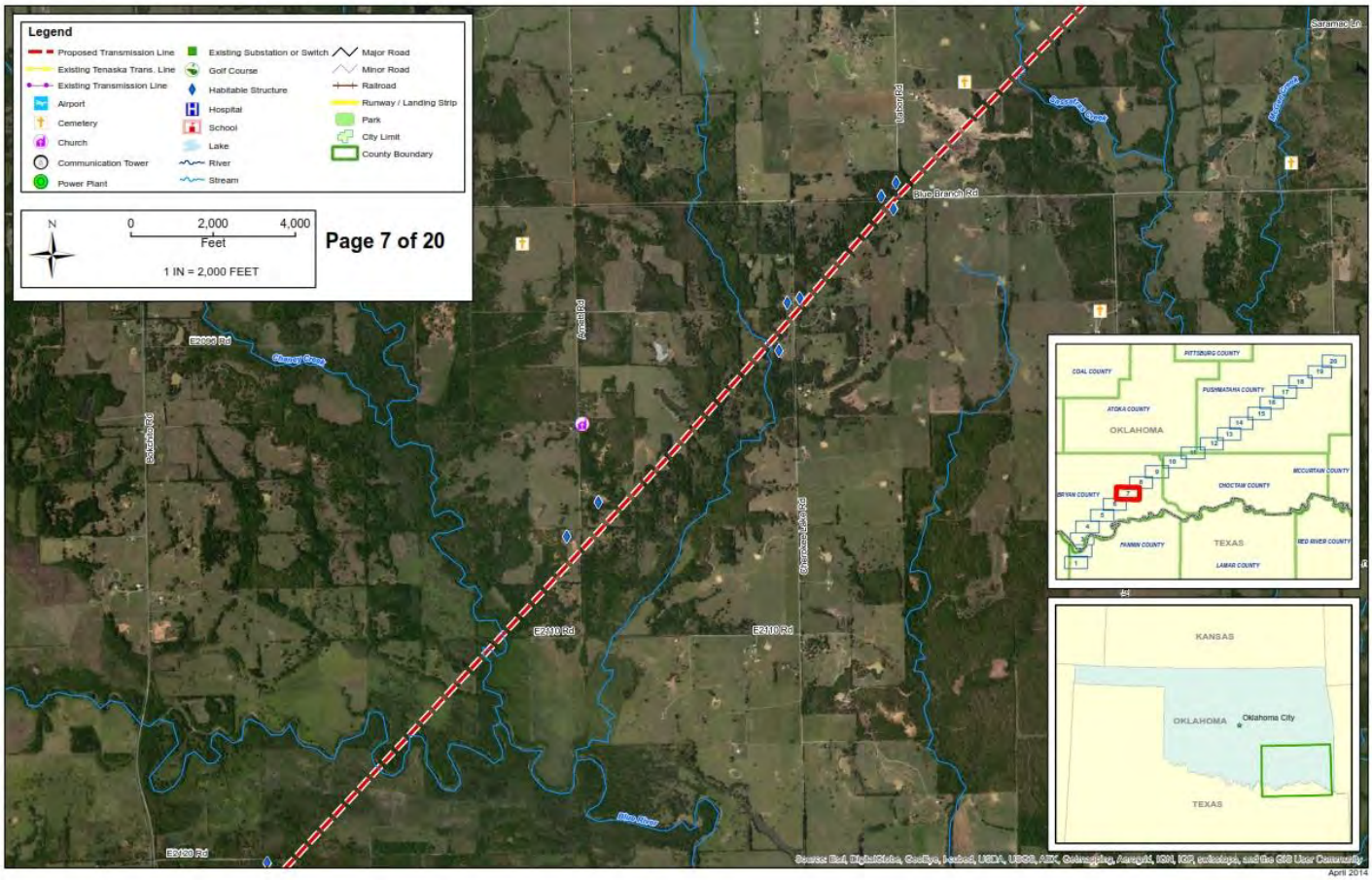
Sweet Rd
Warm Cir
OKLAHOMA
TEXAS
KANSAS
Oklahoma City
April 2014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Existing Tenaska Trans. Line
Existing Transmission Line
Airport
Cemetery
Church
Communication Tower
Power Plant
Existing Substation or Switch
Golf Course
Habitable Structure
Hospital
School
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River
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Major Road
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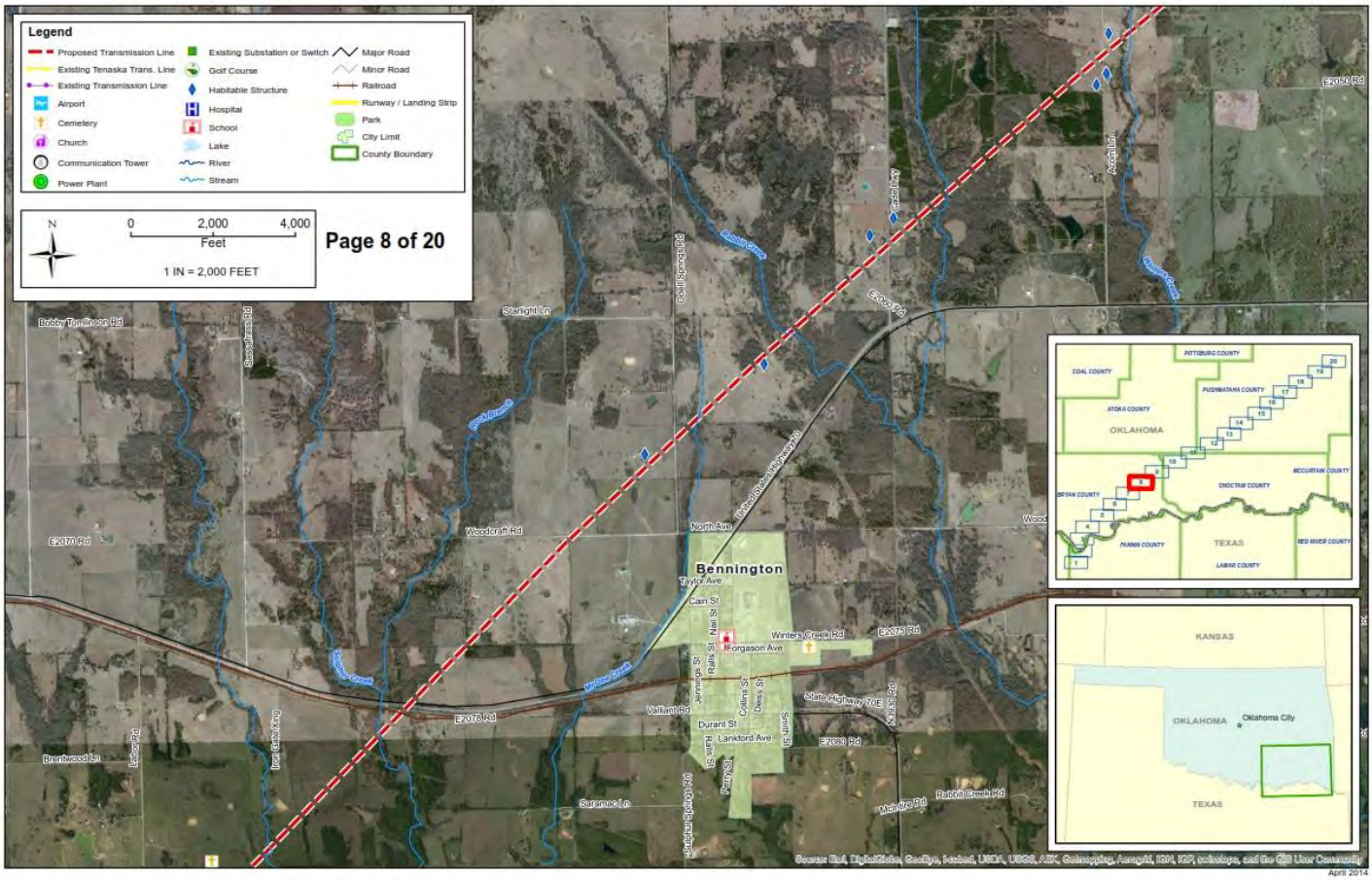
Runway / Landing Strip
Park
City Limit
County Boundary
N
0
2,000
4,000
Feet
1 IN = 2,000 FEET
Page 7 of 20
Saramore Ln
Lobar Rd
Blue Branch Rd
Archer Rd
E2060 Rd
Chimney Creek
Bohanon Rd
Choctaw Indian Rd
E2010 Rd
E2070 Rd
Muse Rd
E2120 Rd
PITTSBURG COUNTY
COAL COUNTY
PUSHMATAHA COUNTY
ATOKA COUNTY
OKLAHOMA
MCCURTAIN COUNTY
CHOCTAW COUNTY
BRYAN COUNTY
MARSHALL COUNTY
TEXAS
BED RIVER COUNTY
LAMAR COUNTY
KANSAS
OKLAHOMA
Oklahoma City
TEXAS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
April 2014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Proposed Transmission Line
Existing Tenaska Trans. Line
Existing Transmission Line
Airport
Cemetery
Church
Communication Tower
Power Plant
Existing Substation or Switch
Golf Course
Habitable Structure
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Major Road
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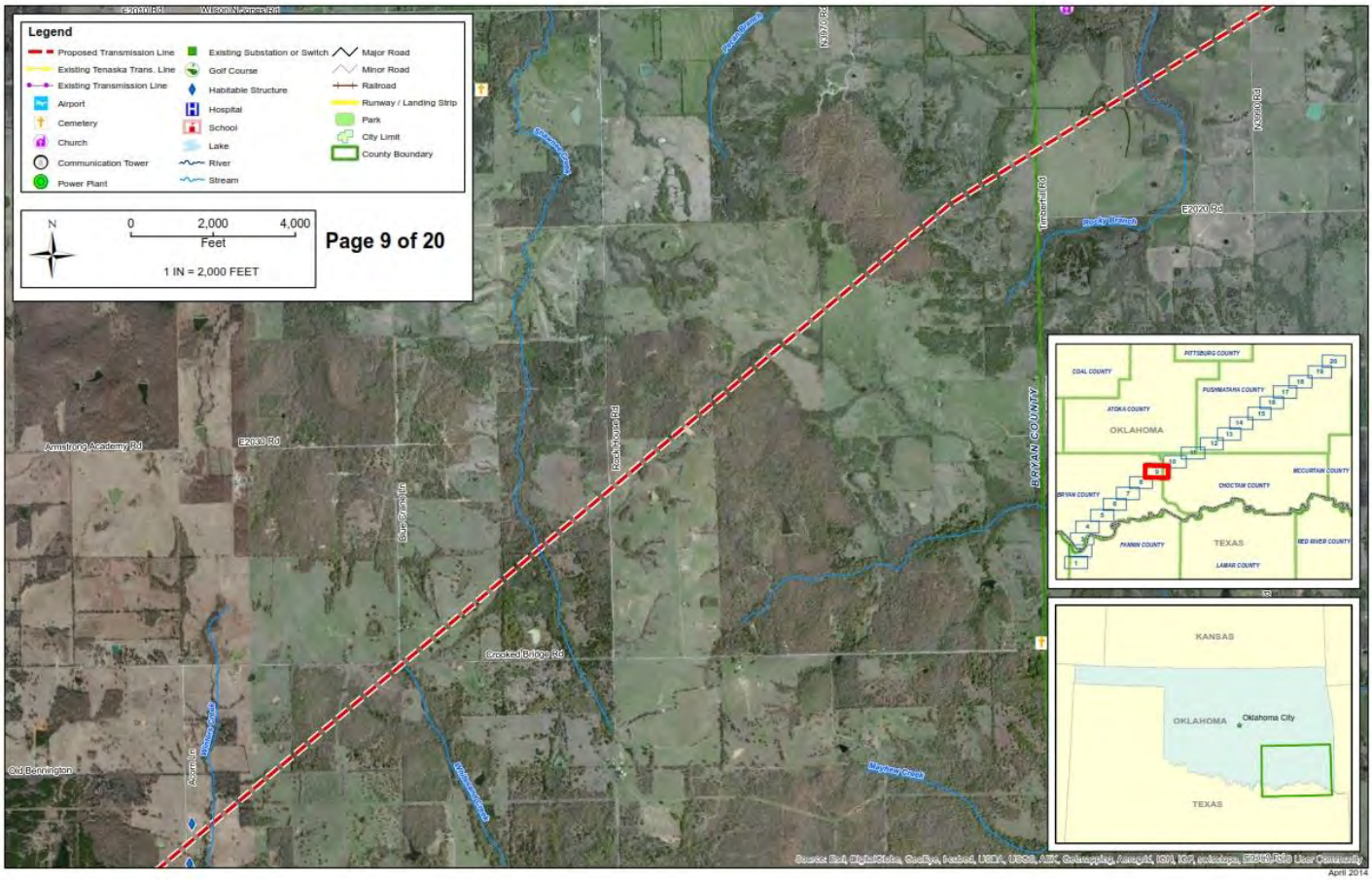
Railroad
Runway / Landing Strip
Park
City Limit
County Boundary
N
0
2,000
4,000
Feet
1 IN = 2,000 FEET
Page 8 of 20
E2020 Rd
Acorn Ln
Cedar Hwy
Odell Springfield Rd
Chimney Creek
Starlight Ln
Bobby Tomlinson Rd
Rosebrook Rd
Woodcraft Rd
E2070 Rd
Indian Nation Highway 70
North Ave
Bennington
Taylor Ave
Carr St
Neil St
Winters Creek Rd
E2079 Rd
Forgason Ave
Jamaica St
Ralls St
Collins St
Dees St
State Highway 70E
Valiant Rd
Durant St
Lankford Ave
Smith St
E2080 Rd
Pine St
Perry St
Southern Springs Rd
Saramore Ln
Brentwood Ln
Lobar Rd
Bay Creek
Muddy Creek
Rabbit Creek Rd
Mahoney Rd
PITTSBURG COUNTY
COAL COUNTY
PUSHMATAHA COUNTY
ATOKA COUNTY
OKLAHOMA
MCCURTAIN COUNTY
CHOCTAW COUNTY
BRYAN COUNTY
MARSHALL COUNTY
TEXAS
BED RIVER COUNTY
LAMAR COUNTY
KANSAS
OKLAHOMA
Oklahoma City
TEXAS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
April 2014



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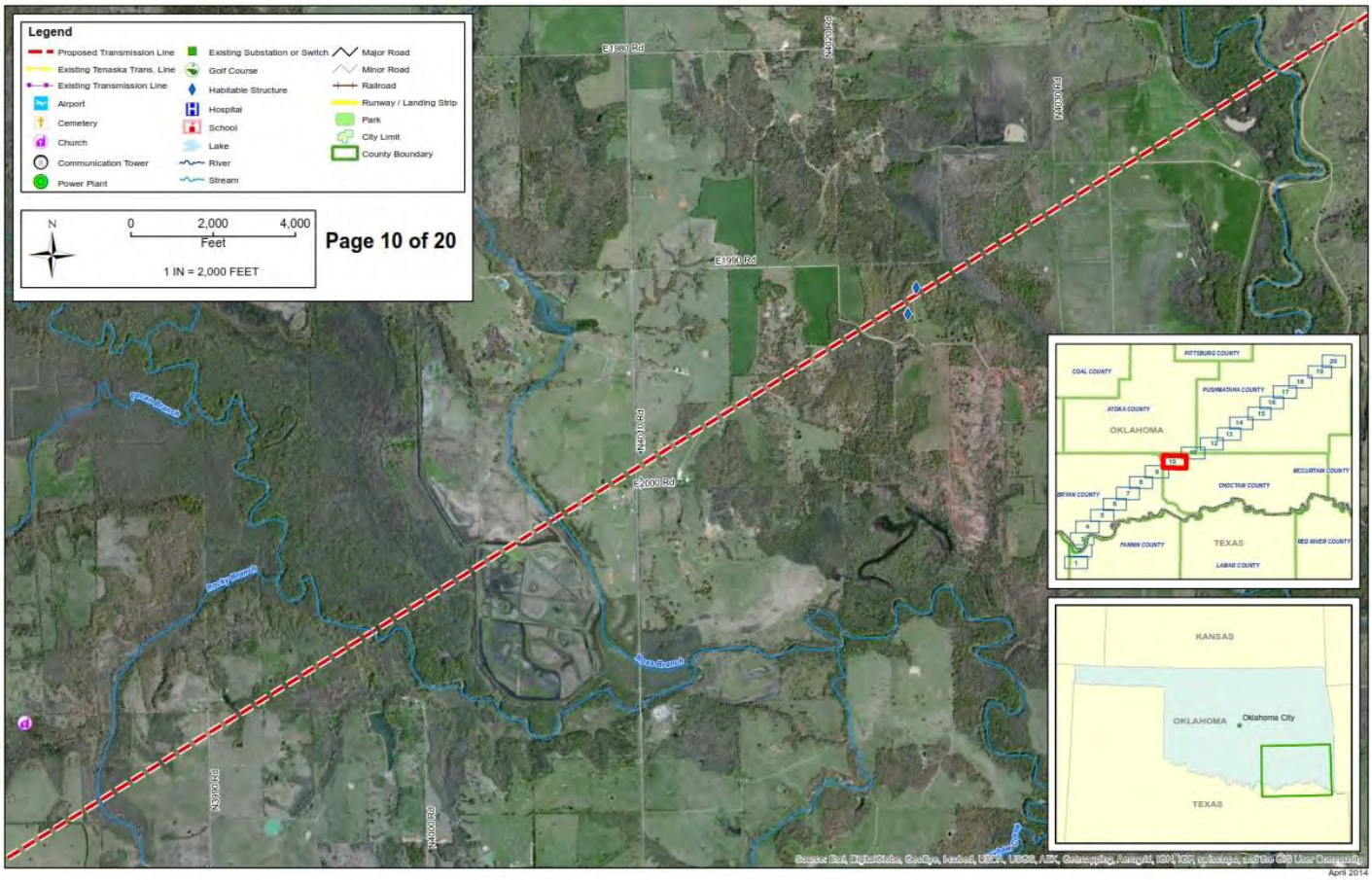

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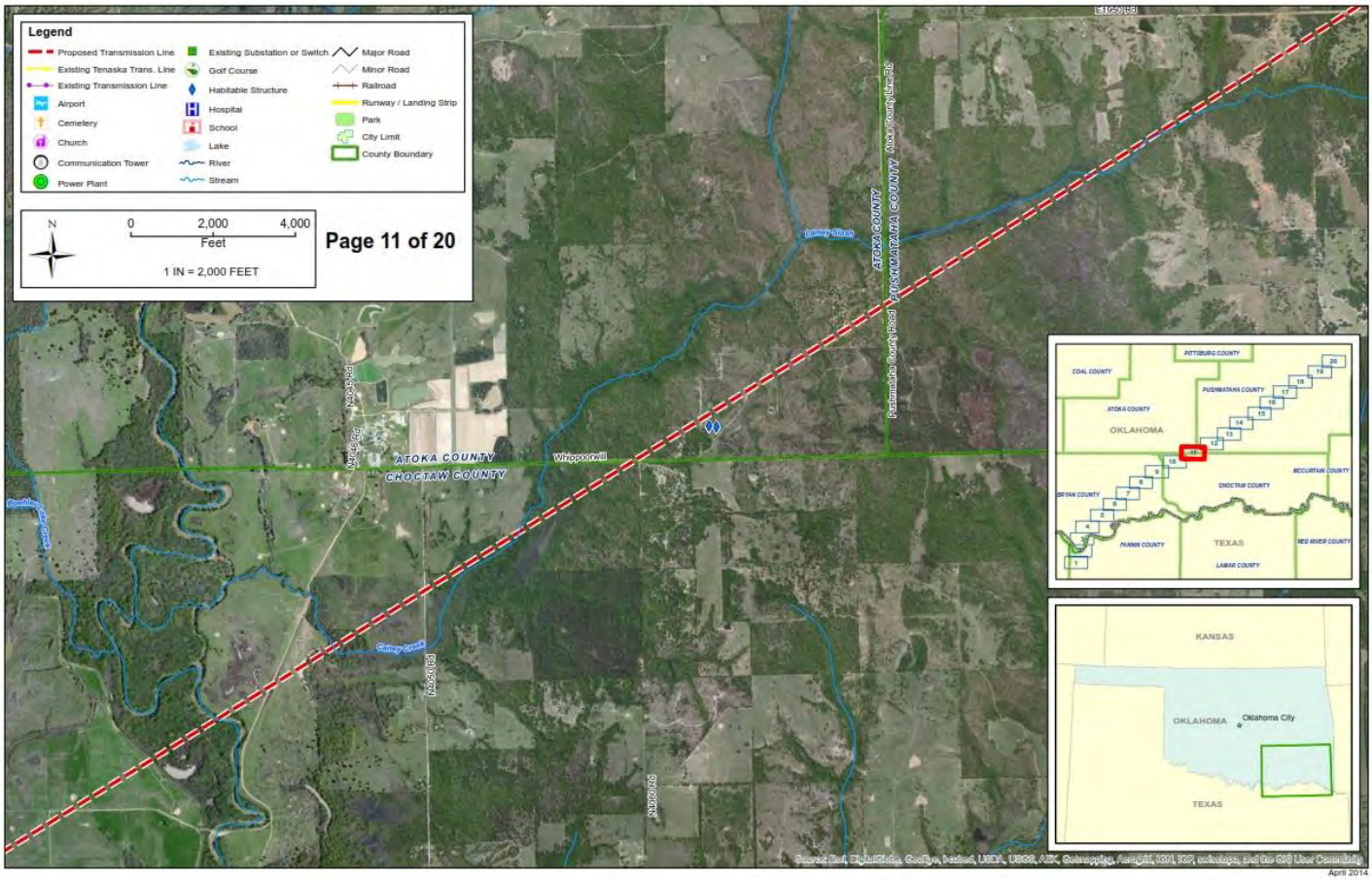
Legend
Proposed Transmission Line
Existing Tenaska Trans. Line
Existing Transmission Line
Airport
Cemetery
Church
Communication Tower
Power Plant
Existing Substation or Switch
Golf Course
Habitable Structure
Hospital
School
Lake
River
Stream
Major Road
Minor Road
Railroad
Runway / Landing Strip
Park
City Limit
County Boundary
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2,000
4,000
Feet
1 IN = 2,000 FEET
Page 11 of 20
E1950 Rd
ATOKA COUNTY
PUSHMATAHA COUNTY
Atoka County Line Rd
Pushmataha County Road
Lemley Creek
N3450 Rd
Maple Rd
ATOKA COUNTY
CHOCTAW COUNTY
Whippoorwill
Bloodley Creek
Calney Creek
N3650 Rd
N3950 Rd
PITTSBURG COUNTY
COAL COUNTY
PUSHMATAHA COUNTY
ATOKA COUNTY
OKLAHOMA
MCCURTAIN COUNTY
CHOCTAW COUNTY
BRYAN COUNTY
FANNIN COUNTY
TEXAS
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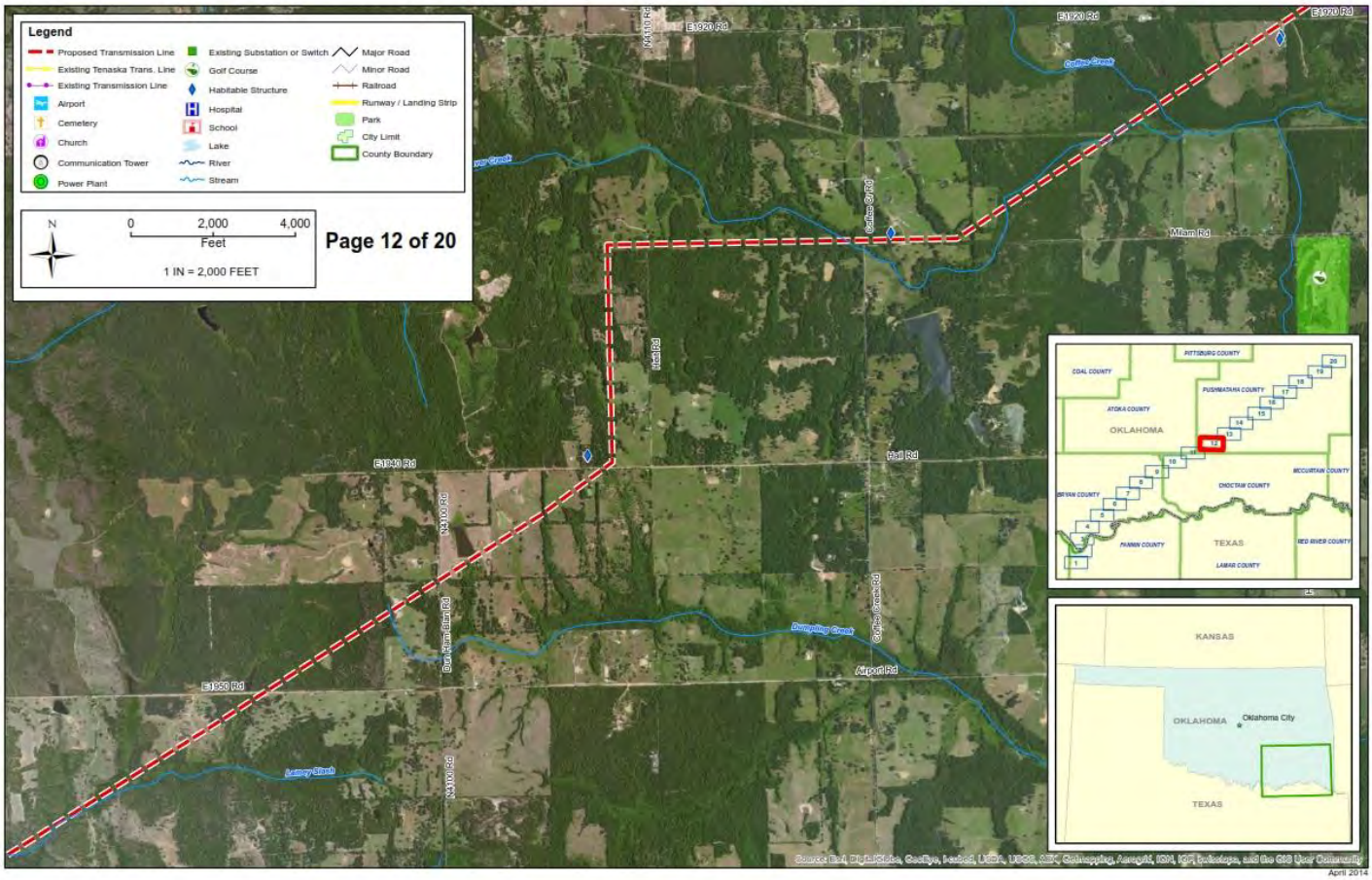
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N3410 Rd
E1920 Rd
E1920 Rd
E1920 Rd
Calney Creek
Calney Creek
Dallas Gap Rd
Miami Rd
Hall Rd
Hall Rd
E1940 Rd
N3510 Rd
Bud Ham Ellen Rd
Dumpling Creek
Cache Creek Rd
Airport Rd
E1950 Rd
Lemley Creek
N3470 Rd
PITTSBURG COUNTY
COAL COUNTY
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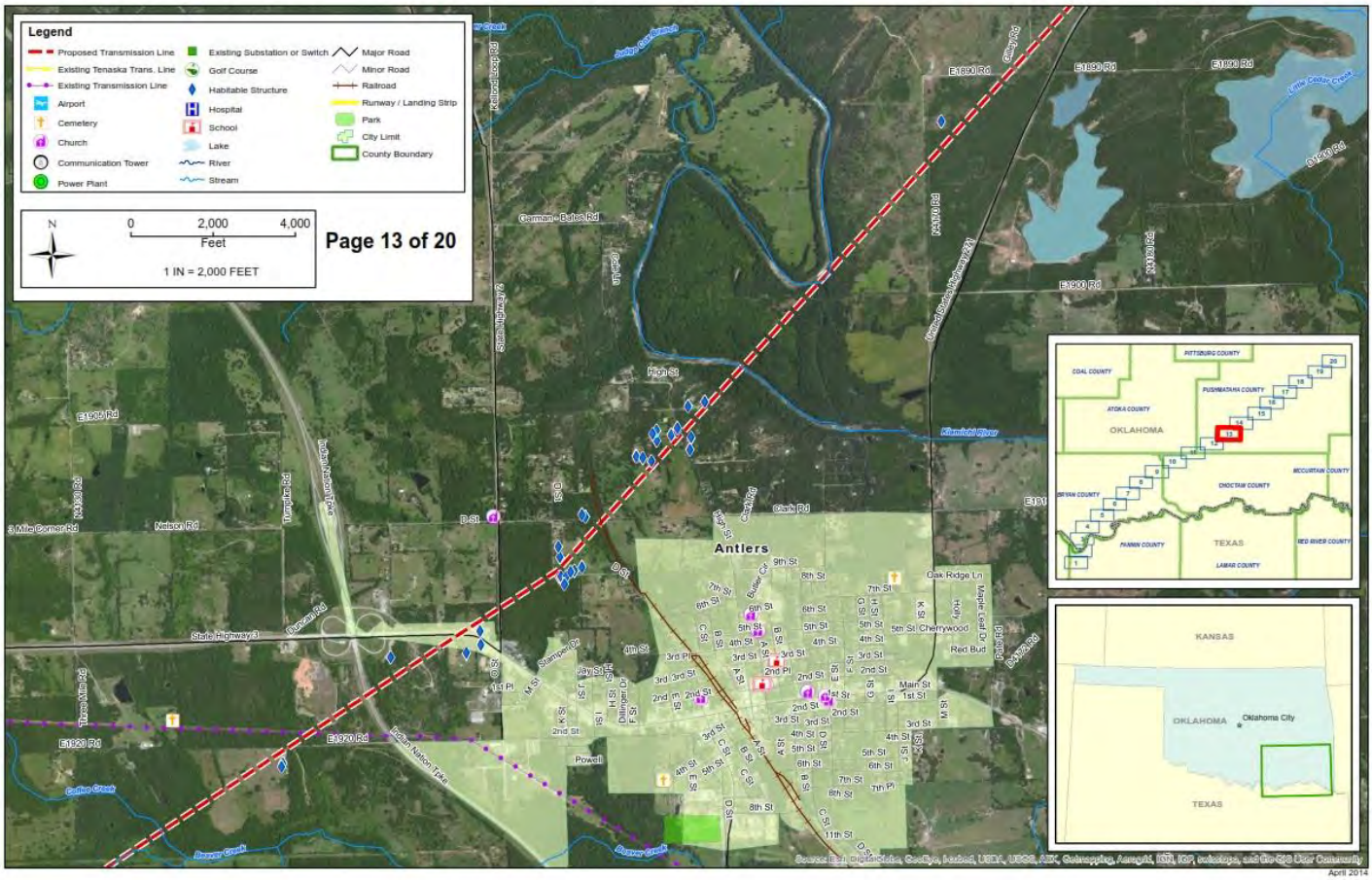
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Antiers
Powell
Reid Bud
Oak Ridge Ln
Cherrywood
Main St
Oak Rd
High St
German Bates Rd
Nelson Rd
3 Mile Corner Rd
State Highway 3
Tupelo Rd
Three Mile Rd
Indian Nation Tpke
Coffee Creek
Beaver Creek
Kiamichi River
Little Cedar Creek
E1910 Rd
E1920 Rd
E1930 Rd
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OKLAHOMA
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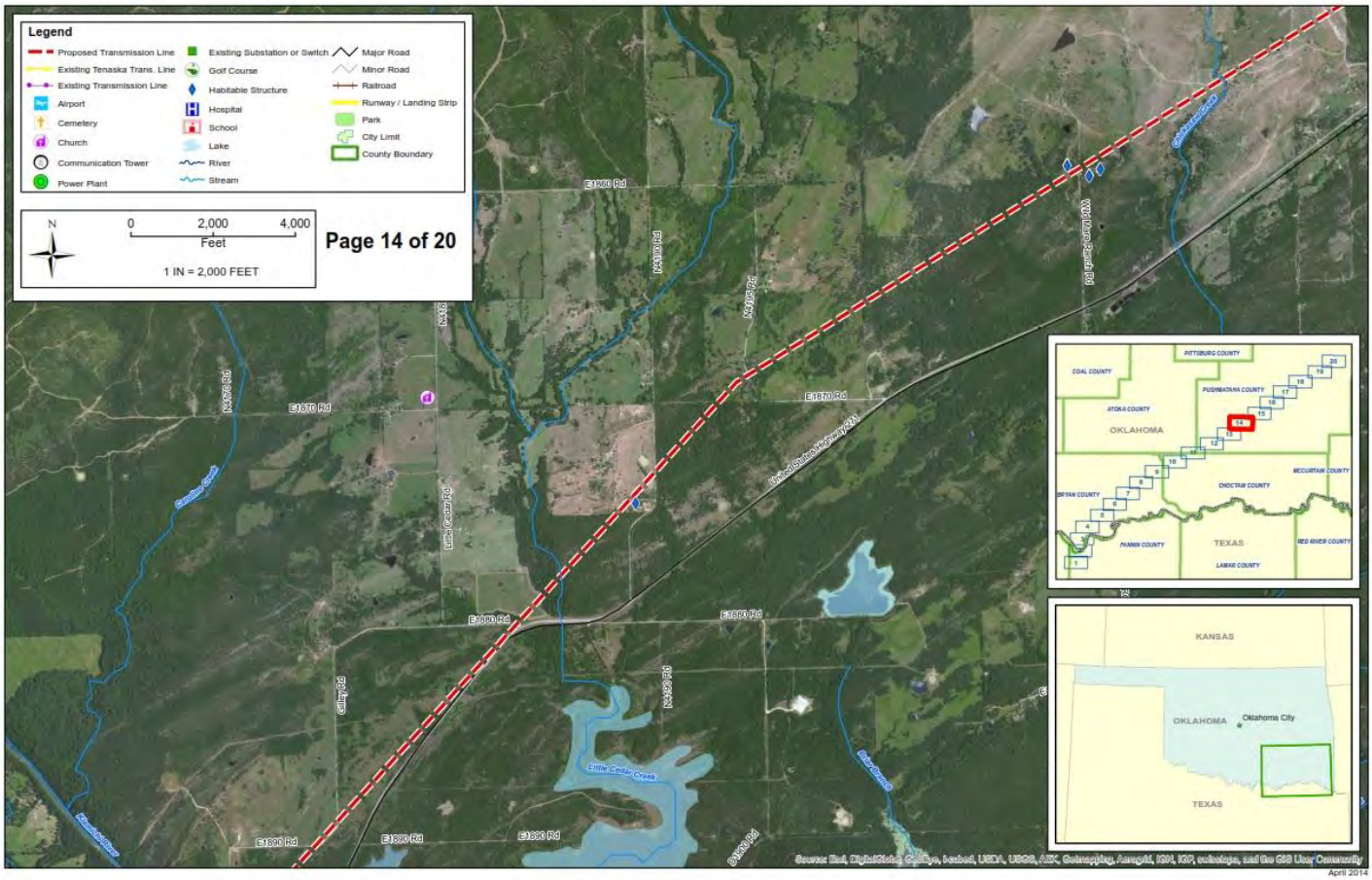
KANSAS
Oklahoma City
April 2014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E1870 Rd
E1880 Rd
E1890 Rd
E1900 Rd
N4080 Rd
N4090 Rd
N4095 Rd
N4100 Rd
N4110 Rd
Little Cedar Creek
Coffee Creek
Kiamichi River
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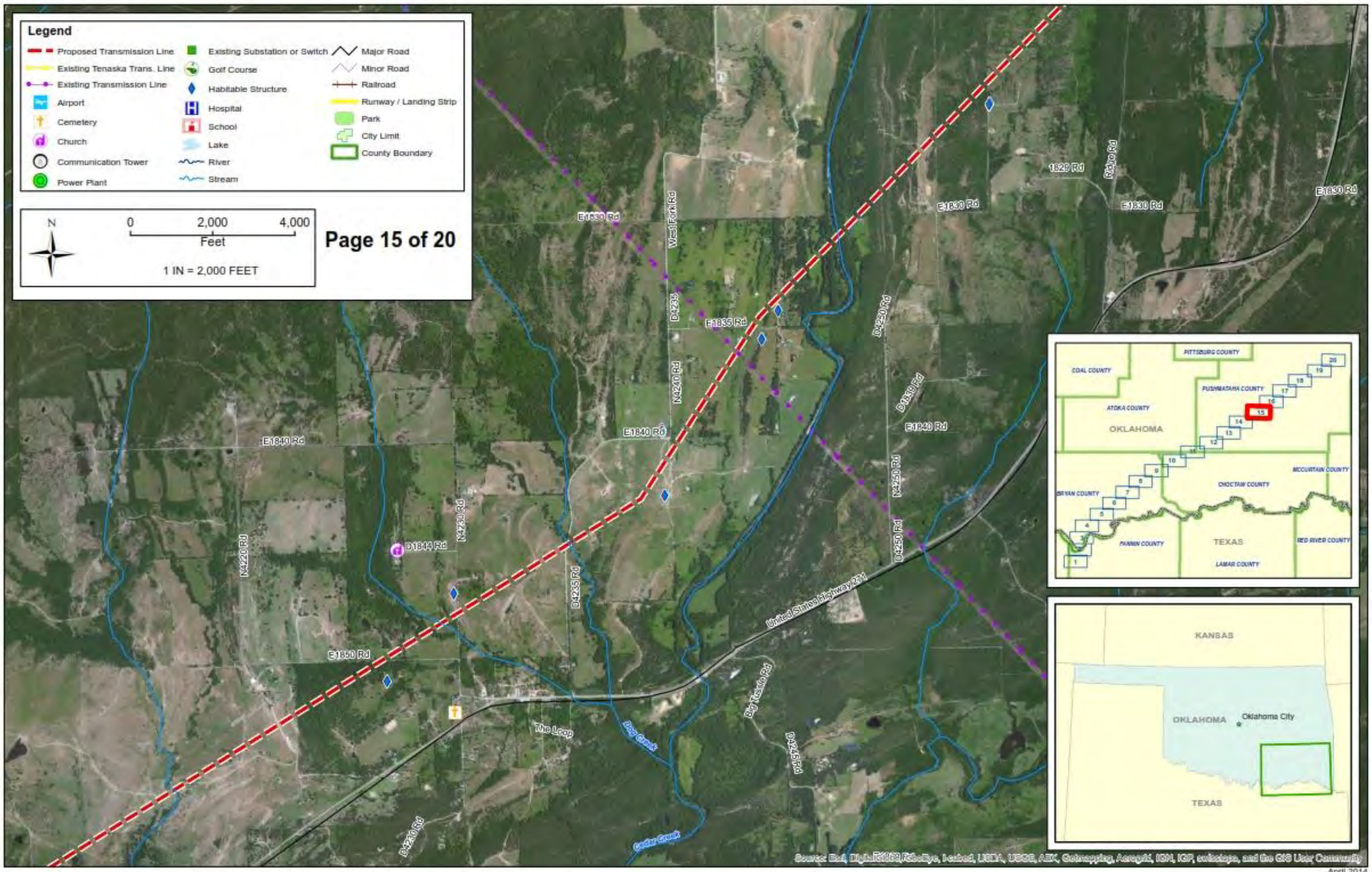
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West Fork Rd
E1835 Rd
E1840 Rd
E1850 Rd
N4220 Rd
N4240 Rd
D4235 Rd
United States Highway 271
The Loop
Dry Creek
Cedar Creek
E1830 Rd
1829 Rd
Ridge Rd
PITTSBURG COUNTY
COAL COUNTY
PUSHMATAHA COUNTY
ATOKA COUNTY
OKLAHOMA
MCCURTAIN COUNTY
CHOCTAW COUNTY
BRYAN COUNTY
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RED RIVER COUNTY
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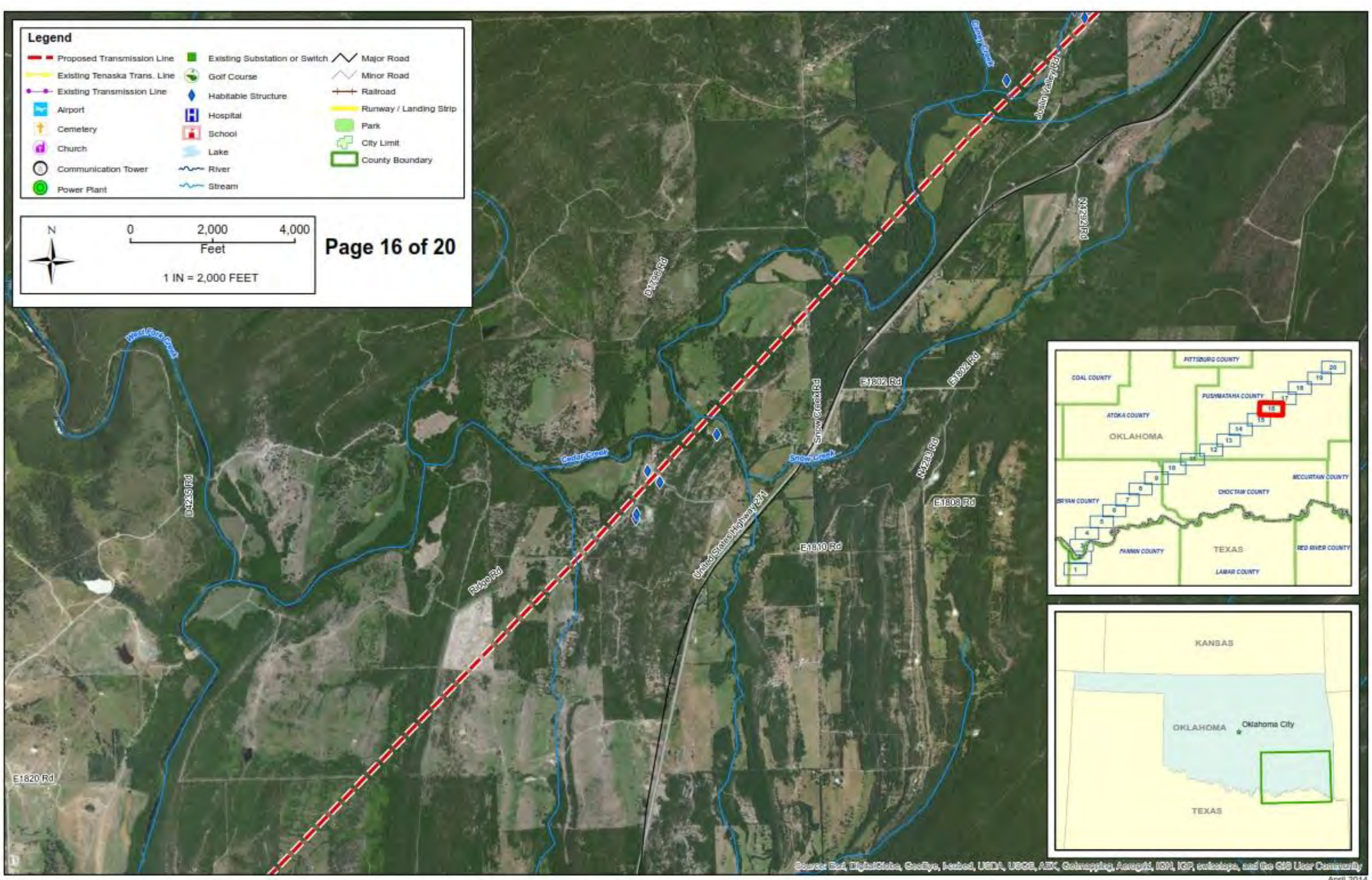
TEXAS
April 2014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West Fork Creek
Cedar Creek
Snow Creek
Snow Creek Rd
United States Highway 271
Ridge Rd
E1802 Rd
E1808 Rd
E1810 Rd
E1820 Rd
D4230 Rd
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COAL COUNTY
PUSHMATAHA COUNTY
ATOKA COUNTY
OKLAHOMA
MCCURTAIN COUNTY
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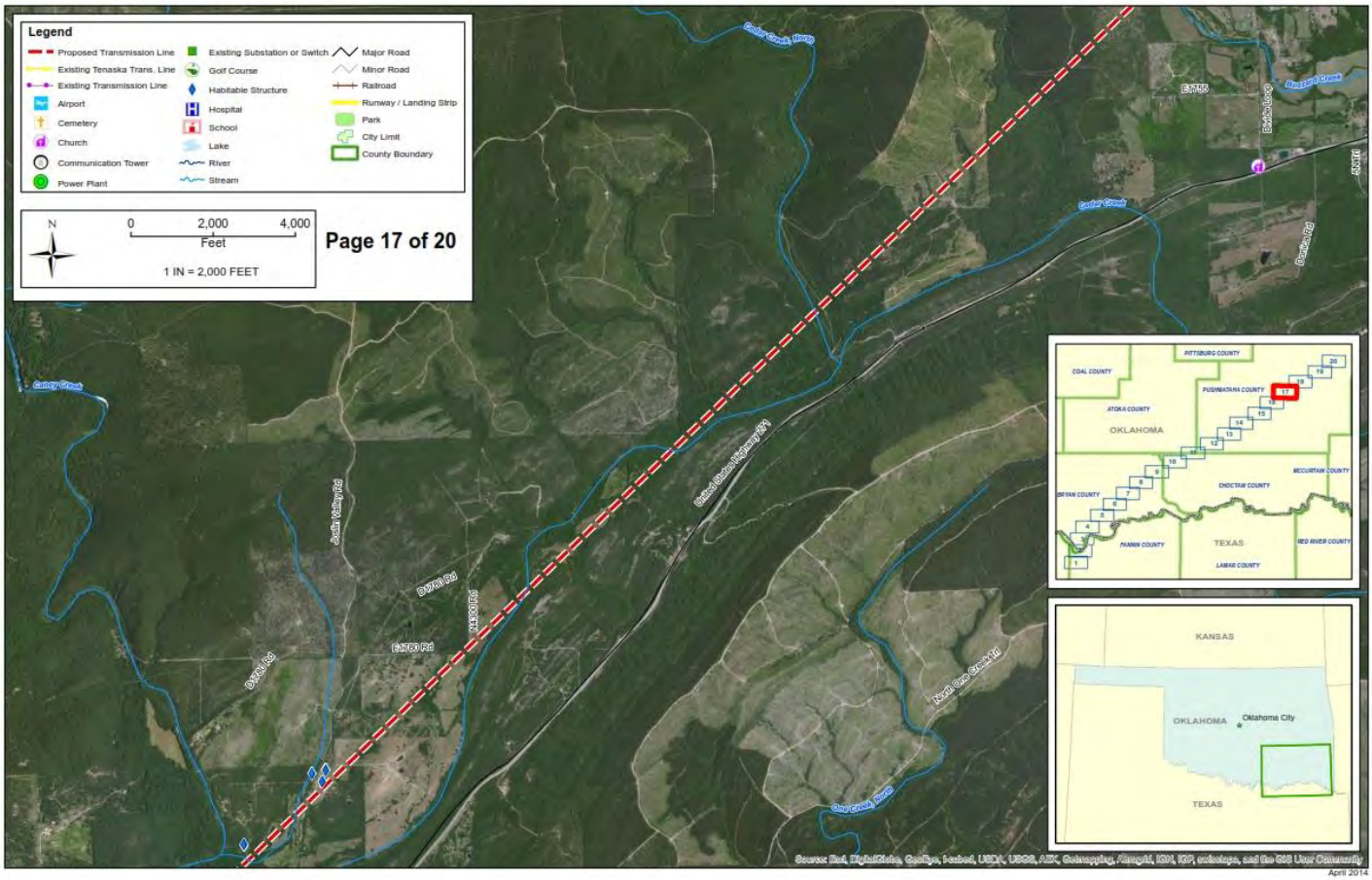

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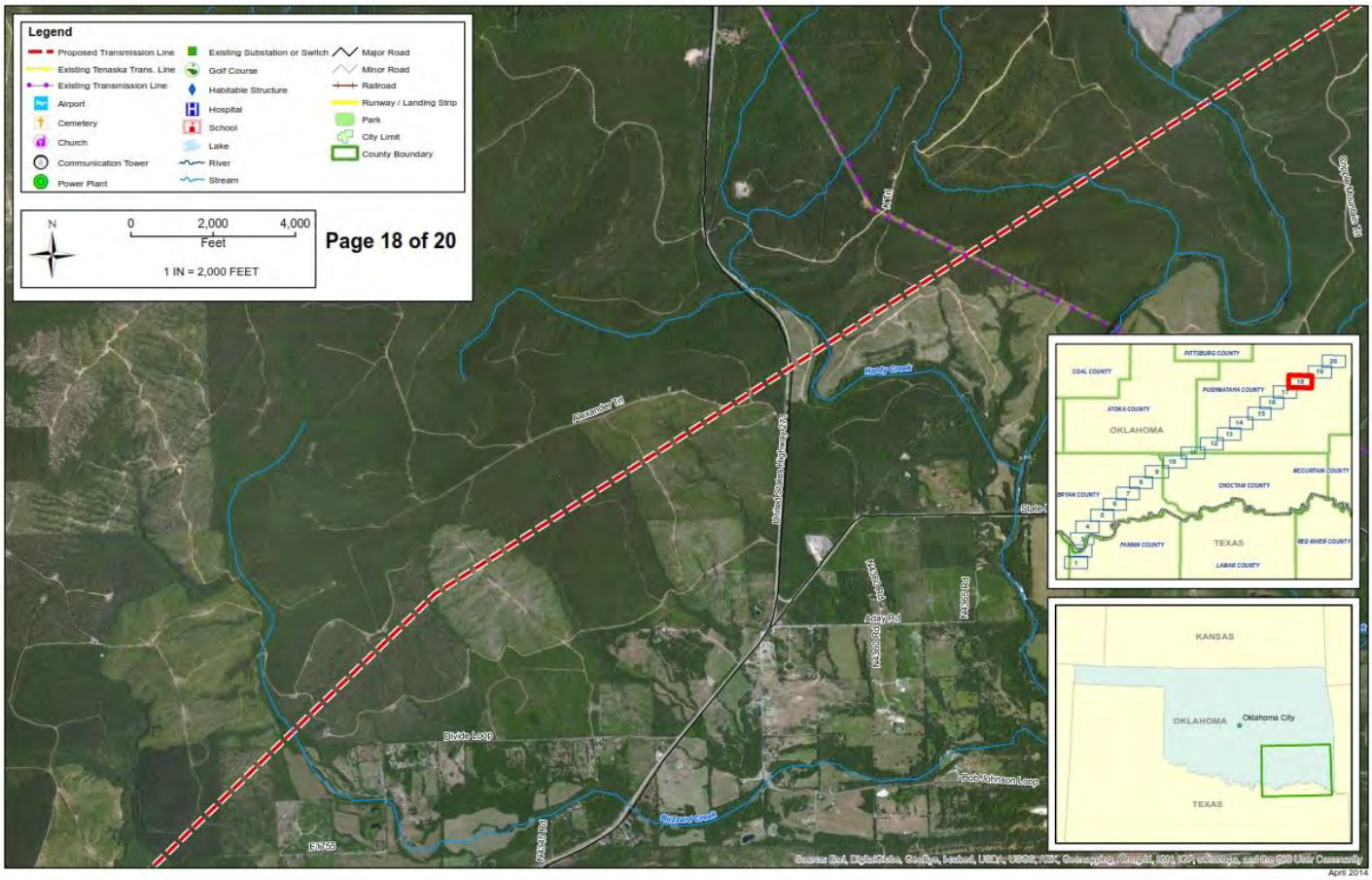

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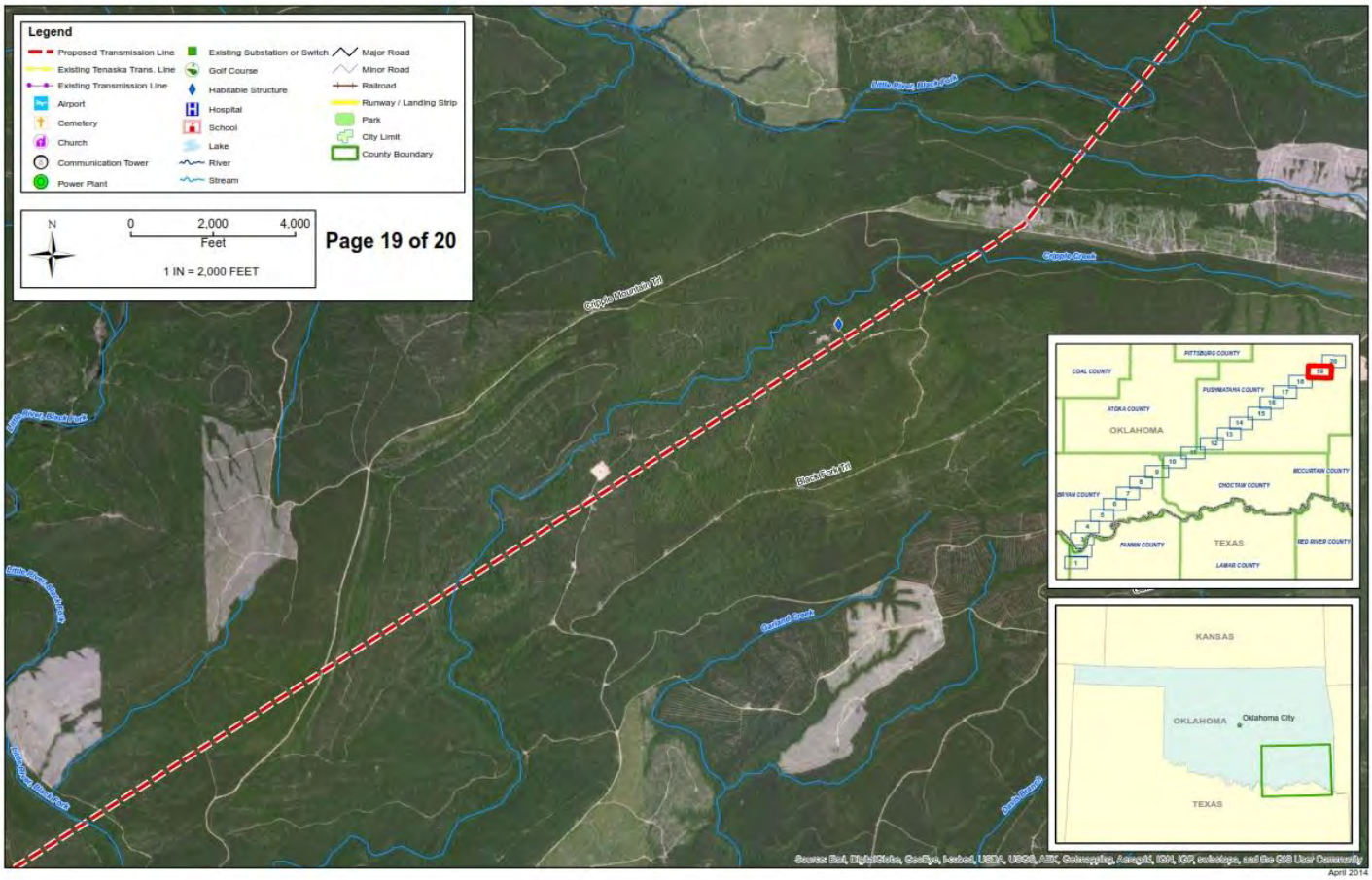

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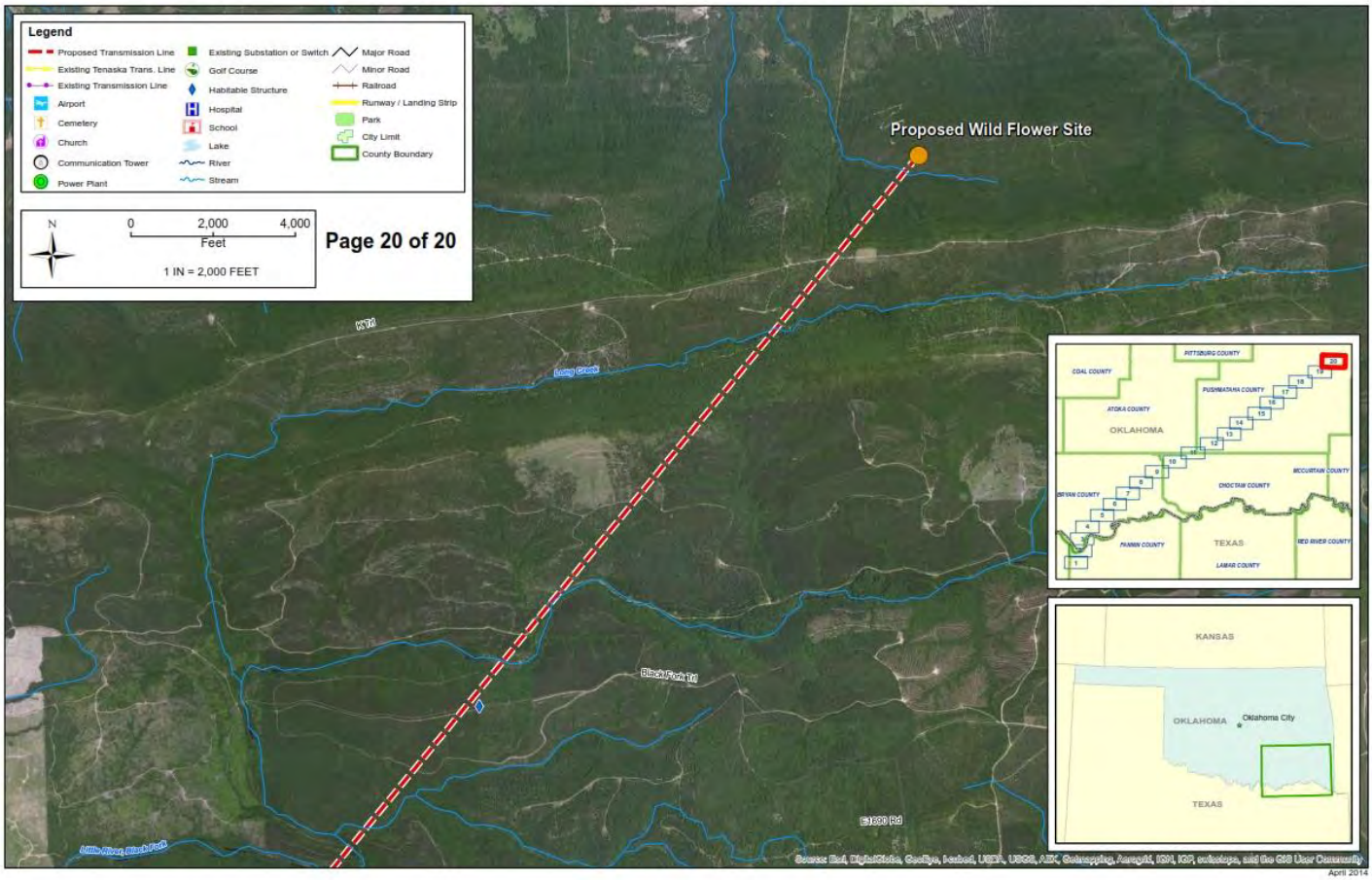

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