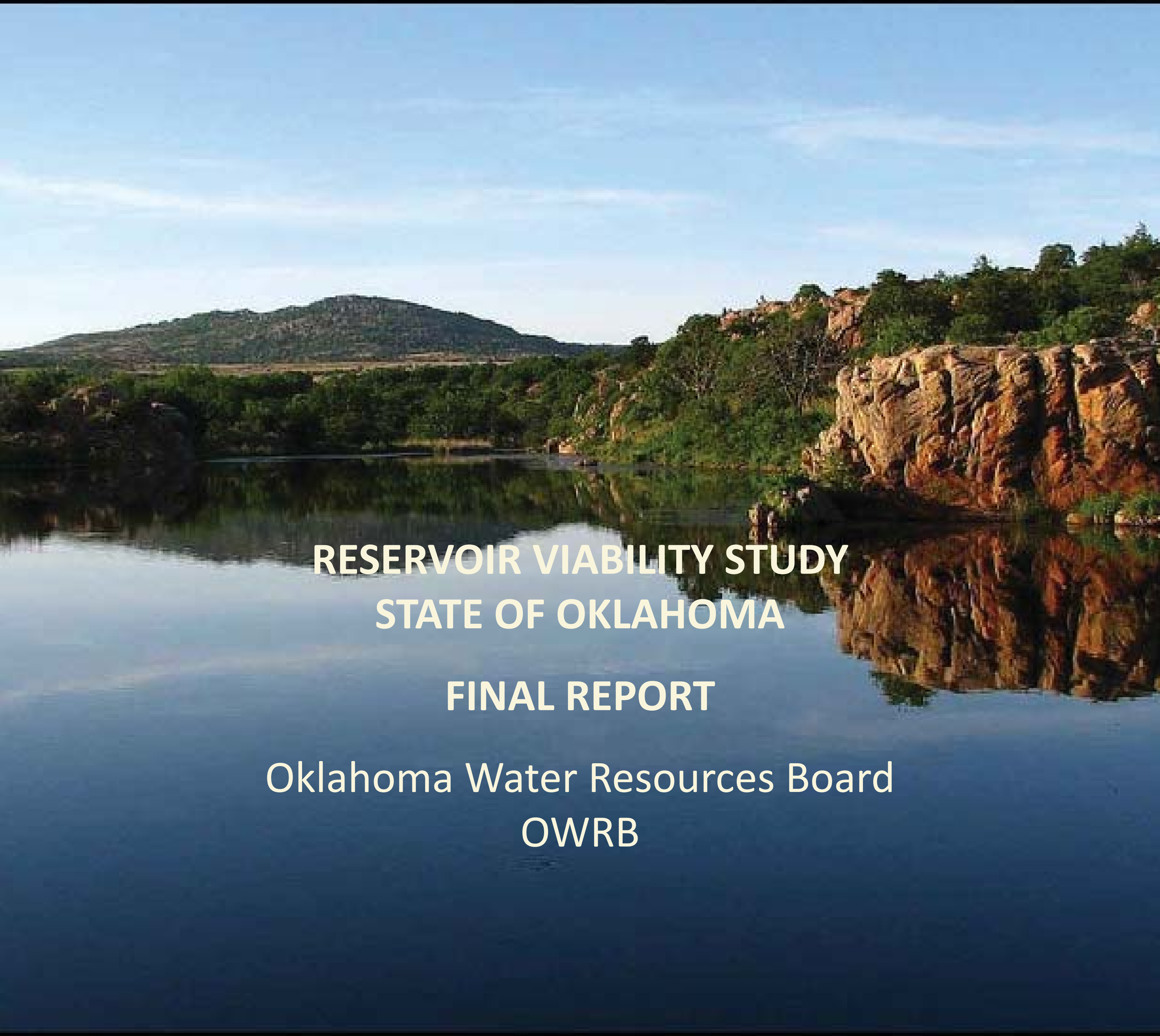

RESERVOIR VIABILITY STUDY
STATE OF OKLAHOMA

FINAL REPORT

Oklahoma Water Resources Board
OWRB

Prepared by:

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January 20, 2012

Mr. Kyle Arthur
Oklahoma Water Resources Board
3800 North Classen
Oklahoma City, OK 73118
405.530.8800
bkarthur@owrb.ok.gov

RE: Final Reservoir Viability Study

Dear Kyle:

C. H. Guernsey & Company (GUERNSEY) is providing you with one hard copy and one CD ROM of the *Reservoir Viability Study* final report. We have made the revisions you requested in December 2011 regarding the addition of the cost data/tables. This report includes a full complement of applicable text, figures, tables, and appendices.

Thank you for your continued interest in and consideration of GUERNSEY. We have enjoyed addressing this project and look forward to developing the final report. Please direct any questions to me by voice at 405.416.8140 or by e-mail at ken.senour@chguernsey.com.

Sincerely,

C.H. GUERNSEY & COMPANY

Ken Senour, CEP, QEP
Sr. Vice President
Manager, Engineering & Environmental Group

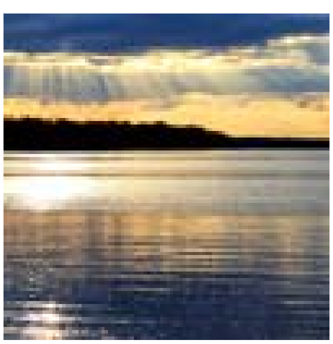
EXECUTIVE SUMMARY

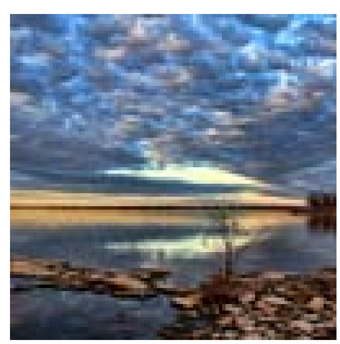
The Oklahoma Water Resources Board (OWRB) was established in 1957 to “manage, protect, and improve the water resources of the state and plan for Oklahoma’s long range water needs.” This planning has included the identification of potential reservoir sites that were never developed nor studied by the Oklahoma Water Resources Board (OWRB), Bureau of Reclamation (BOR), United States Army Corps of Engineers (USACE), Natural Resources Conservation Service (NRCS), and other public or private agencies. Maps prepared by the OWRB in 1966, 1980, and updated in 1995 show over 100 potential reservoirs within the State.

Consistent with the OWRB mission, a new *Oklahoma Comprehensive Water Plan* is scheduled to be completed in 2011. As a companion to this comprehensive plan, the OWRB engaged C.H. Guernsey & Company (GUERNSEY) to assess the viability of major reservoirs proposed essentially since statehood. The main objective of the study is to identify those potential reservoirs that should continue to be included in future OWRB planning processes.

The principal elements of the viability study include:

- An extensive literature search to locate documents pertinent to potential reservoirs.
- Identification of criteria that determines a reservoir’s viability.
- Creation of a database to store the essential elements of information (EEIs) for each potential site.
- Evaluation of every identified potential reservoir site.
- Geographic Information System (GIS) mapping of the most viable sites.
- Aerial photograph and map reconnaissance of lake sites to identify cost drivers.
- Screening of environmental, cultural and endangered species issues.
- Estimates of construction costs on a consistent cost basis.
- Creation of an extensive bibliography including electronic copies of key documents.
- Assistance with the creation of a website to make the viability study data accessible to interested parties.
- Identification of five categories of viability.
- Identification of 39 reservoirs having the highest potential likelihood of development (Category 4).





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1.0 INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

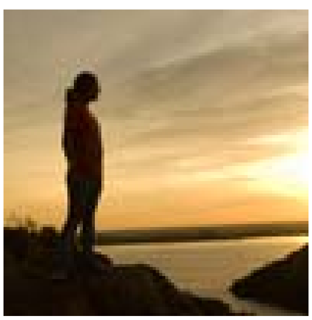
The State of Oklahoma is no stranger to surface water development. Since statehood and particularly in the 1960s, 1970s, and 1980s a substantial number of potential reservoir sites were evaluated in Oklahoma and many major projects were actually built. As early as 1919, Lake Overhoser was impounded in Oklahoma City and in 1922 Mountain Lake was constructed as a water supply for Ardmore, Oklahoma. Many other impoundments followed and today Oklahoma has 55,646 miles of shoreline and an impressive 1,401 square miles (sq mi) of water surface.

On April 1, 1980, the Oklahoma Water Resources Board (OWRB) issued the *1980 Oklahoma Comprehensive Water Plan* (OCWP). The plan envisioned a series of reservoir sites and extensive conveyance systems from southeast Oklahoma to central and northwest areas of the state. By the late 1980s, however, much of the local and state planning efforts were completed and federal interest in reservoir funding had decreased. Now, almost 30 years later, many communities are updating their water supply master plans. In addition, there are current realities that make it timely to re-evaluate surface water options.

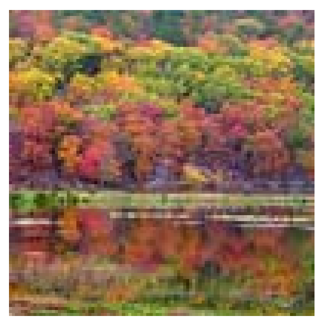
- **Groundwater Issues -** A significant number of communities are facing nitrate, arsenic, and other contamination issues with their groundwater supplies. This potentially could make surface water sources more attractive.

- **Demand –** 20 to 30 years of growth have taxed some existing systems and projected future growth will only increase the demands. Communities are now seeking to secure their water future…and surface water is a clear option.

- **Regionalization -** In the 1980s there was not much interest in regionalization, inter-basin transfer, or partnering. There are exceptions, but historically, municipalities desired control and ownership of their water supplies. Today there is a decided move towards cooperative efforts to finance projects and gain economy-of-scale benefits.



- **Quality-of-Life Benefits -** Reservoir beneficial uses can obviously be water supply, flood control, fish and wildlife, hydropower, etc. There is also a strong attraction to recreation and economic development benefits associated with impoundments.



- **"Stimulus" Funding –** As in the 1970s and 1980s, there appears to be renewed federal interest in assisting the states and municipalities in the implementation of public works projects.

In the mid-1960s, and in the *1980 Oklahoma Comprehensive Water Plan,* numerous proposed/potential reservoirs were identified within the State of Oklahoma. Some of these reservoirs were terminal/storage reservoirs that might be used in conjunction with water conveyance from eastern Oklahoma to western Oklahoma. Other sites were standalone reservoirs that would capture water from a given watershed and become its own sustainable source of water supply. The map published in 1966 is presented as Figure 1 and the map showing the 1980 water conveyance plan and proposed reservoirs is shown as Figure 2.

1.2 PURPOSE

The 1966 OWRB potential reservoir map and the 1980 and 1995 *Comprehensive Oklahoma Water Plans* or plan updates identified potential reservoir sites. Between these publishing dates of these documents, some identified sites have been deleted while others have been added. Some of the potential reservoir sites have poor feasibility or are unfeasible, some have little or no remaining documentation, and some are too remote from population or demand centers to warrant further consideration. It is the purpose of this study to:

- Gather existing data on potential reservoir sites (if available)
- Populate a database of essential elements of information concerning the sites
- Identify issues that affect the feasibility of the sites
- Provide guidance as to which reservoirs should be included in future comprehensive planning efforts
- Assist in the formulation of a website to make potential reservoir information available to interested citizens or entities

1.3 DETAILED SCOPE OF SERVICES

This is primarily a *Level 1* study. In this level of analysis, the "universe" of options was documented and the candidates examined to provide the OWRB, the State Legislature, and the potential sponsor with guidance as to the characteristics of the potential sites. When a specific need is quantified, usually two to five (or more) alternatives should be considered. A *Level 2* study would provide sufficient engineering, environmental, water quality, and cost data to select among the available options. At *Level 3*, the selected site would be subjected to preliminary design, geotechnical, and detailed financial analysis to confirm feasibility. The scope of this study included the following tasks:

Task 1: Address Project Pre-planning Activities – C. H. Guernsey & Company (GUERNSEY) professionals reviewed and gathered preliminary project information prior to participation in the kick-off meeting. Additionally, key team members met in advance to discuss project strategy and methodology.

Task 2: Participate in Kick-off Meeting/Goals and Objectives Workshop – GUERNSEY professionals participated in a kick-off meeting that formulated the direction of the project, addressed scope activities, identified the budget, and determined the go-forward schedule. The OWRB and GUERNSEY professionals discussed the macro goals and objectives of the planning process and also brainstormed any sensitivities, political issues, collateral opportunities and secondary goals and objectives (G&Os). The focus of this session was to make an early determination of how success would be measured on this project.

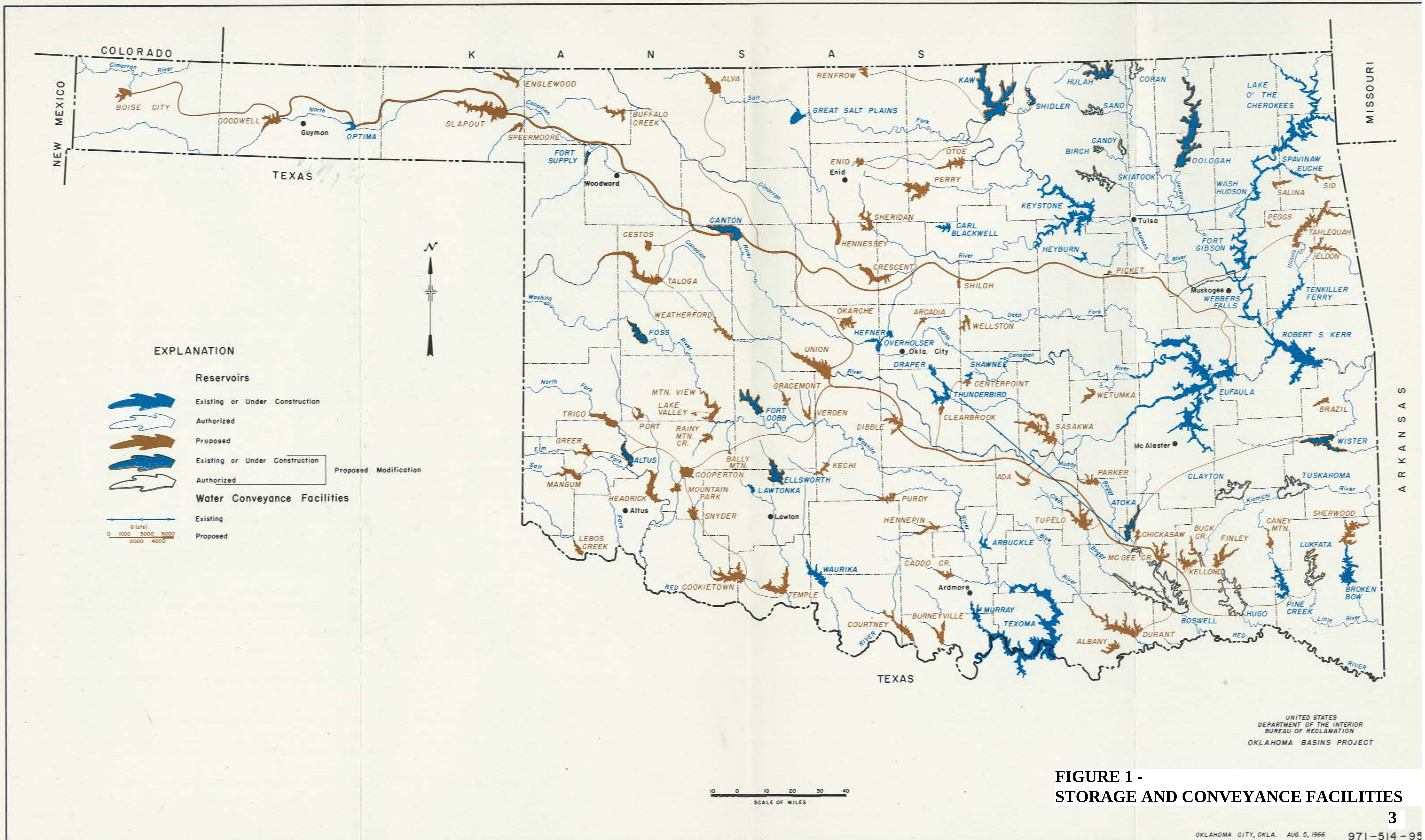


FIGURE 1 -
STORAGE AND CONVEYANCE FACILITIES

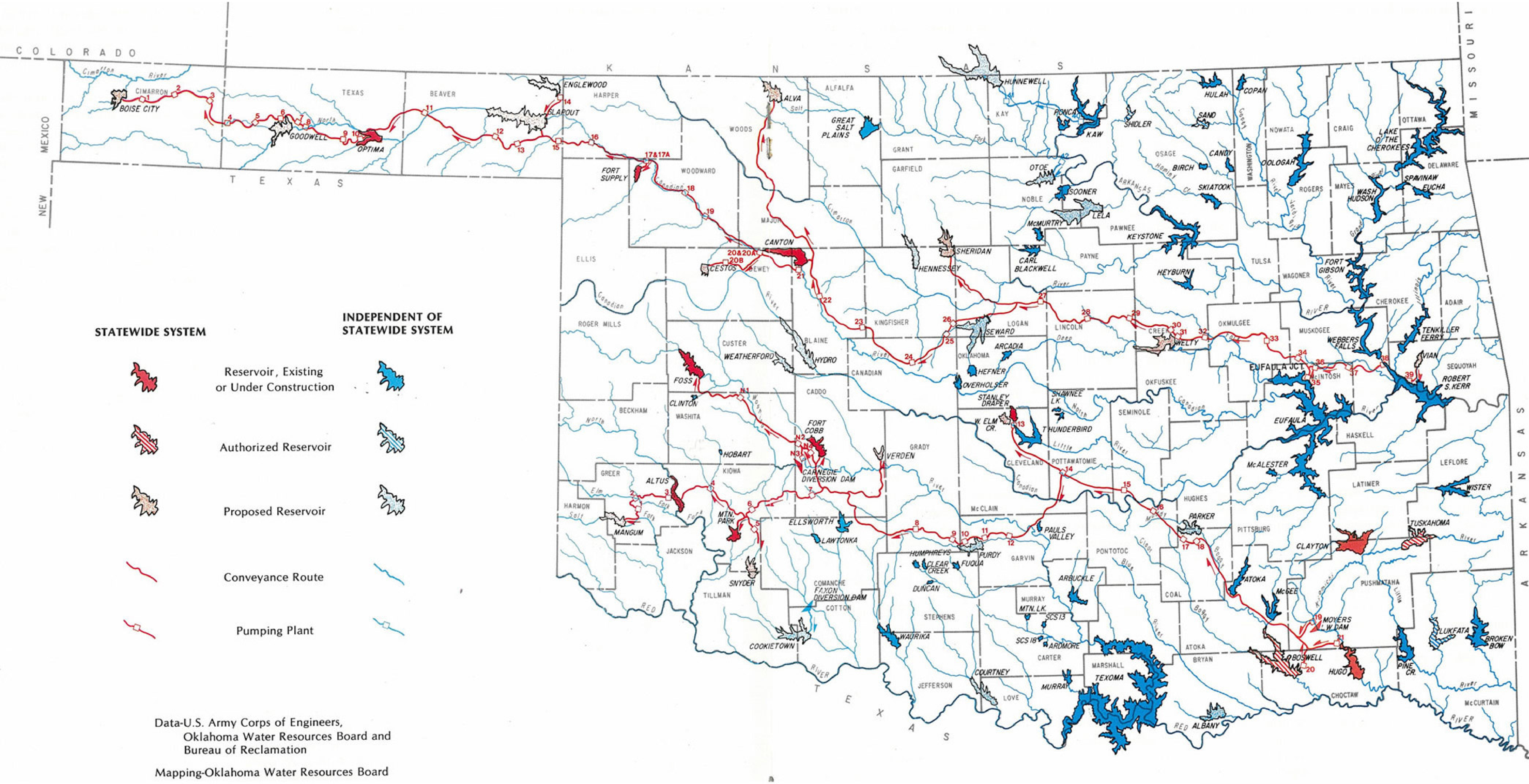


FIGURE 2 -
STATEWIDE WATER CONVEYANCE SYSTEM
Including Proposed Local Projects

Task 3: Acquire Data – Amongst the Natural Resources Conservation Service (NRCS), US Army Corps of Engineers (USACE), OWRB, municipalities, the Bureau of Reclamation (BOR), and others, there have been dozens of reservoir-related documents produced. In the mid 1980s for example, the USACE—Tulsa District, performed extensive analysis of water demands and potential surface water supplies in all of Oklahoma's principal water basins. The GUERNSEY team collaborated with all applicable agencies and obtained both paper and partial electronic copies of the documents.

To obtain updated information on other reservoir characteristics, GUERNSEY contacted various local, state, and federal agencies to determine existing conditions. Contacts were made with various agencies to obtain data regarding water quality, threatened and endangered (T&E) species, wetlands, cultural resources, and other important data sets. Agencies contacted included:

- Oklahoma Department of Environmental Quality (ODEQ)
- US Geological Survey (USGS)
- US Fish and Wildlife Service (USFWS)
- State Historic Preservation Officer (SHPO)
- State Archaeologist
- Oklahoma Biological Survey (OBS)

Task 4: Develop the Oklahoma Surface Water Database – When the information in Task 3 was acquired, it was cataloged and stored in an electronic archive. This provided a consolidated repository of surface water data that is easily accessed by location, reservoir name, county, or drainage basin.

Task 5: Identify Oklahoma's Surface Water Opportunities – Using Figures 1 and 2 and with the data contained in the surface water database, GUERNSEY prepared a graphic of all significant water supply or multi-use reservoirs in the State that exceed a yield of 5 million gallons per day (MGD). Using 1:100,000 scale USGS topographic maps, GUERNSEY back checked that no obvious reservoir sites have gone unidentified and/or unreported. Source information came primarily from the OWRB, USACE, BOR, and NRCS.

Task 6: Tabulate the Characteristics of the Potential Reservoirs – For identified reservoir sites, GUERNSEY tabulated all, if available, data including:

- Location
- Source document(s)
- Dam length
- Pool elevations
- Area within the reservoir boundary
- Drainage area
- Estimated cost and year of the estimate
- Involved agencies
- Beneficial uses
- Dependable yield
- Probable maximum flood
- Identified issues or constraints
- Water quality data

- Area-capacity curves
- Identified issues
- Report conclusions

Task 7: Analyze Parametric Characteristics of Reservoirs – Some potential sites have been studied minimally. For these reservoirs, GUERNSEY used a combination of topographic measurements, rainfall data, runoff estimates, USGS geological information, and parametric cost data to provide a relatively quick estimate of the data listed in Task 6 above.

Task 8: Perform Reservoir Cost Modeling – Cost estimates in some cases were available and in some cases were not available. Most estimates that do exist are 20+ years old. To estimate the cost of the reservoirs so that comparisons could be made on an equal basis, GUERNSEY created an Oklahoma-specific Excel model that provides conceptual level estimates from the following source data:

- Typical concrete or earthfill dam cross sections
- Assumptions concerning geology and borrow availability
- Dam length
- Dam height
- Spillway gate configurations
- Surface area of the reservoir boundary
- Regional land costs
- Embankment volumes
- Contingencies
- Wetlands mitigation
- Factored estimates for appurtenances (roads, intake, recreation facilities, etc.)

This cost model is for comparison and planning use…significant additional estimating must be performed to confirm reservoir feasibility. Where previous estimates are available, GUERNSEY used Engineering News Record (ENR) and USACE cost factors to escalate the estimates to current dollars. The deliverable from this task is a unit cost per acre-foot of storage.

Task 9: Perform Aerial Photograph and Topographic Map Reconnaissance – Members of the GUERNSEY team studied aerial photographs and topographic maps of the reservoir sites and the associated upstream and downstream drainage basins to determine if:

- Development has occurred in the area to be impounded
- Areas downstream of the potential dam pose a risk from a breech standpoint
- Obvious archeological/cultural resources, cemeteries, environmental and/or wetlands exist
- Highways, railways, electric/other utilities, or oil and gas pipelines are a hindrance to reservoir development
- Any environmental conditions are present in the watershed that could adversely impact water quality

Task 10: Conduct Early Fatal Flaws Analysis – By this stage of the analysis, adequate information was available to eliminate reservoir sites that have little or no chance of implementation. These fatal flaws included:

- Cost
- Insufficient yield
- Poor water quality
- Contamination
- Encroachment/land use
- Unsuitable geology/soils
- Location
- Environmental issues
- Biological resources
- Archeological or cultural issues

GUERNSEY identified these reservoir sites, and in conjunction with Task 11 below, presented the findings in a mid-project meeting with the OWRB staff.

Task 11: Develop a Weighted Matrix – GUERNSEY used the American Consulting Engineer Council (ACEC) and the American Institute of Architects (AIA) Value Engineering Weighted Matrix approach to determine what parameters are important in the evaluation of reservoirs. GUERNSEY and the OWRB staff systematically ranked the objective and subjective criteria for evaluation of the reservoir sites. This approach permits both objective and subjective criteria to receive a numerical value and increases the objectivity of the evaluation.

Task 12: Conduct a Weighted Matrix Evaluation – GUERNSEY did not numerically rank each of the reservoir sites. It was determined that future events could significantly affect the viability of a reservoir. For example, some reservoir sites do not presently appear to have a "sponsor." Should a municipality or another entity decide to sponsor a particular project…then the feasibility will substantially increase. ***The study did result in five broad categories. Category 4 is a feasible site; Category 3 is a questionably feasible site; Category 2 is a reservoir that is unlikely to be constructed; Category 1 is a reservoir where too little data is available; and Category 0 is a reservoir where no data exists (or has been identified) besides a point on a map.***

Task 13: Develop www.futureoklahomareservoirs.com – As part of the Oklahoma Surface Water Database described in Task 5, GUERNSEY is working with OWRB staff to create an interactive map of Oklahoma surface water options. Clicking on the reservoir will bring up the characteristics (Task 6), the category (Task 12), links to additional information, and a brief narrative. This website will be a resource to the communities, OWRB, the State Legislature, and associated water agencies.

Task 14: Prepare Draft Reservoir Viability Report – GUERNSEY prepared a draft report for review by the OWRB. This draft report is organized as shown in the table of contents.

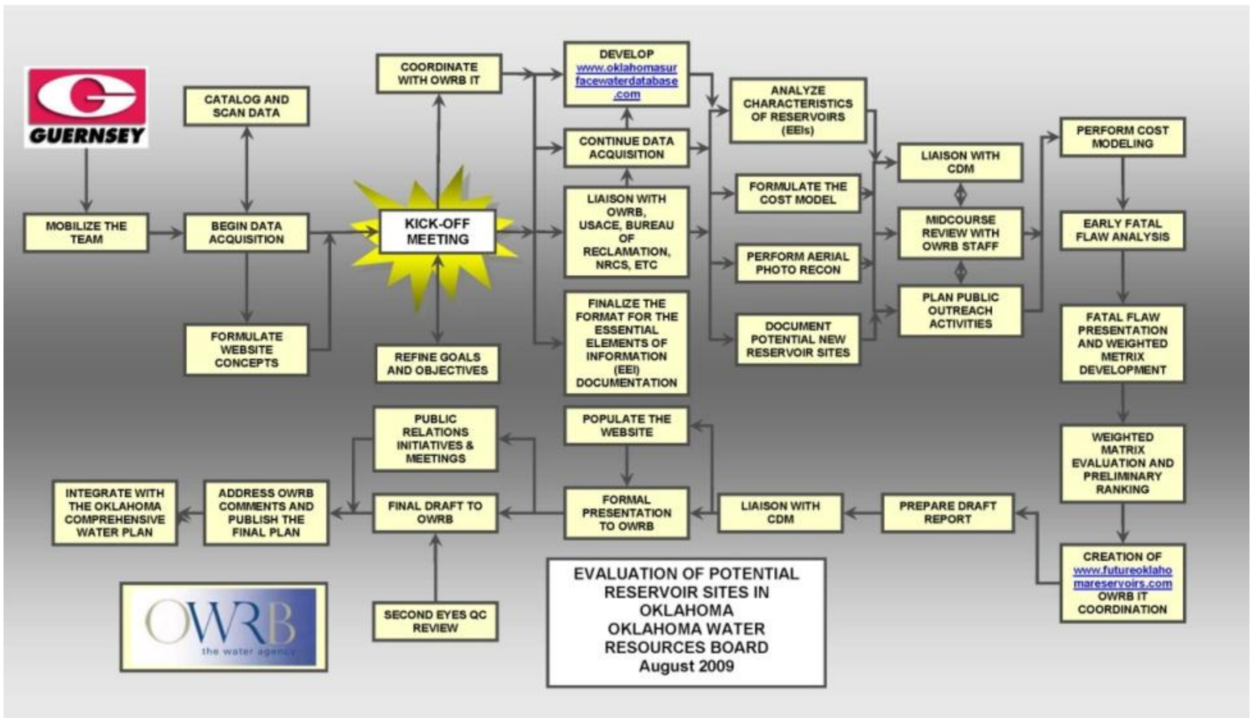
Task 15: Present Findings to OWRB – GUERNSEY will present the findings of the draft report to OWRB in Microsoft PowerPoint format. Input on the study findings prior to finalizing the report will be solicited from OWRB.

Task 16: Address OWRB Comments and Prepare Final Reservoir Viability Report – GUERNSEY will address consolidated comments from OWRB on the draft report and prepare a final report.

1.4 PROJECT FLOW/INTERACTION

A flowchart (Figure 3) is provided to generally depict how the viability study progressed and reflects interacting and dependent activities.

FIGURE 3 – PROJECT FLOWCHART



2.0 STUDY METHODOLOGY

This study consisted of numerous activities designed to effectively collect and analyze an extensive library of surface water data. The activities included the following:

2.1 KICK-OFF MEETING

This meeting focused on gathering OWRB staff input and informing all parties of the key project requirements. Project goals and objectives (G&Os) were identified and included:

- Identify the potential end-users of this study and format the deliverables to be as responsive as possible to their needs. The potential end-users were deemed the OWRB, Oklahoma State Legislature, state and federal agencies, educational institutions, municipalities, corporate entities, Native American tribes, municipalities, developers, engineering firms, lawyers/law firms, civic groups, landowners, utilities including rural water districts, and interested citizens.
- Collect the majority of existing information pertaining to past studies for reservoir sites in Oklahoma.
- Liaison with entities dedicated to the beneficial use of water in Oklahoma. Obtain documentation, perspective, and insight from agencies such as the OWRB, BOR, NRCS, the USACE, and others.
- Catalog and populate an internet accessible database with information to provide future interested parties with a "one-stop-shop" for Oklahoma potential reservoir information.
- Condense the collected data into a summary of the essential elements of information (EEIs) necessary to perform a broad-based evaluation of the relative viability of the proposed projects.
- Create a cost model or factored cost estimate based on the EEIs that put all the reservoir sites on a normalized cost basis for evaluation.
- For the sake of cost effectiveness, perform an "Early Fatal Flaws Analysis" to eliminate any obviously low feasibility reservoir projects from further mapping or study.
- Coordinate activities periodically with the OWRB, and their 2011 comprehensive planning engineering consultant, Camp Dresser and McKee (CDM) to gain synergy and collaboration while concurrently avoiding duplication of effort.
- Identify from a map reconnaissance any obvious reservoir sites that may not have been studied, but that may have reasonable potential.
- In conjunction with the OWRB staff and CDM, create a weighted matrix that defines the relative importance of reservoir characteristics and guides the future objective and subjective evaluation of Oklahoma reservoirs.
- Present to selected organizations to inform end users of the types of information available.
- Populate an internet accessible database that documents the study findings. Organize the website in a manner that complements the OCWP website.
- Produce the report and websites in a graphic style that is consistent with the recent OWRB work products.
- Optimize communication among stakeholders to keep the OWRB staff informed, but with a minimum of inefficiency/disruption.
- Work with the objective of making this project enjoyable and professionally rewarding.

Appendix A presents the agenda and meeting notes for the kick-off meeting.

2.2 RESERVOIR DATA COLLECTION

Data collection is the foundation for this study. A significant number of the studies occurred in the 1970s and 1980, although there were studies located as far back as the 1940s and earlier. To give an indication of the challenge of data retrieval, many of the reports were handwritten. Some of the reports are the only known remaining copies. Copying consisted of carbon paper, mimeographs or "onion-skin" thermal fax copying. Some OWRB reports show water damage from the 1995 Murrah bombing aftermath. Most are fragile and irreplaceable. Fortunately, this OWRB effort has served to preserve and electronically archive a good number of the documents.

The bulk of the reservoir studies reside in three places including the OWRB, BOR, and USACE. The data collection efforts at each of these agencies is briefly described below. Oklahoma water is also significantly influenced by the work of the NRCS and is also described below.

- **OWRB –** As the sponsor of this study effort, the OWRB provided full access to the archives (see photo at right). In addition, the planning department staff provided valuable insight into the history of Oklahoma water supply planning. Two days were spent in the archives and received indoctrination into the realities of reservoir data retrieval. Optimally, a single document describes a reservoir. For high priority projects or sites where there was particular interest, there may be a series of documents or studies increasing in level of detail. For many of the reservoirs the pertinent data is contained in a regional planning document. Some reservoirs may have been studied under different names at different times. Some reservoir studies include multiple dam locations or multiple dam configurations/beneficial uses. Occasionally there will be conflicting data for the same dam location and the same basic reservoir configuration. Given all of these variables, the data search consisted of physically examining every report in the archives. If a document remotely pertained to potential reservoir sites, the cover was photographed and the document boxed and transported to a designated "war room." This process resulted in some duplication, but also insured a level of completeness. Note, prior to the age of digital copying, only a limited number of report copies were produced. Over the decades an unknown number of these reports were lost, discarded or are not readily accessible. This is true not only at the OWRB, but also at all of the other agencies contacted. It is remarkable that a considerable number of reports still exist.

- **BOR –** The BOR was very organized and extremely helpful. In the past, the BOR hired librarians and/or archivists to electronically scan covers and executive summaries of the majority of their studies. When given a list of key words, they were able to query a database and provide the one to five page report summaries to the GUERNSEY staff. GUERNSEY then culled the list and formally requested the most promising reports. An attempt was made to crosscheck the documents from various sources (OWRB, USACE, etc.) to insure that duplication was minimized. The various reports were collected from three BOR locations (Billings, Montana; Oklahoma City, Oklahoma; and Austin, Texas) and were sent to the Oklahoma City BOR office. From there, the documents were cataloged and transported to the GUERNSEY project “war room.”

- **USACE –** The staff of the USACE was extremely helpful, provided the GUERNSEY representative with full access to the archives, and provided the assistance of a new hire to catalog the search results. As with the OWRB archives, it was necessary to physically examine every report to determine if the study was germane to the project. Procedurally, it was also necessary to formally request the documents through the Freedom of Information Act (FOIA). Appendix B provides the correspondence involved with this transaction.

- **NRCS –** The NRCS (formerly the Soil Conservation Service [SCS]), has had a major impact on Oklahoma surface water development. This agency is best known for erosion control, flood control and watershed management…but is also responsible for significant water supply projects such as Wes Watkins Reservoir and Pauls Valley Reservoir. The GUERNSEY staff met with key representatives of the NRCS and determined that no future reservoir sites were candidates for potential water supply over 1 MGD.

Table 1 presents a listing of all reservoirs studied.

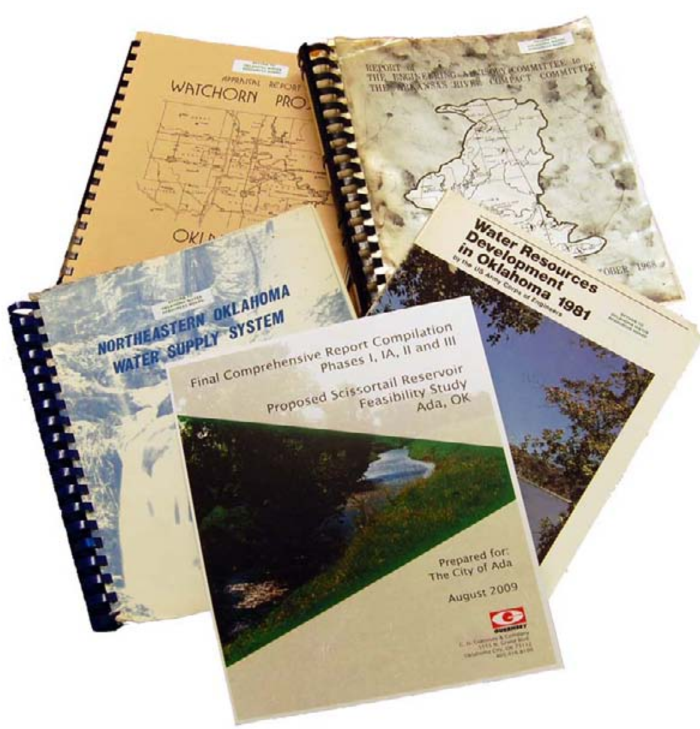


TABLE 1 - ALPHABETICAL LISTING OF ALL POTENTIAL RESERVOIR SITES STUDIED

Reservoir Name	Region	Occupied Counties	When First Identified
Albany Lake	Blue Boggy	Bryan	1966 Oklahoma Basins Map
Alva Reservoir also known as the Alva Project	Upper Arkansas	Woods	1966 Oklahoma Basins Map
Asher Lake	Central	Pontotoc and Potawatomie	1988 Report
Atlee Lake	Lower Washita	Jefferson	1995 Report
Atwood Reservoir	Central	Hughes and Pontotoc	1995 Report
Bally Mountain Reservoir	Beaver Cache	Kiowa	1966 Oklahoma Basins Map
Bennington Reservoir also known as Durant Reservoir	Blue Boggy	Bryan	1975 Report
Big Creek Lake	Middle Arkansas	Nowata and Craig	1995 Report
Boise City Reservoir	Panhandle	Cimarron	1966 Oklahoma Basins Map
Boley Reservoir	Central	Seminole and Okfuskee	1988 Report
Boswell Lake (Alternative D)	Blue Boggy	Choctaw	1966 Oklahoma Basins Map
Boynton Lake	Middle Arkansas	Muskogee	1995 Report
Brazil Lake	Lower Arkansas	LeFlore	1982 Report
Buck Creek Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map
Buffalo Creek Reservoir	Panhandle	Harper	1966 Oklahoma Basins Map
Burneyville Reservoir	Lower Washita	Love and Carter	1966 Oklahoma Basins Map
Byng Lake	Central	Pontotoc and Seminole	1988 Report
Caddo Creek Reservoir	Lower Washita	Carter	1966 Oklahoma Basins Map
Candy Lake	Middle Arkansas	Osage	1966 Oklahoma Basins Map
Caney Mountain Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map
Centerpoint Lake	Central	Pottawatomie	1966 Oklahoma Basins Map
Cestos Reservoir	Panhandle	Dewey	1966 Oklahoma Basins Map
Chelsea Reservoir	Grand	Mayes	1986 Report
Chickasaw Lake	Blue Boggy	Atoka	1966 Oklahoma Basins Map
Chickasha Reservoir	Lower Washita	Grady	1951 Report
Clearbrook Reservoir	Central	Cleveland	1966 Oklahoma Basins Map
Cookietown Reservoir also known as the Cache Creek Project	Beaver Cache	Cotton and Tillman	1966 Oklahoma Basins Map
Coopertown Reservoir	Southwest	Kiowa	1966 Oklahoma Basins Map
Courtney Reservoir, also known as the Criner Hills Project	Lower Washita	Love and Jefferson	1966 Oklahoma Basins Map
Cox City Lake	Lower Washita	Grady	1981 Report
Crescent Reservoir	Central	Logan	1966 Oklahoma Basins Map
Davenport Reservoir	Central	Lincoln	1988 Report
Davis Lake	Lower Washita	Murray	1995 Report
Dibble Reservoir	Central	McClain	1966 Oklahoma Basins Map
Durwood Reservoir	Lower Washita	Johnston	1951 Report
Eldon Lake	Lower Arkansas	Cherokee and Adair	1966 Oklahoma Basins Map

Reservoir Name	Region	Occupied Counties	When First Identified
Englewood Reservoir	Panhandle	Beaver	1966 Oklahoma Basins Map
Enid Reservoir	Upper Arkansas	Garfield	1966 Oklahoma Basins Map
Fallis Lake	Central	Lincoln	1988 Report
Finley Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map
Forgan Reservoir	Panhandle	Beaver	1991 Report
Gainsville Reservoir	Lower Washita	Love	1995 Report
Geronimo Reservoir	Beaver Cache	Comanche	1970 Report
Goodwell Reservoir	Panhandle	Texas	1966 Oklahoma Basins Map
Gracemont Reservoir	Lower Washita	Caddo	1973 Report
Greasy Reservoir	Lower Arkansas	Adair	1985 Report
Greer Reservoir	Southwest	Greer	1966 Oklahoma Basins Map
Hackett Lake	Lower Arkansas	LeFlore	1982 Report
Headrick Lake also known as Navajo Reservoir	Southwest	Jackson and Kiowa	1966 Oklahoma Basins Map
Hennepin Reservoir, also known as Criner Hills Project	Lower Washita	Garvin and Carter	1966 Oklahoma Basins Map
Hennessey Reservoir	Central	Kingfisher	1966 Oklahoma Basins Map
Higgins Reservoir also known as the Wilburton Project	Eufaula	Latimer	1973 Report
Holson Creek Reservoir (Option B, Plan 12)	Lower Arkansas	LeFlore	1999 Report
Hunnewell Reservoir	Upper Arkansas	Kay	1980 Statewide Water System Map
Hydro Reservoir also known as the Geary Project and Minco Project	West Central	Blaine, Custer, and Dewey	1980 Statewide Water System Map
Iron Mound Reservoir also known as the Seward Project	Central	Logan and Oklahoma	1981 Report
Kechi Reservoir	Lower Washita	Grady	1966 Oklahoma Basins Map
Kellond Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map
Kendrick Lake	Central	Lincoln	1988 Report
Lake Valley Reservoir	West Central	Washita	1966 Oklahoma Basins Map
Lebos Lake	Southwest	Jackson	1966 Oklahoma Basins Map
Lela Reservoir also referred to as the Watchorn Project or Pawnee Reservoir	Upper Arkansas	Pawnee and Noble	1980 Statewide Water System Map
Little River Reservoir	Central	Pottawatomie	1988 Report
Lukfata Lake	Southeast	McCurtain	1966 Oklahoma Basins Map
Mangum Reservoir (Lower Mangum Damsite)	Southwest	Greer	1966 Oklahoma Basins Map
Mangum Reservoir also known as the Upper Mangum Site	Southwest	Greer	1966 Oklahoma Basins Map
Morse Lake	Central	Okfuskee	1988 Report
Mountain View Reservoir	West Central	Washita	1966 Oklahoma Basins Map
Navina Reservoir also known as the Seward Project, also termed the Lower Navina Site	Central	Logan, Kingfisher, and Oklahoma	1981 Report
Non Lake	Blue Boggy	Coal	1988 Report
Nuyaka Reservoir	Eufaula	Okmulgee	1985 Report
Oakwood Reservoir	West Central	Dewey	1981 Report

Reservoir Name	Region	Occupied Counties	When First Identified
Okarche Reservoir	Central	Canadian	1966 Oklahoma Basins Map
Otoe Lake	Upper Arkansas	Noble	1966 Oklahoma Basins Map
Paden Lake	Central	Okfuskee	1988 Report
Parker Lake	Blue Boggy	Coal and Hughes	1966 Oklahoma Basins Map
Pawnee Reservoir	Upper Arkansas	Pawnee	1985 Report
Peaceable Reservoir	Eufaula	Pittsburg	1995 Report
Pecan Creek Reservoir	Central	Pottawatomie	1988 Report
Peggs Lake	Grand	Cherokee	1966 Oklahoma Basins Map
Perkins Lake	Upper Arkansas	Lincoln, Logan, and Payne	1991 Report
Perry Reservoir	Upper Arkansas	Noble	1966 Oklahoma Basins Map
Picket Reservoir	Middle Arkansas	Creek	1966 Oklahoma Basins Map
Port Lake	Southwest	Washita	1966 Oklahoma Basins Map
Purcell Reservoir also named Muncrief Dam (alternative to the Dibble site)	Central	McClain	1972 Report
Purdy Reservoir	Lower Washita	Garvin	1966 Oklahoma Basins Map
Quapaw Lake also known as Meeker Reservoir	Central	Lincoln	1988 Report
Rainy Mountain Creek Reservoir	West Central	Kiowa	1966 Oklahoma Basins Map
Ravia Reservoir	Lower Washita	Johnston	1969 Report
Renfrow Reservoir	Upper Arkansas	Grant	1966 Oklahoma Basins Map
Salina Reservoir	Grand	Mayes	1995 Report
Sand Reservoir	Middle Arkansas	Osage	1966 Oklahoma Basins Map
Sandy Creek Reservoir	Blue Boggy	Bryan and Johnston	1995 Report
Sasakwa Reservoir	Central	Seminole	1966 Oklahoma Basins Map
Scissortail Reservoir also known as the Ada site	Central	Pontotoc	1995 Oklahoma Comprehensive Water Plan
Seward Reservoir also known as the Seward Project	Central	Logan and Oklahoma	1980 Statewide Water System Map
Sheridan Reservoir	Upper Arkansas	Kingfisher	1966 Oklahoma Basins Map
Sherwood	Southeast	McCurtain	1966 Oklahoma Basins Map
Shidler Lake	Upper Arkansas	Osage	1966 Oklahoma Basins Map
Shiloh Reservoir	Upper Arkansas	Logan	1966 Oklahoma Basins Map
Sid Lake	Grand	Delaware	1995 Report
Skeleton Reservoir	Upper Arkansas	Logan	1985 Report
Slapout Reservoir	Panhandle	Beaver	1966 Oklahoma Basins Map
Snyder Lake	Beaver Cache	Tillman and Kiowa	1966 Oklahoma Basins Map
Speermore Reservoir	Panhandle	Beaver	1966 Oklahoma Basins Map
Spring Creek Reservoir	Central	Pontotoc	1988 Report
Steedman Lake	Blue Boggy	Pontotoc	1988 Report
Tahlequah Reservoir	Lower Arkansas	Cherokee	1966 Oklahoma Basins Map
Taloga Reservoir	West Central	Dewey	1966 Oklahoma Basins Map
Tate Mountain Reservoir	Central	Seminole	1988 Report

Reservoir Name	Region	Occupied Counties	When First Identified
Temple Reservoir	Beaver Cache	Cotton	1966 Oklahoma Basins Map
Trico Lake	Southwest	Greer, Kiowa, and Beckham	1966 Oklahoma Basins Map
Tupelo Lake	Blue Boggy	Coal	1966 Oklahoma Basins Map
Tuskahoma Lake	Southeast	Pushmataha and LaFlore	1966 Oklahoma Basins Map
Tuskegee Lake	Central	Okfuskee	1988 Report
Union Reservoir also known as the Geary Project and Minco Project	Central	Canadian and Grady	1966 Oklahoma Basins Map
Vanoss Lake	Central	Pontotoc	1988 Report
Verden Reservoir	Lower Washita	Caddo	1966 Oklahoma Basins Map
Vian Reservoir	Lower Arkansas	Sequoyah	1980 Statewide Water System Map
Weatherford Reservoir also known as the Geary Project and Minco Project	West Central	Custer, Canadian, and Grady	1966 Oklahoma Basins Map
Weleetka Reservoir also known as Hickory Ridge Reservoir	Central	Okfuskee	1995 Report
Wellston Lake	Central	Lincoln	1966 Oklahoma Basins Map
Welty Lake	Central	Creek	1980 Statewide Water System Map
West Elm Creek Reservoir also termed West Elm Lake	Central	Cleveland	1980 Statewide Water System Map
Wetumka Reservoir	Eufaula	Hughes	1966 Oklahoma Basins Map

2.3 SUPPORTING DATA COLLECTION

A basic purpose of this study is to refine the list of potential reservoir sites to include only those viable enough to be included in the *2011 Oklahoma Comprehensive Water Plan*. To determine if issues might adversely affect the viability of a particular site, other relevant data were acquired. These data were collected from a variety of sources to address T&E species, wetlands, cultural resources, land use, etc. These sources included:

- ODEQ
- USGS
- USFWS
- SHPO
- State Archaeologist
- OBS

2.4 DATABASE CREATION

A Microsoft Access Database was created to collect what are termed the EEIs. This is all the information necessary (or available) to characterize and define a potential reservoir. A database was used to sort the data in any manner that assists in the planning process. An example data entry form is shown below to illustrate the types of data collected.

EXAMPLE DATA ENTRY FORM

Reservoir Data Report

Reservoir Name	Albany Lake
Agency	U.S. Army Corps of Engineers, Tulsa District
Location	Bryan County 16 miles southeast of Durant, OK and 1.5 miles southwest of Albany, OK
Primary Study Document(s)	Comprehensive Basin Study, Red River below Denison Dam, Arkansas, Louisiana, Oklahoma and Texas, Interim Survey Report, Albany Lake, Island Bayou, Oklahoma
Primary Study Date	04/19/78
Region:	Blue Boggy
Basin	13-Red River Mainstream (To Washita)
Streams	Island Bayou @ river mile 6.5
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	134
Lat/Long or Section	Section 8 & 17, T 8 S R 11 E
Dam Type	rolled earth embankment with 28' crest width

Cons. Sto. Surface Area (AC)	4,960	Dependable Yield (AF)	35,847
Dam Crest Elevation	549.00	Max Surface Area (AC)	11,670
Dam Length (FT)	10,500	Dam Height (FT)	79
Embankment Volume (CY)	2,460,000	Flood Pool Elevation	526.5
Valley Wall Length (FT):	5,176	Top of Sed. Pool Elev.	
Max Water Surface Elev.	544.9	Top of Dead Pool Elev.	489
Recreation Boundary (AC)	12,200	Top of Cons. Pool Elev.	517

Spillway	400' wide limited spillway and a 6.5' diameter gated conduit

Spillway Elevation(s)	533	Power Pool Elevation	
Total Storage (AF)	147,100	Surcharge (AF)	
Conservation Pool Storage (AF)	85,200	Flood Control Storage (AF)	55,100
Sediment Storage (AF)	6,800	Dead Storage (AF)	
Previous Cost Estimate	$27,100,000	Year of Cost Estimate	01/1978

Geology	
Water Quality	High turbidity and Phosphates and Mercury noted in testing. Report on Southeast Oklahoma Water Supply Study, BOR, September 1987 indicates suitable water with standard treatment.
Grouping:	4
Issues	Also: Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988. Above referenced report shows power as a beneficial use and approximately twice the capacity.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Not near a population center Low cost per unit storage

Appendix C provides all the data sheets developed for the reservoirs. Appendix D presents the stream basin designations.

2.5 DATA SELECTION

As mentioned previously, some of the reservoirs were studied in multiple configurations or with several dam locations. Some were evaluated for multiple beneficial uses. In some cases, conflicting information exists in two or more places for the same reservoir. To choose among multiple options, these guidelines were followed:

- If a selected plan was recommended in the source report, the data for that option was used.
- If more data exists for one particular option, then that option was used (this occurred in several BOR reports).
- If subsequent reports were published for the same reservoir, then the latest data was used.
- In the absence of any of the above criteria, engineering judgment was used and a reasonably conservative option selected.

2.6 DATA SUFFICIENCY

The primary scope of this study is to consolidate existing data of potential reservoir sites into a reasonably comprehensive database. Depending on the level of detail provided in the source study, there may or may not be “gaps” or “holes” in the data. When reviewing hundreds of reports gaps were filled. Where information was obtained from multiple sources, the database was annotated with citations for each source. This methodology does, however, result in somewhat of a “mix-and-match” of data. In a number of instances, there are significant gaps in the amount of data available. These “insufficient data” or “no data” sites will be discussed in subsequent sections of this report.

2.7 WEIGHTED MATRIX FORMULATION

The original concept of this study was to acquire data and then subjectively and objectively rank the prospective reservoirs in terms of viability. As the study progressed, however, it became obvious that viability can be a moving target and that future events can drastically change the rankings. For example, an unforeseen increase in demand, or an emerging sponsor for the project can make virtually any reasonable project viable. It is not the purpose of this study to discourage beneficial surface water development. The weighted matrix approach is, however, a proven and valuable method of making evaluations as objective as possible. Therefore, it was decided that a weighting would be developed as a guideline for future consideration of reservoirs by interested entities. A meeting was held with OWRB to address the weighted matrix (Appendix E).

Proven techniques published as part of the American Consulting Engineer Council (ACEC) and American Institute of Architects (AIA), Value Engineering process were utilized. A conference of “stakeholders” including senior staff of the OWRB and CDM was convened to identify the perfect Oklahoma reservoir. The characteristics included:

- Has multiple beneficial uses
- Is cost competitive
- Is as environmentally/culturally neutral or as positive as possible
- Is located reasonably close to demand or conveyance
- Enhances the quality of life for a significant number of people
- Provides good quality water for the intended uses
- Enhances the short-term and long-range economy of the region/Oklahoma
- Is as politically neutral or as attractive as possible
- Is safe and dependable for 100+ years

Next, the stakeholders identified criteria to assess the viability of potential projects. These criteria included:

- Unit costs
  - Construction (dam, land and appurtenances)
  - Utility relocations
  - Homeowner/business/organizational relocations
  - Relocation of cemeteries
  - Relocation of roadways/highways/railroads
  - Relocation of cities/towns
  - Mitigation of wetlands
  - Environmental mitigation
  - Historic preservation
  - Geology

- Environmental/cultural Issues not covered above:
  - T&E species
  - Critical historical/archeological sites
  - Unique habitat
- Proximity to demand and/or conveyance
- Quality of life impact
- Sponsor(s) availability
- Water quality
- Beneficial uses
  - Water supply
  - Flood control
  - Hydropower
  - Fish and wildlife
  - Recreation
  - Downstream water quality
- Political support/dissatisfaction
- Compatibility with the OCWP
- Level of net benefit (fiscal benefit to the State or number of Oklahoman's impacted/affected in a positive way)
- Ease of implementation (the best projects that can be supported, afforded and funded)

The follow-on step was to compare each criteria with all other criteria. For example, the question was asked, does criteria *Proximity to Demand* have a major, medium, minor or no preference over criteria *Quality of Life Impact*. After comparing all criteria a weighting was established. This process adds some objectivity to an evaluation that has a considerable amount of subjectivity. The results of the process are shown below in Table 2. This matrix is provided as a guideline for future assessment of potential surface water alternatives.

TABLE 2 - COMPARISON OF CRITERIA MATRIX

Reservoir Feasibility Analysis
Criteria Weighting Process

	B	C	D	E	F	G	H	I	J	K	L				Weighted Value
A	3 A / B	1 A / 1 C	3 A / D	1 A / 1 E	2 A / F	2 A / G	A / 2 H	A / 2 I	2 A / J	2 A / K	A / L	A	16	Unit costs - $ per acre ft of storage	10.0
B		B / 2 C	B / 2 D	B / 3 E	1 B / 1 F	B / 3 G	B / 2 H	1 B / 1 I	B / 2 J	1 B / 1 K	B / L	B	3	Mitigatable environmental/cultural issues	1.9
C			2 C / D	C / 2 E	2 C / F	2 C / G	C / 2 H	1 C / 1 I	2 C / J	1 C / 1 K	C / L	C	13	Proximity to demand or conveyance	8.1
D				D / 2 E	1 D / 1 F	D / 2 G	D / 2 H	1 D / 1 I	D / 2 J	D / 2 K	D / L	D	4	Quality of life impact	2.5
E					3 E / F	2 E / G	1 E / 1 H	1 E / 1 I	E / 2 J	1 E / 1 K	E / L	E	16	Sponsor(s) availability	10.0
F						F / 2 G	F / 2 H	F / 2 I	F / 2 J	1 F / 1 K	F / L	F	3	Water quality	1.9
G							G / 2 H	1 G / 1 I	G / 2 J	G / 2 K	G / L	G	8	Beneficial use	5.0
H								1 H / 1 I	H / 2 J	H / 2 K	H / L	H	14	Political support	8.8
I									1 I / 1 J	I / 2 K	I / L	I	11	Compatibility with 2011 Plan	6.9
J										J / 2 K	J / L	J	13	Level of net benefit	8.1
K											K / L	K	14	Ease of implementation	8.8
L												L	0		
												Max. Value	16		

How Important
4 Major Preference
3 Medium Preference
2 Minor Preference
1 Slight / No Preference

As shown in the matrix, unit cost and sponsor availability rank high (10.0) with political support, ease of implementation, level of net benefit and proximity to demand close behind.

2.8 CATEGORIES OF RESERVOIRS

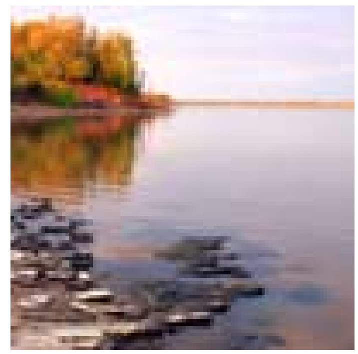
As described above, it was determined to be unproductive to rank all the reservoirs. To describe viability, however, it is necessary to place the potential sites in general categories. Five categories were identified as described below:

- **Category 0 –** Some reservoir sites were identified on the 1966 OWRB map. Basically, that is all they are, "dots on a map." Any study data has been either lost to time or has not yet been found. The candidate sites are listed in case information can be found in the future and then added to the database.

- **Category 1 –** A number of reservoir sites were briefly described in regional master plans. Some data was reported but essential elements of information such as location, dam configuration, drainage area, etc. were not available. These reservoirs may or may not be viable but there is insufficient information available for a proper determination. These reservoirs remain in the database in the hope that future reports/data will be discovered.

- **Category 2 –** Originally, this category was to include reservoirs that were "fatally flawed" and had no hope of development. This is probably too severe of an assessment in that future events could move a reservoir to another category. For example, one Oklahoma reservoir was actually at the 15% stage of construction but was halted due to a Federal lawsuit over Native American property rights. It is conceivable that in the future a Native American Tribe could remove objections and even participate as a sponsor of a water supply. In another example, a reservoir was deemed "fatally flawed" because of the presence of an endangered species (Leopard Darter). Should the species no longer remain endangered or if acceptable mitigation measures can be enacted…the classification of this site could change. This category is more aptly termed "highly unlikely under the present circumstances."

- **Category 3 –** These reservoirs have sufficient data for an analysis but have a low viability. One or more factors indicate that the reservoir site is significantly less than desirable. As with the other categories, future events could change the situation but with the current information, these reservoirs are not particularly good candidates for development.



- **Category 4 –** Simply stated, these reservoirs have adequate information and are viable candidates for future development. As with the other categories, future events could change this ranking.

It should be noted that even within categories there is a wide variation of viability or lack thereof.

2.9 MAPPING OF RESERVOIRS

The Category 3 and 4 reservoirs had sufficient information to identify the location of the dam, the height and length of the dam, and the elevation of the conservation pool. Reservoirs were mapped on 2008 aerial photographs and on USGS topographic maps (see Figures 4 and 5). Appendix F provides the aerial photographs and USGS topographic maps for all Category 3 and 4 reservoirs. The purpose of this effort is to illustrate the potential reservoirs and to search for the data described below.

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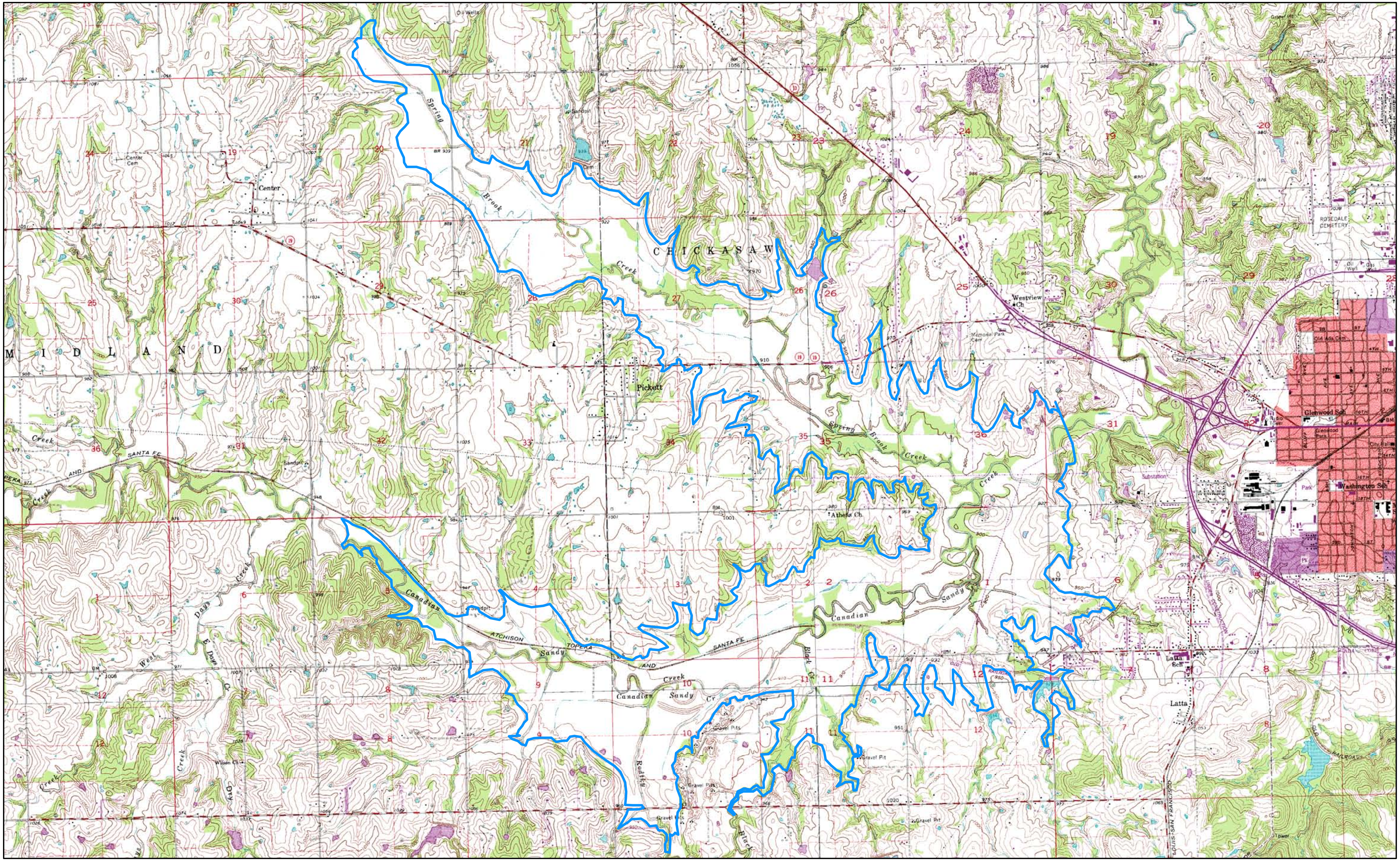
FIGURE 4 - TYPICAL AERIAL MAP
SCISSORTAIL RESERVOIR



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GUERNSEY

FIGURE 5 - TYPICAL TOPOGRAPHIC MAP

SCISSORTAIL RESERVOIR

0 420 840 1,680 2,520 3,360 Meters

N

2.10 AERIAL PHOTOGRAPH AND TOPOGRAPHIC MAP SURVEYS

A checklist was created (see Figure 6) that identified issues that might affect cost, water quality, constructability, or reservoir viability. Topographic maps and aerial photos were reviewed to identify the following elements:

- Residential/commercial/industrial development within the reservoir or just downstream
- Other activities/areas downstream of the potential reservoir that might pose a risk from a breech standpoint
- Obvious archeological, cultural, environmental and/or wetlands exist
- Park or refuges/sensitive areas
- Major highways
- Major electric/other utilities
- Heavy concentration of oil and gas exploration
- Oil and gas pipelines
- Mining activities
- Wind farms
- Railroads
- Observed or documented environmental conditions present in the watershed that could adversely impact water quality
- Other as identified

FIGURE 6 – SURVEY CHECKLIST

TOPOGRAPHIC/AERIAL PHOTOGRAPH REVIEW/FATAL FLAWS CHECKLIST

Reservoir Name / Location: ______________________

Date: __________

Reviewer: __________

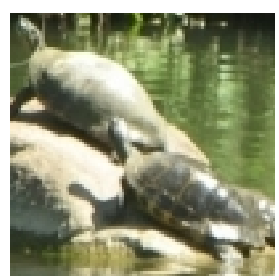
GUERNSEY

Issues	Topographic Review	Aerial Review	Remarks/Comments
Residential / Industrial / Commercial Development within the reservoir or just downstream?			
Other activities / areas downstream of the potential dam that might pose a risk from a breach standpoint?			
Obvious archeological, cultural, environmental, and/or wetlands exist?			
Parks or refuges; sensitive areas?			
Major highways?			
Major electric / other utilities?			
Heavy construction of oil and gas exploration?			
Oil and gas pipeline?			
Mining activities?			
Wind farms?			
Railroads?			
Observed or documented environmental conditions present in the watershed that could adversely impact water quality?			
Other			

Legend

Present	P
Not Present	NP

2.11 ENVIRONMENTAL AND CULTURAL REVIEW



As a companion to the aerial survey, a review to determine, in general, the potential presence of T&E species in the area was performed. Without specific study of the proposed inundated area, it is impossible at this study level to specifically identify the presence of T&E species, but a general review by county was addressed.

The presence of a T&E species can be detrimental to the development of a potential reservoir. In these studies, in most cases, a T&E species that is present would downgrade the category of a reservoir. The January 2010 list of T&E species, by county in Oklahoma, is provided as Appendix G.

2.12 RESERVOIR COST ESTIMATING METHODOLOGY

Estimating the cost to construct a reservoir is a key component to determining the viability of a potential site. Since the scope of this study included over one hundred reservoirs, it was infeasible to travel to each site and perform a detailed cost analysis. However, nearly all the reservoirs addressed in this report were studied previously and documented in reports and by the efforts described above. Many of the existing reports contained basic reservoir site information, estimated dam dimensions, and detailed cost estimates. Using the available information, cost estimates of several sites were developed using two concurrent methods:

- **Method 1 -** Use of information and drawings contained in the previous reports along with current aerial and topographic mapping to perform a cost estimate on each site using present-day land, construction, and material costs.
- **Method 2 -** Use of a detailed cost estimate in the previous report combined with the USACE Civil Works Construction Cost Index System (CWCCIS) annual escalation figures to scale the original cost estimates to present-day costs.

The major advantage to Method 1 is the use of actual present-day costs combined with individual reservoir data to determine the total construction cost. However, the primary disadvantage is the time required to determine the individual characteristics of over 100 proposed reservoirs with different land values, clearing needs, spillway types, etc. Method 2 is a significantly quicker way to determine the present-day cost, but required trusting the validity of the previous cost estimate(s) for each site.

Both methods were employed to estimate the construction cost of 10 reservoir sites encompassing a wide range of sizes and locations. The costs using each method were then compared and analyzed to determine the most effective method for estimating the cost of the remaining reservoirs. Comparison of the cost data sets showed a small relative difference between the two methods compared to the level of accuracy expected from the cost estimates. With both methods yielding similar results, Method 2 was chosen to estimate the remaining reservoirs.

Nearly all the reservoirs studied had a cost estimate performed and a year associated with that estimate. The CWCCIS contains cost indices showing the relative construction costs on an annual basis using 1967 as a baseline. This indexed cost data was used to scale the previous reservoir cost estimate to a present day dollar amount. Three examples of theoretical reservoirs are shown in Table 3 to illustrate the calculations used for Method 2. See Appendix H for cost estimates on all reservoirs.

TABLE 3 - EXAMPLE CALCULATIONS FOR THEORETICAL RESERVOIRS

Original Cost Estimate	Cost Estimate Year	CWCCIS Value for Cost Estimate Year (1967 = 100%)	CSCCIS Value for 2010 (1967 = 100%)	2010 Cost Relative to Cost Estimate Year	Original Estimate Scaled to 2010
$20,000,000	1967	100.00%	706.49%	706.49%	$141,298,000
$56,000,000	1974	166.25%	706.49%	424.96%	$237,976,000
$275,000,000	1985	354.31%	706.49%	199.40%	$548,347,000

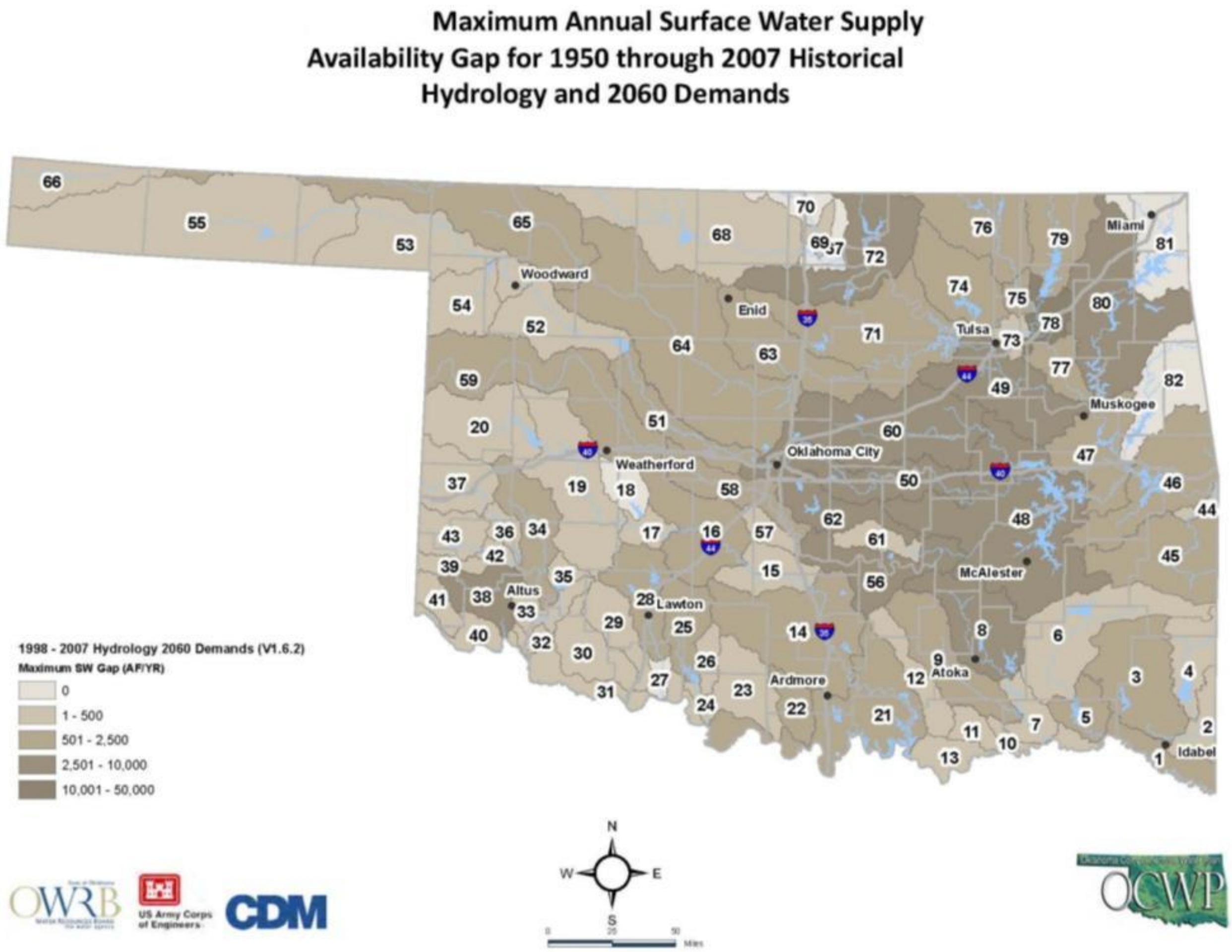
3.0 FINDINGS

Subsequent to acquisition of all data, an intensive evaluation workshop was held. The workshop included key staff and registered professional engineers that had not worked on the project. The "non-participant" professionals were included to provide a "second-eyes" quality control view of the results and of the procedures enacted to date. Each of the reservoir data sheets were projected on a screen and were discussed. Most potential sites were readily classified into one of the five previously-identified categories. For those that were not obvious, the source documents were obtained and reviewed. Although not ranked, the reservoirs were compared with the criteria developed in the weighted matrix exercise. Where either adverse or positive issues were observed, they were added as a comment to the reservoir data sheet. With these criteria and the data from the tasks described above, it was fairly obvious which reservoirs were the most viable candidates. To reiterate, however, these characterizations can change in the future if the Oklahoma water situation changes.

3.1 "GAP" DATA

In part of the OWRB comprehensive planning process, data is being acquired and estimates being made as to the future (2060) needs for water in Oklahoma. The "gaps" between water need and water availability impact the viability of various reservoirs. This information was obtained after the evaluation workshop but was subsequently used to validate if demands were such that reservoirs should be upgraded or downgraded in priority. These "gap" data are included in Appendix I. Figure 7 presents an example of the "gap" data provided by OWRB. Table 4 lists all Category 0 and 1 (not feasible) reservoirs. Table 5 depicts all Category 2 (not feasible) reservoirs. Table 6 presents all Category 3 (possibly feasible) and 4 (apparently feasible) reservoirs. Figure 8 provides a map of all reservoirs studied. Figure 9 is a map of Category 3 and 4 reservoirs.

FIGURE 7- EXAMPLE OF GAP DATA



3.2 CATEGORY 0 AND 1 REQUIREMENTS FOR ADDITIONAL INFORMATION

As previously mentioned there are a number of reservoirs that are merely names on a map (level 0) or have very limited information (level 1). To ensure that data was not overlooked, it was requested that the OWRB, USACE, and BOR review their archives to determine if additional data exists. The Category 0 and 1 reservoirs are listed in Table 4.

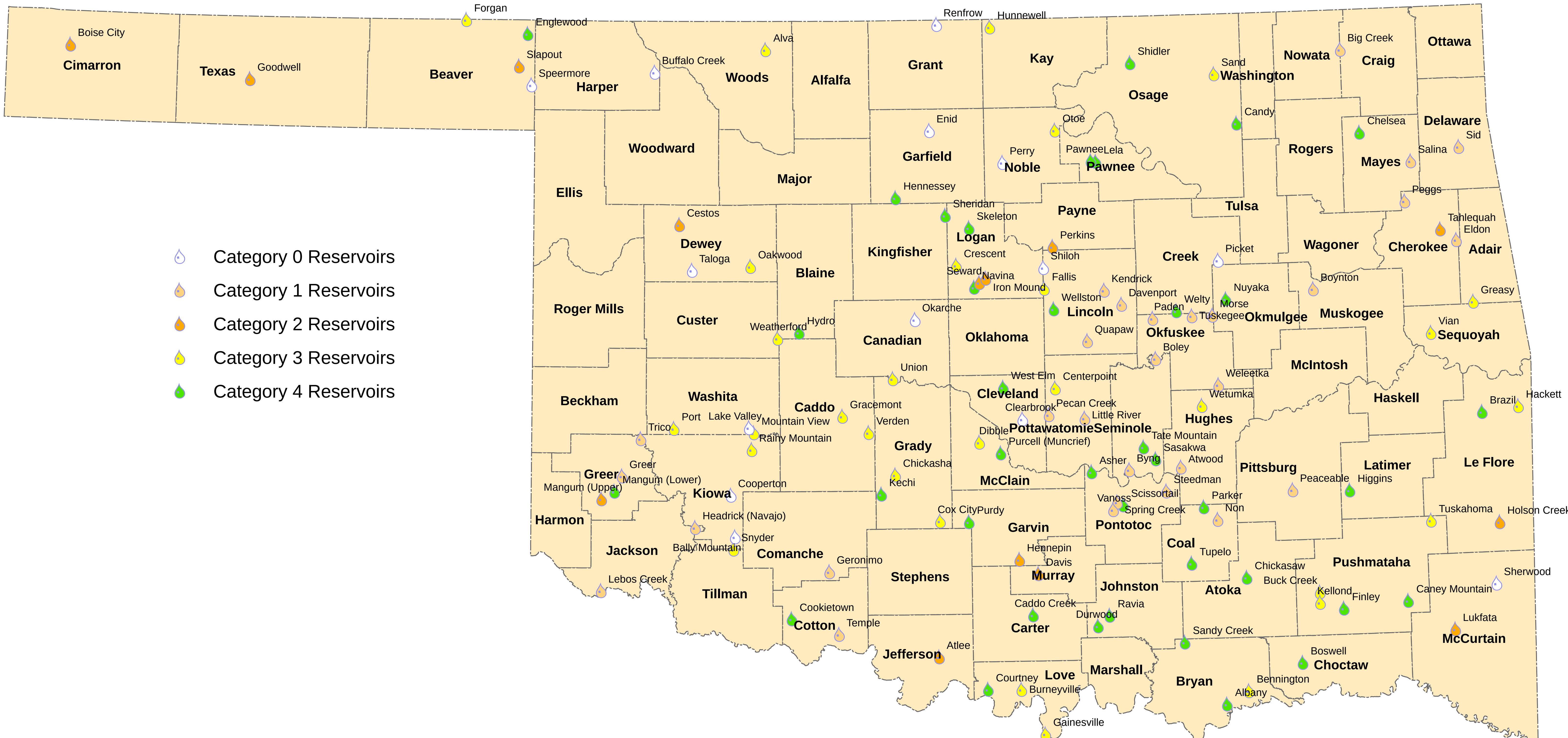


FIGURE 8 -
MAP OF ALL SITES

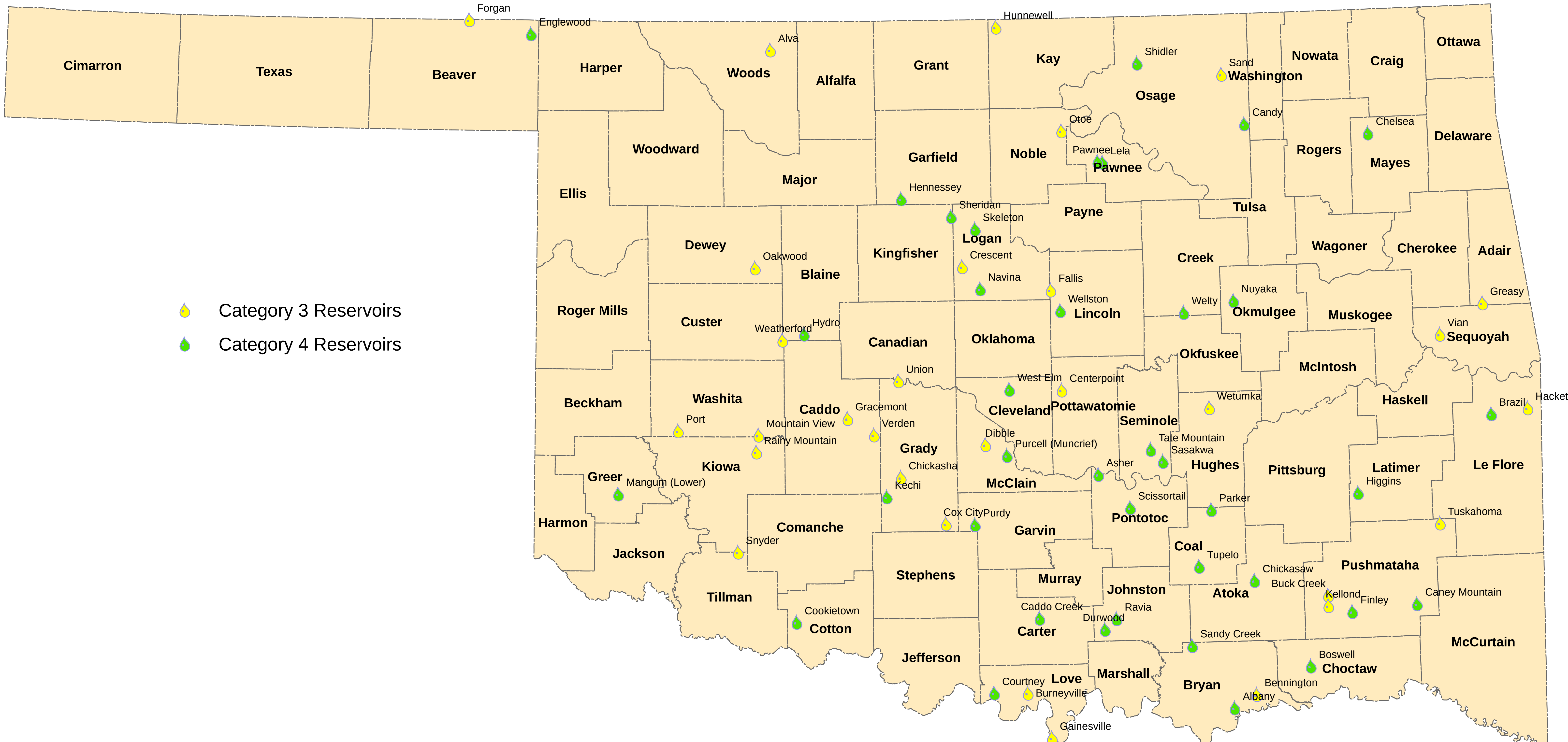


FIGURE 9 -
MAP OF CATEGORY 3 & 4 RESERVOIRS

TABLE 4 - CATEGORY 0 AND 1 RESERVOIRS

Category	Reservoir Name	Occupied Counties
0	Bally Mountain Reservoir	Kiowa County
0	Buffalo Creek Reservoir	Harper County
0	Clearbrook Reservoir	Cleveland County
0	Cooperton Reservoir	Kiowa County
0	Enid Reservoir	Garfield County
0	Lake Valley Reservoir	Washita County
0	Okarche Reservoir	Canadian County
0	Perry Reservoir	Noble County
0	Picket Reservoir	Creek County
0	Renfrow Reservoir	Grant County
0	Sherwood Reservoir	McCurtain County
0	Shiloh Reservoir	Logan County
0	Speermore Reservoir	Beaver County
0	Taloga Reservoir	Dewey County
1	Atwood Reservoir	Hughes and Pontotoc
1	Big Creek Lake	Nowata and Craig
1	Boley Reservoir	Seminole and Okfuskee
1	Boynton Lake	Muskogee
1	Byng Lake	Pontotoc and Seminole
1	Davenport Reservoir	Lincoln
1	Eldon Lake	Cherokee and Adair
1	Geronimo Reservoir	Comanche
1	Greer Reservoir	Greer
1	Headrick Lake also known as Navajo Reservoir	Jackson and Kiowa
1	Kendrick Lake	Lincoln
1	Lebos Lake	Jackson
1	Little River Reservoir	Pottawatomie
1	Morse Lake	Okfuskee
1	Non Lake	Coal
1	Paden Lake	Okfuskee
1	Peaceable Reservoir	Pittsburg
1	Pecan Creek Reservoir	Pottawatomie
1	Peggs Lake	Cherokee
1	Quapaw Lake also known as Meeker Reservoir	Lincoln
1	Salina Reservoir	Mayes
1	Sid Lake	Delaware
1	Spring Creek Reservoir	Pontotoc
1	Steedman Lake	Pontotoc
1	Temple Reservoir	Cotton
1	Trico Lake	Greer, Kiowa, and Beckham
1	Tuskegee Lake	Okfuskee
1	Vanoss Lake	Pontotoc
1	Weleetka Reservoir also known as Hickory Ridge Reservoir	Okfuskee

TABLE 5 - CATEGORY 2 RESERVOIRS

Reservoir Name	Region	Occupied Counties	When First Identified	Fatal Flaw(s)
Atlee Lake	Lower Washita	Jefferson	1995 Report	Dependable Yield ~ 5MGD.
Boise City Reservoir	Panhandle	Cimarron	1966 Oklahoma Basins Map	Totally dependent on conveyance.
Cestos Reservoir	Panhandle	Dewey	1966 Oklahoma Basins Map	Totally dependent on conveyance.
Davis Lake	Lower Washita	Murray	1995 Report	Very low dependable yield. Very high cost per unit.
Goodwell Reservoir	Panhandle	Texas	1966 Oklahoma Basins Map	Totally dependent on conveyance.
Hennepin Reservoir, also known as Criner Hills Project	Lower Washita	Garvin and Carter	1966 Oklahoma Basins Map	Relocate SH 7, SH 74, two cemeteries, the town of Hennepin and part of Elmore City, 350 oil and gas wells, a 66kv power line, a 69kv power line and 20 oil or gas pipelines.
Holson Creek Reservoir (Option B, Plan 12)	Lower Arkansas	LeFlore	1999 Report	Geology of the "B" damsite.
Iron Mound Reservoir also known as the Seward Project	Central	Logan and Oklahoma	1981 Report	Would inundate Liberty Lake and the Community of Seward and would require relocation of a railroad and two state roads.
Lukfata Lake	Southeast	McCurtain	1966 Oklahoma Basins Map	Potential adverse effect on the Leopard Darter.
Mangum Reservoir also known as the Upper Mangum Site	Southwest	Greer	1966 Oklahoma Basins Map	Subsequent studies by the Bureau of Reclamation (Jackson 1991) and U.S. Army Corps of Engineers 1993, 1995 and 1999) concluded the Upper Mangum Site was unsuitable.
Perkins Lake	Upper Arkansas	Lincoln, Logan, and Payne	1991 Report	Inundates parts of three cities, Perkins, Langston and Guthrie, unless protected by levees.
Seward Reservoir also known as the Seward Project	Central	Logan and Oklahoma	1980 Statewide Water System Map	A major wastewater treatment plant and numerous expensive homes would require replacement. The Seward Project Report recommended the Navina site over this damsite.
Slapout Reservoir	Panhandle	Beaver	1966 Oklahoma Basins Map	Downstream of Optima which has failed to develop.
Tahlequah Reservoir	Lower Arkansas	Cherokee	1966 Oklahoma Basins Map (Tenkiller)	Illinois River - Designated Scenic River.

TABLE 6 - CATEGORY 3 AND 4 RESERVOIRS

Category	Reservoir Name	Region	Occupied Counties	When First Identified	Qualifying Statements
3	Alva Reservoir also known as the Alva Project	Upper Arkansas	Woods	1966 Oklahoma Basins Map	Medium cost per unit, low proximity to demand, poor water quality.
3	Bennington Reservoir also known as Durant Reservoir	Blue Boggy	Bryan	1975 Report	Candidate for Scenic River designation, cold water fishery, medium proximity to demand, reasonable proximity to conveyance, low cost per unit.
3	Buck Creek Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map	High cost per unit, low/medium proximity to demand, near existing conveyance facility, good dependable yield.
3	Burneyville Reservoir	Lower Washita	Love and Carter	1966 Oklahoma Basins Map	Medium-high cost per unit, poor water quality, medium proximity to demand.
3	Centerpoint Lake	Central	Pottawatomie	1966 Oklahoma Basins Map	Very low dependable yield, very high cost per unit, high proximity to demand.
3	Chickasha Reservoir	Lower Washita	Grady	1951 Report	High cost per unit, no assigned dependable yield, flood control configuration only, near population centers.
3	Cox City Lake	Lower Washita	Grady	1981 Report	Low dependable yield, medium cost per unit, medium proximity to demand.
3	Crescent Reservoir	Central	Logan and Kingfisher	1966 Oklahoma Basins Map	Very high chlorides, medium proximity to demand, very high dependable yield.
3	Dibble Reservoir	Central	McClain	1972 Report	Good dependable yield, high unit cost, medium proximity to demand.
3	Fallis Lake	Central	Lincoln	1988 Report	Low dependable yield, high cost per unit, high proximity to demand.
3	Forgan Reservoir	Panhandle	Beaver	1991 Report	Medium dependable yield, very high cost per unit, mostly located in Kansas, project implementation could be complicated, low/medium proximity to demand.
3	Gainsville Reservoir	Lower Washita	Love	1995 Report	Medium dependable yield, close proximity to existing supply, medium cost per unit, medium proximity to demand.
3	Gracemont Reservoir	Lower Washita	Caddo	1973 Report	Very small dependable yield, high cost per unit, medium proximity to demand.
3	Greasy Reservoir	Lower Arkansas	Adair	1985 Report	Low dependable yield, very high cost per unit, medium proximity to demand.
3	Hackett Lake	Lower Arkansas	LeFlore	1982 Report	High cost per unit, low dependable yield, medium proximity to demand.
3	Hunnewell Reservoir	Upper Arkansas	Kay	1980 Statewide Water System Map	Project implementation could be complicated, medium proximity to demand, high dependable yield, low cost per unit.
3	Kellond Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map	Medium/high cost per unit, medium proximity to demand, reasonable proximity to conveyance, high dependable yield.
3	Mountain View Reservoir	West Central	Washita	1966 Oklahoma Basins Map	Low proximity to demand, high dependable yield, low cost per unit.
3	Oakwood Reservoir	West Central	Dewey	1981 Report	Low/medium proximity to demand, medium cost per unit, very high dependable yield.
3	Otoe Lake	Upper Arkansas	Noble	1966 Oklahoma Basins Map	High dependable yield, low cost per unit, high/medium proximity to demand, near existing underutilized source (Kaw).
3	Port Lake	Southwest	Washita	1966 Oklahoma Basins Map	Low dependable yield, medium cost per unit, medium proximity to demand.
3	Rainy Mountain Creek Reservoir	West Central	Kiowa	1966 Oklahoma Basins Map	Low dependable yield, medium cost per unit, low/medium proximity to demand.
3	Sand Reservoir	Middle Arkansas	Osage	1966 Oklahoma Basins Map	Low dependable yield, medium/low cost per unit, medium proximity to demand.
3	Snyder Lake	Beaver Cache	Tillman and Kiowa	1966 Oklahoma Basins Map	Medium cost per unit, low/medium proximity to demand, good dependable yield.
3	Tuskahoma Lake	Southeast	Pushmataha and LaFlore	1966 Oklahoma Basins Map	High cost per unit, potential Ouachita Rock Pocketbook Mussel endangered species issue, very large dependable yield, high/medium proximity to demand.
3	Union Reservoir also known as the Geary Project and Minco Project	Central	Canadian and Grady	1966 Oklahoma Basins Map	Poor water quality, medium cost per unit, high dependable yield, high/medium proximity to demand.
3	Verden Reservoir	Lower Washita	Caddo	1966 Oklahoma Basins Map	Low dependable yield, poor water quality, high cost per unit, medium proximity to demand.
3	Vian Reservoir	Lower Arkansas	Sequoyah	1980 Statewide Water System Map	Very high cost per unit, medium proximity to demand, good dependable yield.
3	Weatherford Reservoir also known as the Geary Project and Minco Project	West Central	Custer, Canadian, and Grady	1966 Oklahoma Basins Map	Poor water quality (TDS), medium cost per unit, low/medium proximity to demand, good dependable yield.
3	Wetumka Reservoir	Eufaula	Hughes	1966 Oklahoma Basins Map	Medium cost per unit, potential water quality concerns, medium cost per unit, high/medium proximity to demand.

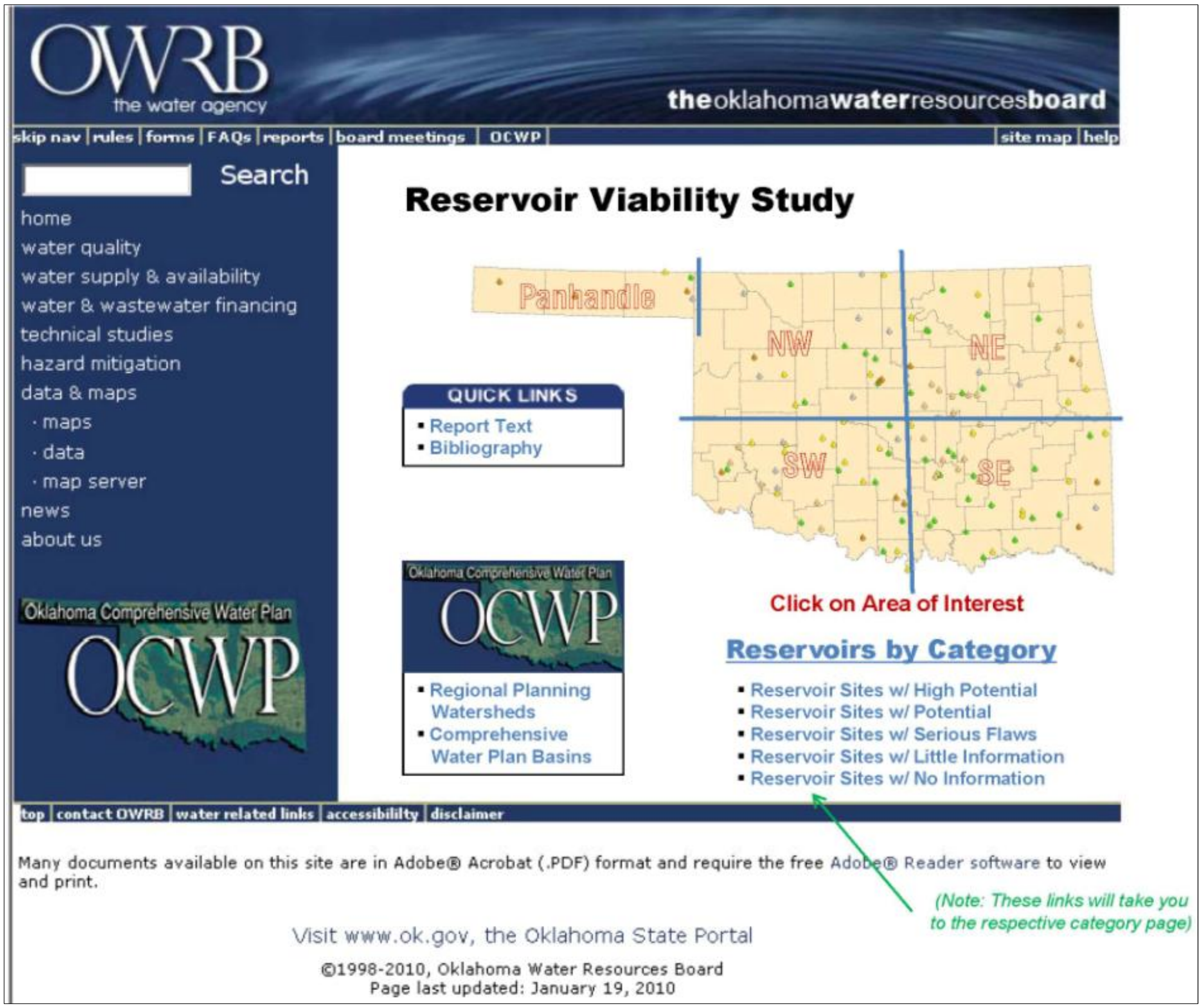
Category	Reservoir Name	Region	Occupied Counties	When First Identified	Qualifying Statements
4	Albany Lake	Blue Boggy	Bryan	1966 Oklahoma Basins Map	Low cost per unit storage.
4	Asher Lake	Central	Pontotoc and Potawatomie	1988 Report	High proximity to demand, high proximity to conveyance.
4	Boswell Lake (Alternative D)	Blue Boggy	Choctaw	1966 Oklahoma Basins Map	Low cost per unit, medium proximity to demand, reasonable proximity to conveyance, multi-use reservoir. good dependable yield.
4	Brazil Lake	Lower Arkansas	LeFlore	1982 Report	Low cost per unit, dependable yield increases to 87,000 AF when power is excluded, low proximity to demand.
4	Caddo Creek Reservoir	Lower Washita	Carter	1966 Oklahoma Basins Map	Low cost per unit, good dependable yield, low/medium proximity to demand.
4	Candy Lake	Middle Arkansas	Osage	1966 Oklahoma Basins Map	Medium cost per unit, previous "Go" project - project halted due to conflict with Osage Indian mineral rights, high/medium proximity to demand.
4	Caney Mountain Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map	Very high dependable yield, very low cost per unit, opportunity for power, low/medium proximity to demand.
4	Chelsea Reservoir	Grand	Mayes	1986 Report	Good dependable yield, high proximity to demand, high cost per unit.
4	Chickasaw Lake	Blue Boggy	Atoka	1966 Oklahoma Basins Map	Near conveyance facility, very low cost per unit, high proximity to demand, high proximity to conveyance, medium dependable yield, dependable yield could be increased with reallocation of flood pool - which would likely increase cost.
4	Cookietown Reservoir also known as the Cache Creek Project	Beaver Cache	Cotton and Tillman	1966 Oklahoma Basins Map	Good dependable yield, medium cost per unit, low/medium proximity to demand.
4	Courtney Reservoir, also known as the Criner Hills Project	Lower Washita	Love and Jefferson	1966 Oklahoma Basins Map	Very high dependable yield, medium cost per unit, low/medium proximity to demand, near existing supply (Texoma), water quality concerns.
4	Durwood Reservoir	Lower Washita	Johnston	1951 Report	Very high dependable yield, very low cost per unit, medium proximity to demand, alternative to taking water directly from Texoma.
4	Englewood Reservoir	Panhandle	Beaver	1966 Oklahoma Basins Map	High dependable yield, low/medium proximity to demand, high cost per unit, not for M&I use.
4	Finley Lake	Southeast	Pushmataha	1966 Oklahoma Basins Map	High dependable yield, low cost per unit, medium proximity to demand, reasonable proximity to conveyance.
4	Hennessey Reservoir	Central	Kingfisher	1966 Oklahoma Basins Map	Good dependable yield, medium proximity to demand, medium cost per unit.
4	Higgins Reservoir also known as the Wilburton Project	Eufaula	Latimer	1973 Report	High proximity to demand, very high dependable yield, low cost per unit.
4	Hydro Reservoir also known as the Geary Project and Minco Project	West Central	Blaine, Custer, and Dewey	1980 Statewide Water System Map	Very high dependable yield, medium cost per unit, low/medium proximity to demand.
4	Kechi Reservoir	Lower Washita	Grady	1966 Oklahoma Basins Map	Medium cost per unit, medium proximity to demand, low dependable yield.
4	Lela Reservoir also referred to as the Watchorn Project or Pawnee Reservoir	Upper Arkansas	Pawnee and Noble	1980 Statewide Water System Map	Medium cost per unit, near underutilized existing supply (Kaw Lake).
4	Mangum Reservoir (Lower Mangum Damsite)*	Southwest	Greer	1966 Oklahoma Basins Map	Good dependable yield, medium proximity to demand.
4	Navina Reservoir also known as the Seward Project, also termed the Lower Navina Site	Central	Logan, Kingfisher, and Oklahoma	1981 Report	High proximity to demand, good dependable yield, configuration lacks flood control, high cost per unit.
4	Nuyaka Reservoir	Eufaula	Okmulgee	1985 Report	Extremely high dependable yield, high proximity to demand, low cost per unit.
4	Parker Lake	Blue Boggy	Coal and Hughes	1966 Oklahoma Basins Map	High/medium proximity to demand, high dependable yield, close to conveyance facility, medium cost per unit.
4	Pawnee Reservoir	Upper Arkansas	Pawnee	1985 Report	High dependable yield, low cost per unit, high/medium proximity to demand, near existing underutilized source (Kaw).
4	Purcell Reservoir also named Muncrief Dam (alternative to the Dibble site)*	Central	McClain	1972 Report	Good dependable yield, medium proximity to demand.

Category	Reservoir Name	Region	Occupied Counties	When First Identified	Qualifying Statements
4	Purdy Reservoir	Lower Washita	Garvin	1966 Oklahoma Basins Map	Good dependable yield, medium cost per unit, medium proximity to demand.
4	Ravia Reservoir	Lower Washita	Johnston	1969 Report	Good dependable yield, medium proximity to demand, medium cost per unit, near existing supply (Texoma), but with better water quality.
4	Sandy Creek Reservoir	Blue Boggy	Bryan and Johnston	1995 Report	Very good quality water, good dependable yield, low cost per unit, medium proximity to demand, reasonable proximity to conveyance, candidate for Scenic River designation, near existing source (Texoma), flood control storage is actually for power.
4	Sasakwa Reservoir	Central	Seminole	1966 Oklahoma Basins Map	Very high dependable yield, low cost unit, high proximity to demand, near conveyance facility.
4	Scissortail Reservoir also known as the Ada site	Central	Pontotoc	1995 Oklahoma Comprehensive Water Plan	High dependable yield, very good water quality, near conveyance facility, sponsor interest, high proximity to demand, high cost per unit.
4	Sheridan Reservoir	Upper Arkansas	Kingfisher	1966 Oklahoma Basins Map	High dependable yield, high/medium proximity to demand, potential sponsor interest, medium/high cost per unit.
4	Shidler Lake	Upper Arkansas	Osage	1966 Oklahoma Basins Map	Good dependable yield, high/medium proximity to demand, near existing underutilized source (Kaw), low cost per unit - Previous pstimate may be flawed.
4	Skeleton Reservoir	Upper Arkansas	Logan	1985 Report	Very high dependable yield, larger version of Sheridan, high/medium proximity to demand, medium cost per unit.
4	Tate Mountain Reservoir*	Central	Seminole	1988 Report	Very high dependable yield, good water quality, high/medium proximity to demand, near conveyance facility.
4	Tupelo Lake	Blue Boggy	Coal	1966 Oklahoma Basins Map	High dependable yield, high/medium proximity to demand, medium cost per unit, close to conveyance facility.
4	Wellston Lake	Central	Lincoln	1966 Oklahoma Basins Map	Low cost per unit, high/medium proximity to demand, low dependable yield.
4	Welty Lake	Central	Creek	1980 Statewide Water System Map	Very high dependable yield, low cost per unit, high/medium proximity to demand.
4	West Elm Creek Reservoir also termed West Elm Lake	Central	Cleveland	1980 Statewide Water System Map	Sponsored, high proximity to demand, near conveyance facility, high cost per unit, terminal storage only.

4.0 WEBSITE DEVELOPMENT

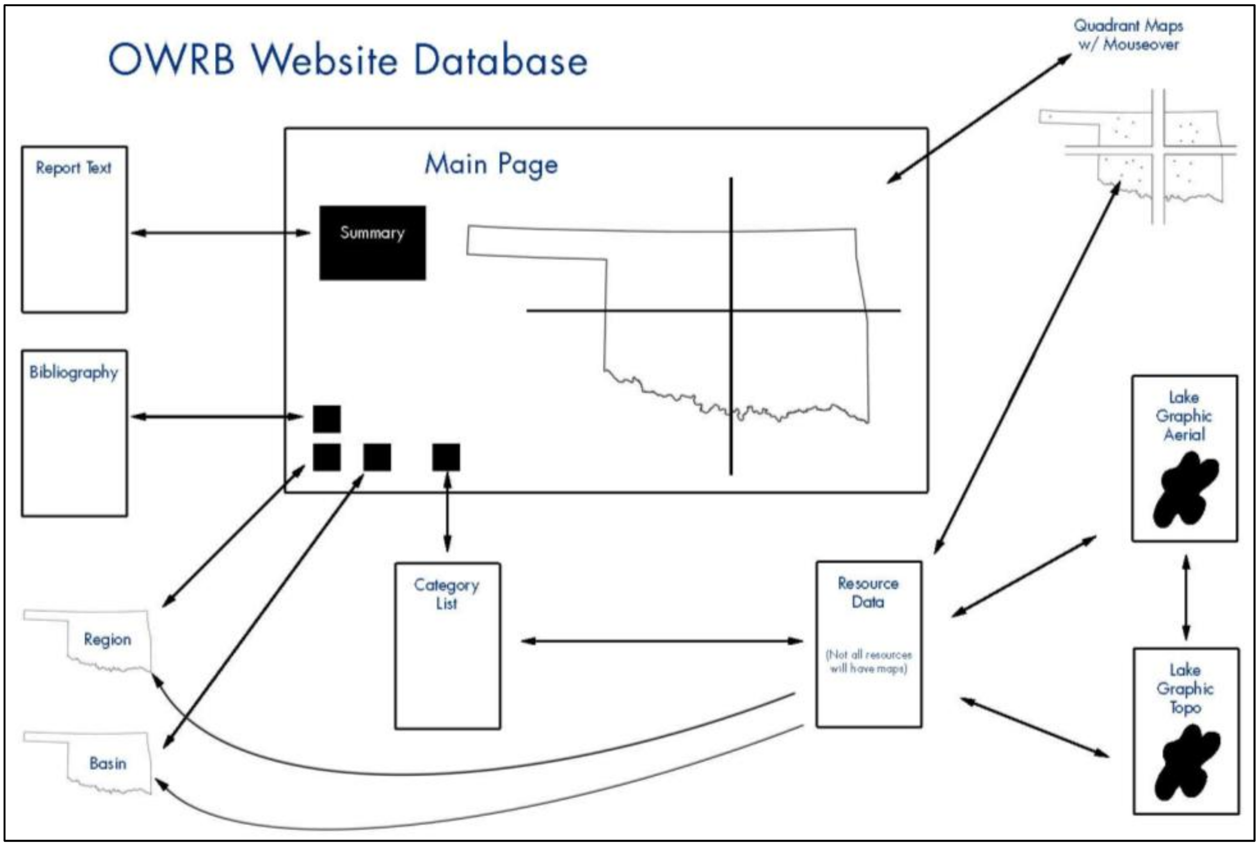
It became obvious during this study that information on potential reservoir sites is difficult to find. Much of the data is diffused, old, fragile, and/or conflicting. Some data is incorrect. Within the scope of this study, it was attempted to reduce the thousands of pages of reports into the EEIs. In addition, some documents have been electronically scanned and can be preserved from future loss or damage. To facilitate future use of the data, a "Potential Oklahoma Reservoir" website is being addressed. Most of the information presented in Section 3.0 will be available on the website. Links will connect reservoir data sheets to source documents, maps, cost estimates, etc. An early mock-up of the website is shown as Figure 10.

FIGURE 10 - MOCK-UP OF AN OKLAHOMA POTENTIAL SURFACE WATER WEBSITE



A flow diagram/network for the website is presented as Figure 11.

FIGURE 11 – WEBSITE FLOW NETWORK



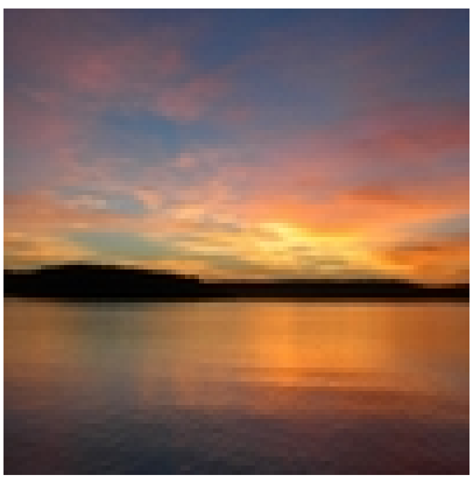
5.0 CONCLUSIONS AND RECOMMENDATIONS

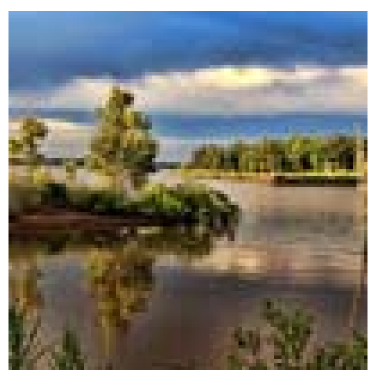
It is concluded that this study accomplishes the following:

- Fosters future planning focus on the most viable surface water supply candidates
- Provides readily accessible information for most of Oklahoma's potential reservoir sites
- Preserves many valuable historical documents that could be lost to posterity
- Provides order of magnitude cost information for future planning purposes
- Facilitates statewide surface water development activities

Recommendations include:

- If, and when, studies become available describing potential surface water supplies, they should be added to the database.
- When funds become available, scan the remaining historical documents, and include them in the website bibliography.





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APPENDIX A

KICK-OFF MEETING AGENDA AND NOTES

AGENDA
KICK-OFF MEETING
RESERVOIR VIABILITY STUDY AND WATER TRANSFER STUDY
OKLAHOMA WATER RESOURCES BOARD (OWRB)
C.H. GUERNSEY & COMPANY (GUERNSEY)
September 28, 2009

1. **Introduction of Project Personnel**

    - OWRB
    - GUERNSEY (Karl Stickley, Larry Roach, Mike Dewings, Ken Senour)

2. **Reservoir Viability Study**

    - Goals & Objectives
    - Project Implementation/Flow Chart
    - Reservoir Characteristics Matrices
    - Website Mock-up
    - Proposed Report Table of Contents
    - Project Schedule

3. **Water Transfer Study**

    - Goals & Objectives
    - Project Implementation/Flow Chart
    - Preliminary Approach to Data Analysis/Presentation
    - Proposed Report Table of Contents
    - Project Schedule

4. **Additional Discussion**

MEETING SUMMARY
PROJECT KICK-OFF MEETING
OKLAHOMA WATER RESOURCES BOARD (OWRB)
C.H. GUERNSEY & COMPANY (GUERNSEY)
RESERVOIR VIABILITY STUDY & WATER CONVEYANCE STUDY
September 30, 2009

PARTICIPANTS:

- Kyle Arthur, OWRB
- Mike Melton, OWRB
- Dave Dillon, OWRB
- Terri Sparks, OWRB
- Bob Sanbo, OWRB
- Brian Vance, OWRB
- Julie Cunningham, OWRB
- Bryan Mitchell, CDM
- Karl Stickley, GUERNSEY
- Mike Dewings, GUERNSEY
- Larry Roach, GUERNSEY
- Ken Senour, GUERNSEY

MEETING HIGHLIGHTS:

1. Kyle Arthur began the meeting by recognizing it as our official kick-off meeting for the project. Attendee introductions were requested and addressed. See the participants list above.
2. Kyle turned the meeting over to Ken Senour. Ken had GUERNSEY personnel further address their backgrounds and relevant experience. Notebooks were provided to all participants with pertinent project information included for the meeting. Ken provided an agenda for the meeting. The agenda was as follows:

   a. Introduction of Project Personnel

   - OWRB
   - GUERNSEY (Karl Stickley, Larry Roach, Mike Dewings, Ken Senour)

   b. Reservoir Viability Study

   - Goals & Objectives
   - Project Implementation/Flow Chart
   - Reservoir Characteristics Matrices
   - Website Mock-up

- Proposed Report Table of Contents
- Project Schedule

c. *Water Conveyance Study*

- Goals & Objectives
- Project Implementation/Flow Chart
- Preliminary Approach to Data Analysis/Presentation
- Proposed Report Table of Contents
- Project Schedule

d. Additional Discussion

RESERVOIR VIABILITY STUDY

3. Larry Roach identified project Goals & Objectives (G&O).
4. Kyle indicated a key to G&O #1 is the end users. We need to be focused on our audience and their importance (i.e., legislators, OML, rural water). Be aware of municipalities, irrigators, and recreational users, but we cannot invite them all to the public meetings.
5. Kyle inquired about the intent of G&O #11. It was agreed our focus should change to stakeholders—rural water districts, OML, conservancy districts, etc. We need to discuss further before we address the meeting at the end of the project.
6. Larry addressed the flow chart and the various project activities.
7. Terri Sparks indicated the 1995 water plan update identified additional reservoirs.
8. Mike Melton added that NRCS may have additional large reservoir sites that will provide opportunities.
9. Mike also mentioned to consider the new Holdenville Lake being financed by OWRB.
10. Terri prefers we use the term "potential" reservoirs, not "future."
11. Karl Stickley asked the question 'What does "viability" mean?' Kyle offered that viability indicates that the reservoir can produce its own water (as compared to a terminal reservoir—which cannot). Terri thought that our priorities should be non-terminal reservoirs. Non-viable reservoirs should be eliminated quickly and mapped separately.
12. Terri offered that we should use the term "conveyance" instead of "transfer" for the water movement (east to west) project.

WATER CONVEYANCE STUDY

13. Karl introduced the water conveyance project and addressed the various components.
14. Bryan Mitchell indicated the *Supply and Demand Handbook* should be available in the next few weeks.
15. Kyle indicated the 1980 Water Plan had inflated demand scenarios (agricultural use inflated). There has been a substantial increase in irrigation usage since 2007.
16. Bob Sanbo indicated that water quality might be an issue regarding transfer; but not so much regarding terminal reservoirs.
17. We must look at water yields statewide. Data will be available statewide by county and basin. There are defined shortages in the Panhandle and Southwestern Oklahoma.

Prepared by: Ken Senour, GUERNSEY
Date: October 11, 2009

APPENDIX B

USACE
FREEDOM OF INFORMATION ACT (FOIA)
REQUEST, RESPONSE, UPDATE,
AND COST ESTIMATE

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101st EAST AVENUE
TULSA, OKLAHOMA 74128-4609

November 3, 2009

Office of Counsel

SUBJECT: Freedom of Information Act Request

Mr. Ken Senour, CEP, QEP
Senior Vice President
Manager, Engineering and Environmental
C. H. Guernsey & Company
5555 North Grand Boulevard
Oklahoma City, OK 73112-5507

Dear Mr. Senour:

We are in receipt of your letter dated November 1, 2009, requesting hard copies and electronic copies of certain reports of surveys pursuant to the Freedom of Information Act (FOIA). Your letter indicates a willingness to pay all "printing" charges associated with the request. Assessable fees associated with processing a FOIA request include search, duplication, review, and other actual costs.

Before we can begin processing your request, we must receive confirmation of your willingness to pay all processing costs associated with the request. Accordingly, we will begin processing your request upon receipt of confirmation from you.

If you have any questions, please do not hesitate to call my office at (918) 669-7572.

Sincerely,

Marilyn K. Hoover

Marilyn K. Hoover
Freedom of Information Act Officer

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101st EAST AVENUE
TULSA, OKLAHOMA 74128-4609

December 1, 2009

Office of Counsel

SUBJECT: Freedom of Information Act Request #FP-10-002500

Mr. Ken Senour, CEP, QEP
Senior Vice President
Manager, Engineering and Environmental
C. H. Guernsey & Company
5555 North Grand Boulevard
Oklahoma City, OK 73112-5507

Dear Mr. Senour:

Your Freedom of Information Act (FOIA) request dated November 1, 2009, seeking copies of specific reports was perfected on November 5, 2009. Based on the perfected date and the allowable processing time of 20 working days, you would typically expect a determination from this office on or before December 7, 2009. However, your request requires that we search for, collect, and examine a voluminous amount of records. Therefore, your request is being placed in the complex track and will require additional time to process.

Based on the information you provided in your FOIA request, the request will be in the commercial fee category. We determined that we have responsive documents. The estimated cost of processing your request is $2,222.00. This represents the following estimated costs:

16	hours search time at $20.00/hour	$ 320.00
8	hours review time at $44.00/hour	$ 352.00
10,000	pages at $.15/page	$1,500.00
10	discs at $5.00/disc	$ 50.00
	Total	$2,222.00

Please note that actual costs may be different. Army Regulations require that we receive advance payment of estimated fees in excess of $250.00. If you agree to pay these estimated costs, **please make your check payable to "FAO, USAED, TULSA" and return it as follows:**

Marilyn K. Hoover
Office of Counsel
Tulsa District
U.S. Army Corps of Engineers
1645 S. 101st E. Ave.
Tulsa, OK 74128

If I do not receive payment in the amount shown above on or before December 10, 2009, I will consider your request withdrawn. Once payment is received, your request will be processed and the releasable records sent to you. As stated previously, your request requires the location and review of a voluminous amount of records and will require additional time to process. Further, the processing time is tolled pending receipt of the estimated costs.

If you have any questions, please contact me or Raye Thornton at (918) 669-7178.

Sincerely,

Marilyn K. Hoover

Marilyn K. Hoover
Freedom of Information Act Officer

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101st EAST AVENUE
TULSA, OKLAHOMA 74128-4609

December 15, 2009

Office of Counsel

SUBJECT: Freedom of Information Act Request #FP-10-002500

Mr. Ken Senour, CEP, QEP
Senior Vice President
Manager, Engineering and Environmental
C. H. Guernsey & Company
5555 North Grand Boulevard
Oklahoma City, OK 73112-5507

Dear Mr. Senour:

In response to your Freedom of Information Act (FOIA) request dated November 1, 2009, I am advised that the office who houses the responsive documents is working with our contracting division to have the documents copied. As soon as the documents are copied, we will review them and forward the releasable documents to you.

As explained in our letter of December 1, 2009, this request requires the location, copying, and review of a voluminous amount of records, and it will take additional time to complete. We will, however, monitor the status and keep you advised.

You may expect a determination or a status update from our office on or about December 30, 2009. If you have any questions, please contact me at (918) 669-7593.

Sincerely,

Raye L. Thornton

Raye L. Thornton
Alternate FOIA Officer

APPENDIX C

RESERVOIR DATA SHEETS

Reservoir Data Report

Reservoir Name: Albany Lake

Agency: U.S. Army Corps of Engineers, Tulsa District

Location: Bryan County 16 miles southeast of Durant, OK and 1.5 miles southwest of Albany, OK

Primary Study Document(s): Comprehensive Basin Study, Red River below Denison Dam, Arkansas, Louisiana, Oklahoma and Texas, Interim Survey Report, Albany Lake, Island Bayou, Oklahoma

Primary Study Date: 04/19/78

Region: Blue Boggy

Basin: 13-Red River Mainstream (To Washita)

Streams: Island Bayou @ river mile 6.5

Beneficial Uses: FC, WS, R, F&W

DrainArea (Sq Mi): 134

Lat/Long or Section: Sections 8, 17 & 20, T8S, R11E Indian Meridian

Dam Type: rolled earth embankment with 28' crest width

Cons. Sto. Surface Area (AC)	4,960	Dependable Yield (AF)	35,847
Dam Crest Elevation	549.00	Max Surface Area (AC)	11,670
Dam Length (FT)	10,500	Dam Height (FT)	79
Embankment Volume (CY)	2,460,000	Flood Pool Elevation	526.5
Valley Wall Length (FT):	5,176	Top of Sed. Pool Elev.	
Max Water Surface Elev.	544.9	Top of Dead Pool Elev.	489
Recreation Boundary (AC)	12,200	Top of Cons. Pool Elev.	517

Spillway: 400' wide limited spillway and a 6.5' diameter gated conduit

Spillway Elevation(s)	533	Power Pool Elevation	
Total Storage (AF)	147,100	Surcharge (AF)	
Conservation Pool Storage (AF)	85,200	Flood Control Storage (AF)	55,100
Sediment Storage (AF)	6,800	Dead Storage (AF)	

Geology:

Water Quality: High turbidity and Phosphates and Mercury noted in testing. Report on Southeast Oklahoma Water Supply Study, BOR, September 1987 indicates suitable water with standard treatment.

Previous Cost Estimate: $27,100,000 **Year of Cost Estimate:** 01/1978

Grouping: 4

Issues: Also: Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988. Above referenced report shows power as a beneficial use and approximately twice the capacity.

Fatal Flaw(s) Present? ☐

Qualifying Statements: Not near a population center
Low cost per unit storage

Reservoir Data Report

Reservoir Name	Alva Reservoir also known as the Alva Project
Agency	Bureau of Reclamation
Location	Woods County 5 miles northwest of Alva, OK
Primary Study Document(s)	Alva Project, Oklahoma Appraisal Report; also Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, Tulsa District USACE September 1985
Primary Study Date	06/19/73
Region:	Upper Arkansas
Basin	68-Upper Salt Fork of the Arkansas River
Streams	Salt Fork of the Arkansas River
Beneficial Uses	WS (irrigation), F&W, R
DrainArea (Sq Mi)	926
Lat/Long or Section	Sections 27 & 33, T28N, R14W Indian Meridian
Dam Type	Rolled embankment with 30' crest width

Cons. Sto. Surface Area (AC)	10,000	Dependable Yield (AF)	32,486
Dam Crest Elevation	1,459.00	Max Surface Area (AC)	15,251
Dam Length (FT)	10,200	Dam Height (FT)	110
Embankment Volume (CY)		Flood Pool Elevation	1437
Valley Wall Length (FT):	8,054	Top of Sed. Pool Elev.	1360
Max Water Surface Elev.	1453	Top of Dead Pool Elev.	
Recreation Boundary (AC)	21,370	Top of Cons. Pool Elev.	1438

Spillway	7-50' X 20' gates		
Spillway Elevation(s)	1427	Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	71,647
Conservation Pool Storage (AF)	200,500	Flood Control Storage (AF)	98,600
Sediment Storage (AF)	2,067	Dead Storage (AF)	
Geology	Acceptable		
Water Quality	Unsuitable for M&I use without specialized treatment.		
Previous Cost Estimate	$207,000,000	Year of Cost Estimate	01/1985
Grouping:	3		
Issues	Most M&I demands will be met from higher quality groundwater. Alva reservoir is considered an irrigation, recreation and flood control resource.		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	High end of medium cost per unit. Poor water quality Low proximity to demands.		

Reservoir Data Report

Reservoir Name	Asher Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Pontotoc and Potawatomie Counties
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	56-Lower Canadian River-1
Streams	Canadian River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	21,660
Lat/Long or Section	Section 33, T6N, R4E and Section 4, T5N, R4E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	20,280	Dependable Yield (AF)	400,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	970

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	550,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Water quality will require additional treatment above the standard level for hardness, TDS, iron/manganese, corrosion and tastes/odors		
Previous Cost Estimate	$198,019,000	Year of Cost Estimate	5/1988
Grouping:	4		
Issues	Streambed elevation 900.		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	High proximity to demand and/or conveyance		

Reservoir Data Report

Reservoir Name	Atlee Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Jefferson County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	7 /19/95
Region:	Lower Washita
Basin	23-Mud Creek
Streams	West Mud Creek
Beneficial Uses	WS, R, F&W
DrainArea (Sq Mi)	81
Lat/Long or Section	Section 29, T5S, R5W Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	2,440	Dependable Yield (AF)	5,500
Dam Crest Elevation		Max Surface Area (AC)	3,560
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	844	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	835

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	53,160	Surcharge (AF)	
Conservation Pool Storage (AF)	26,500	Flood Control Storage (AF)	26,660
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Unacceptable quality without specialized treatment		
Previous Cost Estimate	$40,304,000	Year of Cost Estimate	1/1986
Grouping:	2		
Issues	Alternative to the Courtney Lake site.		
Fatal Flaw(s)	Dependable Yield ~ 5MGD		
Present?	☑		
Qualifying Statements:	Small dependable yield. High cost per unit.		

Reservoir Data Report

Reservoir Name	Atwood Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Hughes and Pontotoc Counties
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board; and Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region, May 1988
Primary Study Date	07/19/95
Region:	Central
Basin	56-Lower Canadian River-1
Streams	Canadian River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	22,110
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	9,585	Dependable Yield (AF)	215,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	800

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	269,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Hard water with high TDS,		
Previous Cost Estimate	$133,732,000	Year of Cost Estimate	5/1988
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Bally Mountain Reservoir
Agency	
Location	Kiowa County
Primary Study Document(s)	
Primary Study Date	
Region:	Beaver-Cache
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	0
Issues	
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Listed on 1966 Map - No Other Information Found

Reservoir Data Report

Reservoir Name	Bennington Reservoir also known as Durant Reservoir
Agency	U.S. Army Corps of Engineers and Bureau of Reclamation
Location	Bryan County, 17 miles east and 4 miles south of Durant, OK
Primary Study Document(s)	Central Oklahoma Project Water Conveyance Plan Formulation, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	07/19/75
Region:	Blue Boggy
Basin	11-Blue River-1
Streams	Blue River at river mile 13.0
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	649
Lat/Long or Section	Sections 28, 29 &32, T7S, R12E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	14,280	Dependable Yield (AF)	179,000
Dam Crest Elevation	543.50	Max Surface Area (AC)	23,690
Dam Length (FT)	8,430	Dam Height (FT)	70
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	5,670	Top of Sed. Pool Elev.	
Max Water Surface Elev.	538.4	Top of Dead Pool Elev.	480.5
Recreation Boundary (AC)	21,000	Top of Cons. Pool Elev.	523

Spillway	Uncontrolled with 1-11.5' diameter gated conduit		
Spillway Elevation(s)	462	Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	287,420	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	13,610
Geology			
Water Quality	Suitable for M&I use with standard treatment.		
Previous Cost Estimate	$91,097,000	Year of Cost Estimate	01/1986
Grouping:	3		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Low cost per unit Medium proximity to demand Reasonable proximity to conveyance Candidate for Scenic River designation Cold Water Fishery		

Reservoir Data Report

Reservoir Name	Big Creek Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Nowata and Craig Counties
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	7 /19/95
Region:	Middle Arkansas
Basin	79-Verdigris River (To Kansas State Line)
Streams	Big Creek
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	32,500
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Boise City Reservoir
Agency	Bureau of Reclamation, Amarillo, TX
Location	Cimarron County
Primary Study Document(s)	Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix
Primary Study Date	10/19/79
Region:	Panhandle
Basin	66-Cimarron Headwaters
Streams	Cold Springs Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	9,010	Dependable Yield (AF)	0
Dam Crest Elevation	4,300.00	Max Surface Area (AC)	9,540
Dam Length (FT)		Dam Height (FT)	150
Embankment Volume (CY)		Flood Pool Elevation	4291.2
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	4294.1	Top of Dead Pool Elev.	
Recreation Boundary (AC)	14,320	Top of Cons. Pool Elev.	4289.7

Spillway	2-21'5' X 50' gates		
Spillway Elevation(s)	4270	Power Pool Elevation	
Total Storage (AF)	491,000	Surcharge (AF)	25,500
Conservation Pool Storage (AF)	450,000	Flood Control Storage (AF)	15,500
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$82,540,000	Year of Cost Estimate	1/1978
Grouping:	2		
Issues			
Fatal Flaw(s)	Totally dependent on conveyance.		
Present?	☑		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Boley Reservoir
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Seminole-Okfuskee Counties
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	50-Lower North Canadian River
Streams	North Canadian River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	1,575
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	4,853	Dependable Yield (AF)	65,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	870

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	770,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Hard water suitable with standard treatment		
Previous Cost Estimate	$46,912,000	Year of Cost Estimate	5 /1988
Grouping:	1		
Issues	Streambed elevation 830.		
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name: Boswell Lake (Alternative D)

Agency: Multi-agencies

Location: Choctaw County 15 miles west of Hugo, OK

Primary Study Document(s): Red River Basin, AR, TX, LA, and OK, Interagency Comprehensive Technical Report

Primary Study Date: 03/19/89

Region: Blue Boggy

Basin: 7-Muddy Boggy River-1

Streams: Boggy Creek

Beneficial Uses: FC, WS, F&W, R

DrainArea (Sq Mi): 2,273

Lat/Long or Section: Sections 15, 16 & 17, T6S, R15E Indian Meridian

Dam Type: Zoned earth fill embankment with 30' crest width

Cons. Sto. Surface Area (AC)	26,700	Dependable Yield (AF)	56,011
Dam Crest Elevation	479.50	Max Surface Area (AC)	43,500
Dam Length (FT)	11,800	Dam Height (FT)	90
Embankment Volume (CY)		Flood Pool Elevation	460
Valley Wall Length (FT):	10,409	Top of Sed. Pool Elev.	
Max Water Surface Elev.	474.7	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	444.5

Spillway: 8-50' X 38' gates

Spillway Elevation(s)	428	Power Pool Elevation	
Total Storage (AF)	407,800	Surcharge (AF)	
Conservation Pool Storage (AF)	60,870	Flood Control Storage (AF)	294,100
Sediment Storage (AF)		Dead Storage (AF)	52,830

Geology:

Water Quality: Turbid with moderately hard to hard waters

Previous Cost Estimate: $130,000,000 **Year of Cost Estimate:** 01/1987

Grouping: 4

Issues: 4 alternative plans were considered but none were economically feasible. Plan "D" is the best (smallest) alternative and is described here. Other Boggy Creek sites studied Chickasaw, Parker, Cat Hollow, Tupelo, Bentley, Bruno, Non.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Low cost per unit
Medium proximity to demand
Reasonable proximity to conveyance
Multi-use reservoir
Good dependable yield

Reservoir Data Report

Reservoir Name	Boynton Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Muskogee County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	07/19/95
Region:	Middle Arkansas
Basin	49-Middle Arkansas River
Streams	Cloud Creek
Beneficial Uses	WS, R, F&W, FC
DrainArea (Sq Mi)	
Lat/Long or Section	Sections 32 & 33, T15N, R16E Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	7,300	Dependable Yield (AF)	44,800
Dam Crest Elevation	620.00	Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	80
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	7,862	Top of Sed. Pool Elev.	
Max Water Surface Elev.	613.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	590.5

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	116,000	Flood Control Storage (AF)	65,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		
Qualifying Statements:	High Dependable Yield		

Reservoir Data Report

Reservoir Name	Brazil Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	LeFlore County, 5 miles southwest of Panama, OK
Primary Study Document(s)	Poteau River Basin, Oklahoma and Arkansas, Formulation of Preliminary Plans
Primary Study Date	05/19/82
Region:	Lower Arkansas
Basin	45-Poteau River-2
Streams	Brazil Creek @ river mile 8
Beneficial Uses	FC, WS, F&W, R, P
DrainArea (Sq Mi)	235
Lat/Long or Section	Section 27, T8N, R24E Indian Meridian
Dam Type	Rolled earth fill embankment

Cons. Sto. Surface Area (AC)	8,700	Dependable Yield (AF)	8,962
Dam Crest Elevation	527.50	Max Surface Area (AC)	
Dam Length (FT)	6,600	Dam Height (FT)	100
Embankment Volume (CY)		Flood Pool Elevation	506.4
Valley Wall Length (FT):	1,931	Top of Sed. Pool Elev.	
Max Water Surface Elev.	523.8	Top of Dead Pool Elev.	444
Recreation Boundary (AC)		Top of Cons. Pool Elev.	496

Spillway	1000' uncontrolled saddle spillway & one gated 9' diameter conduit and 2-4.5' 9' gates

Spillway Elevation(s)	495.4	Power Pool Elevation	
Total Storage (AF)	299,640	Surcharge (AF)	
Conservation Pool Storage (AF)	195,200	Flood Control Storage (AF)	104,000
Sediment Storage (AF)		Dead Storage (AF)	410

Geology	
Water Quality	

Previous Cost Estimate	$76,460,000	Year of Cost Estimate	01/1982
Grouping:	4		

Issues	Multiple alternatives developed for FC only, FC and WS, and FC, WS and Hydropower. The most comprehensive alternative (FC, WS & 1 49.2' power pool) is shown.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Dependable yield increases to 87,000 AF when power is excluded Low proximity to demand Low cost per unit

Reservoir Data Report

Reservoir Name	Buck Creek Lake
Agency	U.S. Army Corps of Engineers
Location	Pushmataha County, 10 miles north of Antlers, OK
Primary Study Document(s)	Central Oklahoma Project Water Conveyance Plan Formulation
Primary Study Date	07/19/75
Region:	Southeast
Basin	6-Kiamichi River-2
Streams	Buck Creek at river mile 1.1
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	97
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	785	Dependable Yield (AF)	56,011
Dam Crest Elevation	707.50	Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	691
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	702.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)	3,200	Top of Cons. Pool Elev.	652

Spillway	Uncontrolled saddle spillway and 1-8.5' diameter gated conduit

Spillway Elevation(s)	691	Power Pool Elevation	
Total Storage (AF)	95,000	Surcharge (AF)	
Conservation Pool Storage (AF)	48,250	Flood Control Storage (AF)	45,450
Sediment Storage (AF)	1,300	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$36,700,000	Year of Cost Estimate	7/1974
Grouping:	3		

Issues	With Hugo, Sardis and Tuskahoma in operation, FC is not justified. WS and hydropower could be options in the future.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Good dependable yield High cost per unit Low/Medium proximity to demand Near existing conveyance facility

Reservoir Data Report

Reservoir Name	Buffalo Creek Reservoir
Agency	
Location	Harper County
Primary Study Document(s)	
Primary Study Date	
Region:	Panhandle
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	0		
Issues			
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Listed on 1966 Map - No Other Information Found		

Reservoir Data Report

Reservoir Name	Burneyville Reservoir
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Love and Carter Counties
Primary Study Document(s)	OB-55 Oklahoma State Water Plan, Supporting Data for Burneyville Dam and Reservoir, Appraisal Type Estimate, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	01/19/73
Region:	Lower Washita
Basin	22-Walnut Bayou
Streams	Walnut Bayou and Simon Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	319
Lat/Long or Section	Sections 15 & 16, T7S, R1W, Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	8,546	Dependable Yield (AF)	25,000
Dam Crest Elevation	753.20	Max Surface Area (AC)	9,814
Dam Length (FT)	6,725	Dam Height (FT)	48
Embankment Volume (CY)	2,554,796	Flood Pool Elevation	
Valley Wall Length (FT):	5,873	Top of Sed. Pool Elev.	721.7
Max Water Surface Elev.	747.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)	14,550	Top of Cons. Pool Elev.	742.4

Spillway	5 - 21.4' X 50' gates

Spillway Elevation(s)	721	Power Pool Elevation	
Total Storage (AF)	194,000	Surcharge (AF)	44,000
Conservation Pool Storage (AF)	119,000	Flood Control Storage (AF)	
Sediment Storage (AF)	31,000	Dead Storage (AF)	

Geology	
Water Quality	Unacceptable quality without specialized treatment

Previous Cost Estimate	$81,903,000	Year of Cost Estimate	01/1986
Grouping:	3		

Issues	Raise 2000' of SH 32, relocate 6 miles of 12 inch gas pipeline
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Medium-high cost per unit Poor water quality Medium proximity to demand

Reservoir Data Report

Reservoir Name	Byng Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Pontotoc & Seminole Counties
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	56-Lower Canadian River-1
Streams	Canadian River
Beneficial Uses	
DrainArea (Sq Mi)	21,960
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	19,300	Dependable Yield (AF)	400,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	900

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	590,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Will require treatment above standard treatment for iron/manganese, hardness, total dissolved solids and taste/odor reduction		
Previous Cost Estimate	$266,774,000	Year of Cost Estimate	5 /1988
Grouping:	1		
Issues	Streambed elevation 820.		
Fatal Flaw(s)	Not Enough Data to Properly Evaluate		
Present?	✔		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Caddo Creek Reservoir
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Carter County
Primary Study Document(s)	OB-56 Oklahoma State Water Plan, Supporting Data for Caddo Creek Dam and Reservoir. Appraisal Type Estimate, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	01/19/73
Region:	Lower Washita
Basin	14-Lower Washita
Streams	Caddo Creek
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	242
Lat/Long or Section	Sections 17, 19 & 20 , T3S, R1E Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	9,787	Dependable Yield (AF)	40,000
Dam Crest Elevation	858.50	Max Surface Area (AC)	12,475
Dam Length (FT)	7,127	Dam Height (FT)	84
Embankment Volume (CY)	3,361,345	Flood Pool Elevation	848.2
Valley Wall Length (FT):	5,433	Top of Sed. Pool Elev.	800
Max Water Surface Elev.	852.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)	18,800	Top of Cons. Pool Elev.	843.1

Spillway	5 - 22.2' X 50' gates		
Spillway Elevation(s)	820.9	Power Pool Elevation	
Total Storage (AF)	333,980	Surcharge (AF)	51,050
Conservation Pool Storage (AF)	236,000	Flood Control Storage (AF)	53,000
Sediment Storage (AF)	24,000	Dead Storage (AF)	
Geology			
Water Quality	Marginal quality with traditional treatment		
Previous Cost Estimate	$82,878,000	Year of Cost Estimate	01/1986
Grouping:	4		
Issues	Relocate 10.6 miles of 8 inch oil pipeline, a small cemetery,		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Low cost per unit Good dependable yield Low/Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Candy Lake
Agency	U.S. Army Corps of Engineers
Location	Osage County 1.5 miles northeast of Advant, OK
Primary Study Document(s)	Candy Lake, Candy Creek, Oklahoma, Design Memorandum No. 3 & 4, General Design (Jul 1974) & Land Requirements Plan, Public Use, and Survey Report on the Verdigris River and Tributaries, Oklahoma and Texas, U.S. Army Corps of Engineers, Revised Jan 1962
Primary Study Date	10/19/71
Region:	Middle Arkansas
Basin	74-Bird Creek
Streams	Candy Creek
Beneficial Uses	FC, WS, WQ, F&W, R
DrainArea (Sq Mi)	43
Lat/Long or Section	Sections 4 & 5, T23N, R12E Indian Meridian
Dam Type	Zoned earth filled embankment with 32' crest width

Cons. Sto. Surface Area (AC)	2,170	Dependable Yield (AF)	8,625
Dam Crest Elevation	752.00	Max Surface Area (AC)	3,570
Dam Length (FT)	4,210	Dam Height (FT)	82
Embankment Volume (CY)	1,610,000	Flood Pool Elevation	732.5
Valley Wall Length (FT):	2,891	Top of Sed. Pool Elev.	
Max Water Surface Elev.	748	Top of Dead Pool Elev.	676
Recreation Boundary (AC)	3,858	Top of Cons. Pool Elev.	720

Spillway	100' uncontrolled abutment & 1-10' X 11' elliptical conduit and 2-5' X 11.25' gates

Spillway Elevation(s)	739.5	Power Pool Elevation	
Total Storage (AF)	75,420	Surcharge (AF)	
Conservation Pool Storage (AF)	43,110	Flood Control Storage (AF)	31,260
Sediment Storage (AF)		Dead Storage (AF)	1,050

Geology	
Water Quality	Good

Previous Cost Estimate	$17,700,000	Year of Cost Estimate	07/1974
Grouping:	4		

Issues	Relocate 1.48 miles of county road, 2.5 miles of pipeline and 12 miles of power lines. Relocate 42 graves.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Low dependable yield Medium cost per unit Project halted due to conflict with Osage Indian mineral rights Medium/High proximity to demand

Reservoir Data Report

Reservoir Name	Caney Mountain Lake
Agency	U.S. Army Corps of Engineers
Location	Pushmataha County
Primary Study Document(s)	Central Oklahoma Project Water Conveyance Plan Formulation
Primary Study Date	7 /19/75
Region:	Southeast
Basin	3-Little River (McCurtain County)-2
Streams	Little River at river mile 158.5
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	435
Lat/Long or Section	Sections 12, 13 & 14, T3S, R20E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	10,440	Dependable Yield (AF)	280,055
Dam Crest Elevation	629.50	Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	624.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)	16,000	Top of Cons. Pool Elev.	608

Spillway	Uncontrolled with 1-13' diameter gated conduit

Spillway Elevation(s)	608	Power Pool Elevation	
Total Storage (AF)	389,600	Surcharge (AF)	
Conservation Pool Storage (AF)	384,720	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	4,880
Geology			
Water Quality			
Previous Cost Estimate	$30,900,000	Year of Cost Estimate	07/1974
Grouping:	4		

Issues	Hydro-power not studied and may make the project more attractive.
Fatal Flaw(s) Present?	☐
Qualifying Statements:	Very high dependable yield Very low cost per unit Opportunity for power Low/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Centerpoint Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Pottawatomie County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	50-Lower North Canadian River
Streams	South Deer Creek Tributary
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	7
Lat/Long or Section	Section 27, T10N, R2E Indian Meridian
Dam Type	

Cons. Sto. Surface Area (AC)	340	Dependable Yield (AF)	700
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1091

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	3,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Acceptable for all beneficial uses

Previous Cost Estimate	$4,740,000	Year of Cost Estimate	5/1988

Grouping:	3
Issues	An extension of the existing Shawnee Twin Lakes. Streambed elevation 1070.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Very low dependable yield Very high cost per unit High proximity to demand

Reservoir Data Report

Reservoir Name	Cestos Reservoir
Agency	Bureau of Reclamation, Amarillo, TX
Location	Dewey County
Primary Study Document(s)	Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix
Primary Study Date	10/19/79
Region:	Panhandle
Basin	52-Upper North Canadian River
Streams	
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	2,620	Dependable Yield (AF)	
Dam Crest Elevation	2,003.00	Max Surface Area (AC)	2,620
Dam Length (FT)		Dam Height (FT)	150
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	1996.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)	3,930	Top of Cons. Pool Elev.	1996.5

Spillway	400' uncontrolled		
Spillway Elevation(s)	1996.5	Power Pool Elevation	
Total Storage (AF)	80,400	Surcharge (AF)	
Conservation Pool Storage (AF)	80,400	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$18,320,000	Year of Cost Estimate	1/1978
Grouping:	2		
Issues			
Fatal Flaw(s) Present? ☑	Terminal storage only		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Chelsea Reservoir
Agency	U. S. Army Corps of Engineers
Location	Mayes County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/86
Region:	Grand
Basin	80-Grand (Nesho) River-1
Streams	Prior Creek
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	104
Lat/Long or Section	Sections 25, 35 & 36, T23N, R18E Indian Meridian and Section 30, T23N, R19E Indian Meridian
Dam Type	Earth filled embankment

Cons. Sto. Surface Area (AC)	4,500	Dependable Yield (AF)	21,284
Dam Crest Elevation	705.00	Max Surface Area (AC)	
Dam Length (FT)	8,100	Dam Height (FT)	80
Embankment Volume (CY)		Flood Pool Elevation	686.2
Valley Wall Length (FT):	6,176	Top of Sed. Pool Elev.	
Max Water Surface Elev.	700.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	677.5

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	65,000	Flood Control Storage (AF)	47,000
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Suitable for all water uses

Previous Cost Estimate	$80,400,000	Year of Cost Estimate	01/1985

Grouping:	4
Issues	Low density residential in far SW area of reservoir. US-44 bisects reservoir for 1.7 km. OK-28 intersects dam site.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Good dependable yield High price per unit High proximity to demand

Reservoir Data Report

Reservoir Name	Chickasaw Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Atoka County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	7 /19/95
Region:	Blue Boggy
Basin	8-Muddy Boggy River-2
Streams	Chickasaw Creek
Beneficial Uses	WS, FC, R, P, F&W
DrainArea (Sq Mi)	46
Lat/Long or Section	Sections 28, 33 & 34, T15N, R12E Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	2,030	Dependable Yield (AF)	17,900
Dam Crest Elevation		Max Surface Area (AC)	4,820
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	5,487	Top of Sed. Pool Elev.	
Max Water Surface Elev.	620	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	574

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	195,260	Surcharge (AF)	
Conservation Pool Storage (AF)	36,320	Flood Control Storage (AF)	158,940
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Good quality water with standard treatment.		
Previous Cost Estimate	$31,092,000	Year of Cost Estimate	1/1986
Grouping:	4		

Issues
Low density residential in far NE extent of reservoir. OK-43 crosses a 415 m span of the reservoir. 345kV overhead t-line intersects a negligible part of the far eastern reservoir perimeter.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Near conveyance facility
Medium dependable yield
Very low cost per unit
Dependable yield could be increased with reallocation of flood pool - which would likely increase cost
High proximity to demand
High proximity to conveyance

Reservoir Data Report

Reservoir Name	Chickasha Reservoir
Agency	U.S. Army Corps of Engineers, Tulsa District
Location	Grady County, south of Chickasha
Primary Study Document(s)	Report on Possible Solutions for Navigation; Flood Control; Waterflow Retardation and Flood Forecasting; Drainage and Municipal and Industrial Water Supply (Including Available Data on Hydroelectric Power and Irrigation Possibilities); Washita River Basin
Primary Study Date	06/19/51
Region:	Lower Washita
Basin	16 – Middle Washita
Streams	Little Washita
Beneficial Uses	FC, F&W, R
DrainArea (Sq Mi)	198
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	1,950	Dependable Yield (AF)	
Dam Crest Elevation	1,146.50	Max Surface Area (AC)	
Dam Length (FT)	6,100	Dam Height (FT)	53
Embankment Volume (CY)		Flood Pool Elevation	1131.5
Valley Wall Length (FT):		Top of Sed. Pool Elev.	1108.5
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1112.5

Spillway	4-40' X 25' Gates		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	80,500	Surcharge (AF)	
Conservation Pool Storage (AF)	7,500	Flood Control Storage (AF)	52,000
Sediment Storage (AF)	21,000	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$7,855,000	Year of Cost Estimate	6/1951
Grouping:	3		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	High cost per unit No assigned dependable yield, flood control configuration only Near population centers		

Reservoir Data Report

Reservoir Name	Clearbrook Reservoir
Agency	
Location	Cleveland County
Primary Study Document(s)	
Primary Study Date	
Region:	Central
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	0
Issues	
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Listed on 1966 Map - No Other Information Found

Reservoir Data Report

Reservoir Name	Cookietown Reservoir also known as the Cache Creek Project
Agency	Bureau of Reclamation
Location	Cotton and Tillman Counties, 14 miles west and 6 miles south of Walters, OK
Primary Study Document(s)	Concluding Report, Cache Creek Project, Oklahoma
Primary Study Date	09/19/79
Region:	Beaver Cache
Basin	27-Cache Creek-1
Streams	Deep Red Creek
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	544
Lat/Long or Section	Sections 15, 21, 22, & 28, T3S, R1 W Indian Meridian
Dam Type	Rolled earth filled with 30' crest width

Cons. Sto. Surface Area (AC)	13,100	Dependable Yield (AF)	34,700
Dam Crest Elevation	1,046.00	Max Surface Area (AC)	22,000
Dam Length (FT)	12,000	Dam Height (FT)	80
Embankment Volume (CY)		Flood Pool Elevation	1030
Valley Wall Length (FT):	9,604	Top of Sed. Pool Elev.	981
Max Water Surface Elev.	1040	Top of Dead Pool Elev.	
Recreation Boundary (AC)	33,300	Top of Cons. Pool Elev.	1027.3

Spillway	2-50' X 20.3' gates		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	400,000	Surcharge (AF)	153,300
Conservation Pool Storage (AF)	208,190	Flood Control Storage (AF)	37,500
Sediment Storage (AF)	1,010	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$99,000,000	Year of Cost Estimate	01/1978
Grouping:	4		

Issues	Eight other potential reservoir sites were studied; Hatchetville, Walters, Temple, Red Run, Randlett, Loveland, Faxon and West Cache Creek. Cookietown is deemed the most feasible. Portions of OK-36 are within the reservoir perimeter.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Good dependable yield Medium cost per unit Low/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Cooperton Reservoir
Agency	
Location	Kiowa County
Primary Study Document(s)	
Primary Study Date	
Region:	Southwest
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	0
Issues	
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Listed on 1966 Map - No Other Information Found

Reservoir Data Report

Reservoir Name	Courtney Reservoir, also known as the Criner Hills Project
Agency	Bureau of Reclamation
Location	Love and Jefferson Counties approximately 20 miles west of Marietta, OK
Primary Study Document(s)	Appraisal Report on Criner Hills Project, Oklahoma, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	06/19/76
Region:	Lower Washita
Basin	23-Mud Creek
Streams	Mud Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	641
Lat/Long or Section	Sections 14 & 15, T7S, R3W Indian Meridian
Dam Type	Rolled earth filled structure with 30' crest width

Cons. Sto. Surface Area (AC)	11,430	Dependable Yield (AF)	53,000
Dam Crest Elevation	791.00	Max Surface Area (AC)	13,900
Dam Length (FT)	6,350	Dam Height (FT)	81
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	4,641	Top of Sed. Pool Elev.	751.4
Max Water Surface Elev.	785	Top of Dead Pool Elev.	
Recreation Boundary (AC)	17,860	Top of Cons. Pool Elev.	778.8

Spillway	5-50' X 21.8' gates

Spillway Elevation(s)	763	Power Pool Elevation	
Total Storage (AF)	303,400	Surcharge (AF)	78,600
Conservation Pool Storage (AF)	206,800	Flood Control Storage (AF)	0
Sediment Storage (AF)	33,000	Dead Storage (AF)	

Geology	Geologically acceptable but will require special design and construction considerations
Water Quality	TDS 950 mg/l, possibly suitable for irrigation only. Unacceptable quality without specialized treatment.

Previous Cost Estimate	$83,438,000	Year of Cost Estimate	01/1986

Grouping:	4
Issues	
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Very high dependable yield Water quality issue Medium cost per unit Low/Medium proximity to demand Near existing supply (Texoma)

Reservoir Data Report

Reservoir Name: Cox City Lake

Agency: U.S. Army Corps of Engineers, Tulsa District

Location: Grady County

Primary Study Document(s): Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988 and Rush Creek Watershed Comprehensive Basin Study, Reconnaissance Report

Primary Study Date: 09/19/81

Region: Lower Washita

Basin: 16-Middle Washita-2

Streams: Rush Creek at river mile 38.68

Beneficial Uses: WS, FC, F&W, R

DrainArea (Sq Mi): 90

Lat/Long or Section: Sections 21 & 28, T3N, R5W, Indian Meridian

Dam Type: Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	1,800	Dependable Yield (AF)	8,000
Dam Crest Elevation	1,209.00	Max Surface Area (AC)	3,130
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	1187
Valley Wall Length (FT):	3,733	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1204	Top of Dead Pool Elev.	1150
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1168

Spillway: 200' uncontrolled & 1-6' diameter conduit

Spillway Elevation(s)	1188.2	Power Pool Elevation	
Total Storage (AF)	87,060	Surcharge (AF)	
Conservation Pool Storage (AF)	18,000	Flood Control Storage (AF)	52,200
Sediment Storage (AF)	16,860	Dead Storage (AF)	

Geology:

Water Quality: Marginal quality with standard treatment

Previous Cost Estimate	$38,215,000	Year of Cost Estimate	01/1986

Grouping: 3

Issues: Alternative site to Purdy expected to have better water quality.

Fatal Flaw(s) Present? ☐

Qualifying Statements:
Low dependable yield
Medium cost per unit
Medium proximity to demand

Reservoir Data Report

Reservoir Name	Crescent Reservoir
Agency	U.S. Army Corps of Engineers, Southwest Division, Tulsa District
Location	Logan and Kingfisher Counties west of Guthrie, OK
Primary Study Document(s)	The Survey Report on Cimarron River & Tributaries, New Mexico, Oklahoma, Colorado & Kansas, Volume 2 Appendixes IV,VI, IX, X AND XI
Primary Study Date	06/19/70
Region:	Central
Basin	64-Middle Cimarron River
Streams	Cimarron River at River mile 134.6
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	11,486
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	30,100	Dependable Yield (AF)	150,109
Dam Crest Elevation	1,050.00	Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	110
Embankment Volume (CY)		Flood Pool Elevation	1030
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	1044	Top of Dead Pool Elev.	942
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1011

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	1,363,000	Surcharge (AF)	
Conservation Pool Storage (AF)	647,000	Flood Control Storage (AF)	660,000
Sediment Storage (AF)		Dead Storage (AF)	56,000

Geology	
Water Quality	Very high Chlorides 1700 mg/l-4000 mg/l

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	3
Issues	SH-33
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Very high dependable yield Very high Chlorides Medium proximity to demand

Reservoir Data Report

Reservoir Name	Davenport Reservoir
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Lincoln County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	60-Deep Fork River
Streams	Dry Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	176
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	4,766	Dependable Yield (AF)	18,500
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	810

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	69,500	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Requires standard treatment including treatment for hardness and corrosion control		
Previous Cost Estimate	$63,372,000	Year of Cost Estimate	5 /1988
Grouping:	1		
Issues	Streambed elevation 780.		
Fatal Flaw(s)	Not Enough Data to Properly Evaluate		
Present?	☑		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Davis Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Murray County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	7 /19/95
Region:	Lower Washita
Basin	14-Lower Washita
Streams	Colbert Creek
Beneficial Uses	WS, F&W, R, FC
DrainArea (Sq Mi)	12
Lat/Long or Section	Section 10, T1S, R1E Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	390	Dependable Yield (AF)	2,800
Dam Crest Elevation		Max Surface Area (AC)	490
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	940	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	930

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	15,160	Surcharge (AF)	
Conservation Pool Storage (AF)	10,760	Flood Control Storage (AF)	4,400
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Good quality water with standard treatment.		
Previous Cost Estimate	$27,083,000	Year of Cost Estimate	1/1986
Grouping:	2		
Issues			
Fatal Flaw(s)	Very low dependable yield. Very high cost per unit.		
Present?	☑		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Dibble Reservoir also known as Purcell Lake (alternative to Muncrief Dam)
Agency	U. S. Army Corps of Engineers
Location	McClain County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/85
Region:	Central
Basin	57-Lower Canadian River-1
Streams	Walnut Creek
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	131
Lat/Long or Section	Sections 10, 15, 16 & 21, T7N, R3W Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	5,400	Dependable Yield (AF)	19,044
Dam Crest Elevation	1,162.00	Max Surface Area (AC)	
Dam Length (FT)	12,000	Dam Height (FT)	80
Embankment Volume (CY)		Flood Pool Elevation	1138.5
Valley Wall Length (FT):	9,203	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1156.8	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1132

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	98,000	Flood Control Storage (AF)	40,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$109,700,000	Year of Cost Estimate	10/1985
Grouping:	3		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	High unit cost Good dependable yield Close to population centers		

Reservoir Data Report

Reservoir Name	Durwood Reservoir
Agency	Bureau of Reclamation, Region 5
Location	Johnston County
Primary Study Document(s)	Plan of Improvement for Washita River Sub-Basin, Red River Basin, Oklahoma & Texas, Project Planning Report No. 5-13.02-0, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	02/19/51
Region:	Lower Washita
Basin	21-Red River Mainstem (To Walnut Bayou)
Streams	Washita River
Beneficial Uses	P, FC, R, F&W
DrainArea (Sq Mi)	7,074
Lat/Long or Section	Sections 2, 10 & 11, T4S, R4E Indian Meridian
Dam Type	Rolled earth fill embankment

Cons. Sto. Surface Area (AC)	16,000	Dependable Yield (AF)	232,000
Dam Crest Elevation	737.00	Max Surface Area (AC)	23,000
Dam Length (FT)	7,880	Dam Height (FT)	100
Embankment Volume (CY)	2,170,000	Flood Pool Elevation	725
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	729.9	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	13-40' X 25' radial gates		
Spillway Elevation(s)	700	Power Pool Elevation	714
Total Storage (AF)	770,000	Surcharge (AF)	110,000
Conservation Pool Storage (AF)	306,000	Flood Control Storage (AF)	191,000
Sediment Storage (AF)	163,000	Dead Storage (AF)	
Geology			
Water Quality	Unacceptable without specialized treatment		
Previous Cost Estimate	$83,920,000	Year of Cost Estimate	1/1986
Grouping:	4		
Issues			
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Very high dependable yield Very low cost per unit Medium proximity to demand Alternative to taking water directly from Texoma		

Reservoir Data Report

Reservoir Name	Eldon Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Cherokee and Adair Counties
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	07/19/75
Region:	Lower Arkansas
Basin	82-Illinois River
Streams	Barren Fork Creek
Beneficial Uses	WS, R, F&W
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	157,900
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	280,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Englewood Reservoir
Agency	Bureau of Reclamation
Location	Beaver County 8 miles southwest of Englewood, KS and 7 miles north of Gate, OK
Primary Study Document(s)	PRJ-3.00-Preliminary Design and Estimate, Englewood Dam, Englewood Project, Oklahoma; also Arkansas River Basin, Arkansas Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District, September 1985
Primary Study Date	03/19/47
Region:	Panhandle
Basin	65-Upper Cimarron River
Streams	Cimarron River
Beneficial Uses	WS (Irrigation), R, F&W, FC
DrainArea (Sq Mi)	5,964
Lat/Long or Section	Section 3, T5N and Sections 33 & 34, T6N, R28E Cimarron Meridian
Dam Type	Rolled earth filled embankment with a 35' crest width

Cons. Sto. Surface Area (AC)	7,400	**Dependable Yield (AF)**	36,967
Dam Crest Elevation	2,146.50	**Max Surface Area (AC)**	9,200
Dam Length (FT)	7,500	**Dam Height (FT)**	110
Embankment Volume (CY)		**Flood Pool Elevation**	2120.5
Valley Wall Length (FT):	6,130	**Top of Sed. Pool Elev.**	2097.5
Max Water Surface Elev.	2140.3	**Top of Dead Pool Elev.**	
Recreation Boundary (AC)	13,489	**Top of Cons. Pool Elev.**	2106.5

Spillway	6-50' X 21' gates

Spillway Elevation(s)	2088.78	**Power Pool Elevation**	
Total Storage (AF)	424,400	**Surcharge (AF)**	100,000
Conservation Pool Storage (AF)	63,500	**Flood Control Storage (AF)**	110,900
Sediment Storage (AF)	150,000	**Dead Storage (AF)**	

Geology	Suitable with adequate construction materials.
Water Quality	Unsuitable for M&I use, high concentrations of chlorides and sulfates at normal flow.

Previous Cost Estimate	$216,600,000	**Year of Cost Estimate**	01/1985
Grouping:	4		

Issues	The Survey Report on Cimarron River & Tributaries, New Mexico, Oklahoma, Colorado & Kansas, Volume 2 Appendixes IV,VI, IX, X AND XI, U.S. Army Corps of Engineers, June 1970 shows a dam crest at 2177.5 and a total storage of 670,900 A.F.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	High dependable yield High cost per unit Low/Medium proximity to demand Not for M&I use

Reservoir Data Report

Reservoir Name	Enid Reservoir		
Agency			
Location	Garfield County		
Primary Study Document(s)			
Primary Study Date			
Region:	Upper Arkansas		
Basin			
Streams			
Beneficial Uses			
DrainArea (Sq Mi)			
Lat/Long or Section			
Dam Type			
Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	0		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Listed on 1966 Map - No Other Information Found		

Reservoir Data Report

Reservoir Name	Fallis Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX and U.S. Corps of Engineers, Tulsa District
Location	Lincoln County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region; and Brief Written Statement, North Canadian River Basin, AWR Area No. 6 Oklahoma and Texas, Water Use and Control Group, Oklahoma and Texas, 12/1953
Primary Study Date	5 /19/88
Region:	Central
Basin	60-Deep Fork River
Streams	Bear Creek @ river mile 5.4
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	94
Lat/Long or Section	Section 18, T15N, R2E and Section 13, T15N, R1E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	2,600	Dependable Yield (AF)	10,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)	2,930	Dam Height (FT)	58
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	930

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	33,000	Flood Control Storage (AF)	31,400
Sediment Storage (AF)	8,400	Dead Storage (AF)	

Geology	
Water Quality	Requires standard treatment including treatment for hardness and corrosion control

Previous Cost Estimate	$50,747,000	Year of Cost Estimate	5 /1988
Grouping:	3		

Issues	Streambed elevation 900.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Low dependable yield High proximity to demand High cost per unit

Reservoir Data Report

Reservoir Name	Finley Lake
Agency	U.S. Army Corps of Engineers
Location	Pushmataha County
Primary Study Document(s)	Central Oklahoma Project Water Conveyance Plan Formulation
Primary Study Date	7 /19/75
Region:	Southeast
Basin	6-Kiamichi River-2
Streams	Cedar Creek at river mile 1.3
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	172
Lat/Long or Section	Sections 21 & 22, T3S, R17E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	5,100	Dependable Yield (AF)	95,219
Dam Crest Elevation	515.50	Max Surface Area (AC)	
Dam Length (FT)	580	Dam Height (FT)	71
Embankment Volume (CY)		Flood Pool Elevation	499
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	510.1	Top of Dead Pool Elev.	446
Recreation Boundary (AC)	11,000	Top of Cons. Pool Elev.	487

Spillway	310' uncontrolled spillway & 1-16' diameter gated conduit, 2-8' X 16' gates

Spillway Elevation(s)	499	Power Pool Elevation	
Total Storage (AF)	204,910	Surcharge (AF)	
Conservation Pool Storage (AF)	85,870	Flood Control Storage (AF)	116,800
Sediment Storage (AF)	2,240	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$30,266,000	Year of Cost Estimate	07/1974
Grouping:	4		

Issues	With Hugo, Sardis and Tuskahoma in operation, FC is not justified. WS and hydropower could be options in the future.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	High dependable yield Medium proximity to demand Reasonable proximity to conveyance Low cost per unit

Reservoir Data Report

Reservoir Name	Forgan Reservoir
Agency	Bureau of Reclamation, Great Plains Region-Billings, Montana
Location	Beaver County, OK and Meade County KS approximately 15 miles north of Beaver, OK
Primary Study Document(s)	Northwest Oklahoma Water Supply Study, Special Report
Primary Study Date	08/19/91
Region:	Panhandle
Basin	65-Upper Cimarron River
Streams	Cimarron River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	4,220
Lat/Long or Section	Sections 7 & 18, T35S, R29W and Section 12, T6N, R23E Indian Meridian
Dam Type	Zoned earth filled embankment with a crest width of 25'

Cons. Sto. Surface Area (AC)	3,900	Dependable Yield (AF)	24,100
Dam Crest Elevation	2,433.00	Max Surface Area (AC)	5,047
Dam Length (FT)	7,500	Dam Height (FT)	93
Embankment Volume (CY)	5,500,000	Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	2430	Top of Dead Pool Elev.	2367.2
Recreation Boundary (AC)	12,800	Top of Cons. Pool Elev.	2405.6

Spillway	gates and a concrete emergency spillway

Spillway Elevation(s)	2394	Power Pool Elevation	
Total Storage (AF)	129,000	Surcharge (AF)	
Conservation Pool Storage (AF)	77,500	Flood Control Storage (AF)	
Sediment Storage (AF)	25,000	Dead Storage (AF)	

Geology	Questionable
Water Quality	Poor, requires a $100 million treatment plant

Previous Cost Estimate	$127,300,000	Year of Cost Estimate	01/1990

Grouping:	3
Issues	7 potential sites (Cold Springs, Range, Slapout, FT Supply Modification, Alva, Kiowa and Amber) were evaluated and rejected in favor of Forgan.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Medium dependable yield Very high cost per unit Mostly located in Kansas Project implementation could be complicated Low/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Gainsville Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Love County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	7 /19/95
Region:	Lower Washita
Basin	21-Red River Mainstem (To Walnut Bayou)
Streams	Red River
Beneficial Uses	FC, WS, F&W, R, P
DrainArea (Sq Mi)	30,678
Lat/Long or Section	Section 26, T4N, R6E Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	4,268	Dependable Yield (AF)	17,500
Dam Crest Elevation		Max Surface Area (AC)	8,163
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	670	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	662.4

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	82,151	Surcharge (AF)	
Conservation Pool Storage (AF)	35,000	Flood Control Storage (AF)	47,151
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Unacceptable without specialized treatment		
Previous Cost Estimate	$53,805,000	Year of Cost Estimate	1/1986
Grouping:	3		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Medium dependable yield Medium cost per unit Medium proximity to demand Close proximity to existing supply		

Reservoir Data Report

Reservoir Name	Geronimo Reservoir
Agency	Engineering Advisory Committee to the Red River Compact Commission
Location	Comanche County
Primary Study Document(s)	Report of the Engineering Advisory Committee to the Red River Compact Commission
Primary Study Date	6 /19/70
Region:	Beaver Cache
Basin	28-Cache Creek-2
Streams	East Cache Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	584
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	5,422	Dependable Yield (AF)	84,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	202,000	Surcharge (AF)	
Conservation Pool Storage (AF)	202,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Goodwell Reservoir		
Agency	Bureau of Reclamation, Amarillo, TX		
Location	Texas County		
Primary Study Document(s)	Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix		
Primary Study Date	10/19/79		
Region:	Panhandle		
Basin	55-North Canadian Headwaters		
Streams	North Canadian River		
Beneficial Uses	WS, FC, F&W, R		
DrainArea (Sq Mi)			
Lat/Long or Section			
Dam Type	Zoned earth filled embankment		
Cons. Sto. Surface Area (AC)	9,590	Dependable Yield (AF)	4,000
Dam Crest Elevation	3,226.00	Max Surface Area (AC)	12,290
Dam Length (FT)		Dam Height (FT)	150
Embankment Volume (CY)		Flood Pool Elevation	3210.4
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	3220	Top of Dead Pool Elev.	
Recreation Boundary (AC)	18,430	Top of Cons. Pool Elev.	3204.3

Spillway	6-21.4' X 50' gates		
Spillway Elevation(s)	3189	Power Pool Elevation	
Total Storage (AF)	571,600	Surcharge (AF)	109,600
Conservation Pool Storage (AF)	400,000	Flood Control Storage (AF)	62,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$103,390,000	Year of Cost Estimate	1/1978
Grouping:	2		
Issues			
Fatal Flaw(s)	No yield unless conveyance is constructed		
Present?	✓		
Qualifying Statements:	Very low dependable yield Not near a population center Could negatively impact yield of Optima Lake		

Reservoir Data Report

Reservoir Name	Gracemont Reservoir
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Caddo County. Reservoir boundary touches Binger, OK.
Primary Study Document(s)	OB-57 Supporting Data for Gracemont Dam and Reservoir, Appraisal Type Estimate
Primary Study Date	01/19/73
Region:	Lower Washita
Basin	16-Middle Washita-2
Streams	Sugar Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	128
Lat/Long or Section	Sections 4, 5 & 6, T8N, R10W Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	3,748	Dependable Yield (AF)	5,000
Dam Crest Elevation	1,282.00	Max Surface Area (AC)	5,589
Dam Length (FT)	8,925	Dam Height (FT)	62
Embankment Volume (CY)	1,970,021	Flood Pool Elevation	1273.1
Valley Wall Length (FT):	3,903	Top of Sed. Pool Elev.	1243.2
Max Water Surface Elev.	1276	Top of Dead Pool Elev.	
Recreation Boundary (AC)	7,880	Top of Cons. Pool Elev.	1263.1

Spillway	5- 23.1' X 50' gates		
Spillway Elevation(s)	1250	Power Pool Elevation	
Total Storage (AF)	120,000	Surcharge (AF)	16,000
Conservation Pool Storage (AF)	49,000	Flood Control Storage (AF)	
Sediment Storage (AF)	11,000	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$16,970,000	Year of Cost Estimate	01/1973
Grouping:	3		
Issues	US Highway 281 raise and add bridges		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Very small dependable yield High cost per unit Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Greasy Reservoir
Agency	U. S. Army Corps of Engineers
Location	Adair County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/85
Region:	Lower Arkansas
Basin	46-Lower Arkansas River-1
Streams	Greasy Creek
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	22
Lat/Long or Section	Sections 34 & 35, T14N, R24E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	500	Dependable Yield (AF)	6,721
Dam Crest Elevation	868.00	Max Surface Area (AC)	
Dam Length (FT)	2,100	Dam Height (FT)	120
Embankment Volume (CY)		Flood Pool Elevation	856
Valley Wall Length (FT):	1,801	Top of Sed. Pool Elev.	
Max Water Surface Elev.	862.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	840

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	16,350	Flood Control Storage (AF)	9,900
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Suitable for all water uses.		
Previous Cost Estimate	$64,900,000	Year of Cost Estimate	01/1985
Grouping:	3		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Low dependable yield Very high cost per unit Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Greer Reservoir
Agency	Engineering Advisory Committee to the Red River Compact Commission
Location	Greer County
Primary Study Document(s)	Report of the Engineering Advisory Committee to the Red River Compact Commission
Primary Study Date	6 /19/70
Region:	Southwest
Basin	42-Elm Fork Red River-1
Streams	Elm Fork of the Red River
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	778
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	8,000	Dependable Yield (AF)	25,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	195,700	Surcharge (AF)	
Conservation Pool Storage (AF)	161,000	Flood Control Storage (AF)	34,700
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Unsuitable without extensive treatment due to natural salt contamination.		
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s)	Not Enough Data to Properly Evaluate		
Present?	☑		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Hackett Lake
Agency	U.S Army Corps of Engineers, Bureau of Reclamation, Soil Conservation Service and Tennessee Valley
Location	LeFlore County 12 miles northeast of Poteau
Primary Study Document(s)	Resource Assessment and Development Strategies, Optimum Economic Development for Southeast Oklahoma, Appendices
Primary Study Date	10/19/82
Region:	Lower Arkansas
Basin	44-Poteau River-1
Streams	James Fork Creek at river mile 15.8
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	6,721
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	79,000	Surcharge (AF)	
Conservation Pool Storage (AF)	4,000	Flood Control Storage (AF)	75,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$15,200,000	Year of Cost Estimate	1/1960
Grouping:	3		

Issues

Was initially rejected in favor of a first add of Brazil Reservoir. Maximum yield at the damsite is 92 MGD and hydropower is a possibility. Restudy was recommended after the 1966 report.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:

High cost per unit
Low dependable yield
Medium proximity to demand

Reservoir Data Report

Reservoir Name	Headrick Lake also known as Navajo Reservoir
Agency	Engineering Advisory Committee to the Red River Compact Commission
Location	Jackson and Kiowa Counties
Primary Study Document(s)	Report of the Engineering Advisory Committee to the Red River Compact Commission
Primary Study Date	6 /19/70
Region:	Southwest
Basin	35-Lower North Fork Red River-4
Streams	North Fork Red River
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	3,793
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	14,300	Dependable Yield (AF)	108,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	413,000	Surcharge (AF)	
Conservation Pool Storage (AF)	342,000	Flood Control Storage (AF)	71,000
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Unsuitable for M&I without extensive treatment. Not feasible until Elm Creek Chloride control is implemented.

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	1
Issues	
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate; Water quality

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Hennepin Reservoir, also known as Criner Hills Project
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Garvin and Carter Counties
Primary Study Document(s)	OB-58 Oklahoma State Water Plan, Supporting Data for Hennepin Dam and Reservoir, Appraisal Type Estimate, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1987
Primary Study Date	01/19/73
Region:	Lower Washita
Basin	14-Lower Washita
Streams	Wildhorse Creek and Salt Creek
Beneficial Uses	WS, F&W, R, P
DrainArea (Sq Mi)	534
Lat/Long or Section	Section 27, T1N, R1W Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	14,129	Dependable Yield (AF)	60,000
Dam Crest Elevation	919.50	Max Surface Area (AC)	15,149
Dam Length (FT)	6,630	Dam Height (FT)	75
Embankment Volume (CY)	2,217,594	Flood Pool Elevation	
Valley Wall Length (FT):	5,759	Top of Sed. Pool Elev.	874.4
Max Water Surface Elev.	913.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)	20,960	Top of Cons. Pool Elev.	900

Spillway	7 - 22.4 X 50' gates		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	376,000	Surcharge (AF)	46,000
Conservation Pool Storage (AF)	285,000	Flood Control Storage (AF)	
Sediment Storage (AF)	45,000	Dead Storage (AF)	
Geology			
Water Quality	Marginal quality with standard treatment		
Previous Cost Estimate	$98,408,000	Year of Cost Estimate	09/1987
Grouping:	2		
Issues			
Fatal Flaw(s) Present? ☑	Relocate SH 7, SH 74, two cemeteries, the town of Hennepin and part of Elmore City, 350 oil and gas wells, a 66kv power line, a 69 kV power line and 20 oil or gas pipelines		
Qualifying Statements:			

Reservoir Data Report

Reservoir Name	Hennessey Reservoir
Agency	U. S. Army Corps of Engineers
Location	Garfield County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/85
Region:	Central
Basin	64-Middle Cimarron River
Streams	Turkey Creek
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	291
Lat/Long or Section	Section 19, 20 & 21, T20N, R7W Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	7,700	Dependable Yield (AF)	18,819
Dam Crest Elevation	1,194.00	Max Surface Area (AC)	
Dam Length (FT)	14,600	Dam Height (FT)	100
Embankment Volume (CY)		Flood Pool Elevation	1175.8
Valley Wall Length (FT):	8,755	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1188.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1166.7

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	130,000	Flood Control Storage (AF)	82,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Suitable for all water uses		
Previous Cost Estimate	$146,900,000	Year of Cost Estimate	01/1985
Grouping:	4		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Good dependable yield Medium proximity to demand Medium cost per unit		

Reservoir Data Report

Reservoir Name	Higgins Reservoir also known as the Wilburton Project
Agency	Bureau of Reclamation
Location	Latimer County 4 miles southeast of Hartshorne, OK
Primary Study Document(s)	Wilburton Project, Oklahoma. Appraisal Report Revised November 1974 and Wilburton Project Appraisal Report November 1981
Primary Study Date	05/19/73
Region:	Eufaula
Basin	48-Canadian River to (North Canadian River)
Streams	Gaines Creek
Beneficial Uses	WS, R, F&W
DrainArea (Sq Mi)	128
Lat/Long or Section	Sections 23 & 24, T4N, R17E, Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	7,400	Dependable Yield (AF)	68,000
Dam Crest Elevation	716.50	Max Surface Area (AC)	8,925
Dam Length (FT)	3,000	Dam Height (FT)	68
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	710.5	Top of Dead Pool Elev.	649
Recreation Boundary (AC)	14,000	Top of Cons. Pool Elev.	701

Spillway	2-Morning Glory spillways?

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	272,500	Surcharge (AF)	77,500
Conservation Pool Storage (AF)	190,500	Flood Control Storage (AF)	
Sediment Storage (AF)	4,500	Dead Storage (AF)	

Geology	Acceptable
Water Quality	Good

Previous Cost Estimate	$19,920,000	Year of Cost Estimate	01/1974

Grouping:	4
Issues	Three sites were studied, the Higgins site, Middle Higgins site and Upper Higgins site. The Higgins site is the largest and is described herein.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Very high dependable yield Low cost per unit High proximity to demand

Reservoir Data Report

Reservoir Name: Holson Creek Reservoir (Option B, Plan 12)

Agency: U.S. Army Corps of Engineers in conjunction with the Oklahoma Water Resources Board for the Poteau

Location: LeFlore County 30 miles south of Poteau, OK

Primary Study Document(s): Poteau Valley Improvement Authority Holson Creek, Oklahoma, Reservoir Study, Stage 2 Studies, also Stage 1 Studies June 1996, and Stage 3 Geotechnical Studies October 2000

Primary Study Date: 02/19/99

Region: Lower Arkansas

Basin: 45-Poteau River-2

Streams: Holson Creek

Beneficial Uses: WS, R, F&W

DrainArea (Sq Mi): 51

Lat/Long or Section: Section 15, T4N, R23E Indian Meridian

Dam Type: Zoned earth filled embankment with 32' crest width

Cons. Sto. Surface Area (AC)	5,000	Dependable Yield (AF)	41,336
Dam Crest Elevation	767.70	Max Surface Area (AC)	5,280
Dam Length (FT)	1,500	Dam Height (FT)	85
Embankment Volume (CY)		Flood Pool Elevation	750
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	762.7	Top of Dead Pool Elev.	620.9
Recreation Boundary (AC)	5,280	Top of Cons. Pool Elev.	750

Spillway: 300' wide abutment type spillway

Spillway Elevation(s)	750	Power Pool Elevation	
Total Storage (AF)	320,380	Surcharge (AF)	
Conservation Pool Storage (AF)	319,760	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	620

Geology: Phase 3 deemed the "B" site unsuitable for construction of a dam.

Water Quality: Good soft water

Previous Cost Estimate: $71,427,930 **Year of Cost Estimate:** 01/1998

Grouping: 2

Issues: This study evaluated 6 options ranging from 330 acres to 5000 acres of surface area. The largest option is shown. 9 miles of Holson Valley Road and 21 dwellings and a church will require relocation.

Fatal Flaw(s): Geology of the "B" damsite.

Present? ☑

Qualifying Statements: Very low cost per unit
High dependable yield

Reservoir Data Report

Reservoir Name	Hunnewell Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Kay County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board; and Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix, BOR, Amarillo, TX, October 1979
Primary Study Date	07/19/95
Region:	Upper Arkansas
Basin	70-Lower Salt Fork of the Arkansas River-3
Streams	Chikaskia River
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	18,750	Dependable Yield (AF)	54,700
Dam Crest Elevation	1,112.00	Max Surface Area (AC)	27,030
Dam Length (FT)		Dam Height (FT)	80
Embankment Volume (CY)		Flood Pool Elevation	1100.5
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	1105.8	Top of Dead Pool Elev.	
Recreation Boundary (AC)	40,540	Top of Cons. Pool Elev.	1095.1

Spillway	8- 21.5' X 50' gates		
Spillway Elevation(s)	1079	Power Pool Elevation	
Total Storage (AF)	645,100	Surcharge (AF)	59,700
Conservation Pool Storage (AF)	473,400	Flood Control Storage (AF)	112,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$69,210,000	Year of Cost Estimate	1/1978
Grouping:	3		
Issues			
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	High dependable yield Low cost per unit Medium proximity to demand Project implementation could be complicated		

Reservoir Data Report

Reservoir Name: Hydro Reservoir also known as the Geary Project and Minco Project

Agency: Bureau of Reclamation

Location: 4 miles N.E. of Hydro, OK. Blaine, Custer and Dewey Counties

Primary Study Document(s): Geary Project, Oklahoma also Minco Project Oklahoma, Appraisal Report, Bureau of Reclamation March 1973; also Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District, September 1985

Primary Study Date: 10/19/73

Region: West Central

Basin: 59 Upper Canadian River

Streams: Canadian River

Beneficial Uses: WS, R, F&W

DrainArea (Sq Mi): 20,015

Lat/Long or Section: Section 19 & 30, T13N, R12W Indian Meridian

Dam Type: Rolled earth filled, 30' wide at crest

Cons. Sto. Surface Area (AC)	20,400	Dependable Yield (AF)	114,934
Dam Crest Elevation	1,556.00	Max Surface Area (AC)	21,910
Dam Length (FT)	7,450	Dam Height (FT)	124
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	7,941	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1547	Top of Dead Pool Elev.	
Recreation Boundary (AC)	23,950	Top of Cons. Pool Elev.	1523

Spillway: 700' gated concrete spillway with 11-50' X 21.4' radial gates

Spillway Elevation(s)	1520	Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	92,000
Conservation Pool Storage (AF)	700,000	Flood Control Storage (AF)	
Sediment Storage (AF)	173,000	Dead Storage (AF)	127,000

Geology:

Water Quality: hardness 328, TDS 806, Sulfates, 230, Chlorides 177, Water quality is marginal. Also Geary Project Concluding Report, September 1981, BOR, Southwest Region

Previous Cost Estimate	$373,600,000	Year of Cost Estimate	01/1985

Grouping: 4

Issues: 7 sites were investigated on the Canadian River. Taloga, Oakwood, Hydro, Bridgeport, Union, Selena and Weatherford. Four were dropped and the Union, Hydro and Weatherford sites selected for further consideration. Of these three the Hydro site was best.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Very high dependable yield
Medium cost per unit
Low/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Iron Mound Reservoir also known as the Seward Project
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	1 mile west of Seward, OK. Logan and Oklahoma Counties
Primary Study Document(s)	Seward Project Report
Primary Study Date	12/19/81
Region:	Central
Basin	64 Middle Cimarron River
Streams	Cottonwood Creek tributary of the Cimarron River, Deer Creek and Chisholm Creek
Beneficial Uses	R, F&W, WS
DrainArea (Sq Mi)	
Lat/Long or Section	Section 36, T16N, R3W Indian Meridian
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	1040	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology	Suitable		
Water Quality	Questionable, high nutrient load		
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	2		
Issues			
Fatal Flaw(s) Present? ☑	Would inundate Liberty Lake and the Community of Seward and would require relocation of a railroad and two state roads.		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Kechi Reservoir
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Grady and Comanche Counties
Primary Study Document(s)	OB-27 Oklahoma State Water Plan, Supporting Data for Reconnaissance Design and Estimate, Kechi Dam and Reservoir
Primary Study Date	03/19/73
Region:	Lower Washita
Basin	16 Middle Washita-2
Streams	
Beneficial Uses	FC, F&W, R, WS
DrainArea (Sq Mi)	111
Lat/Long or Section	Sections 4 & 5, T4N, R8W Indian Meridian
Dam Type	Embankment with 30' crest width

Cons. Sto. Surface Area (AC)	2,939	Dependable Yield (AF)	8,000
Dam Crest Elevation	1,244.00	Max Surface Area (AC)	5,111
Dam Length (FT)	4,640	Dam Height (FT)	86
Embankment Volume (CY)	2,026,740	Flood Pool Elevation	1229.2
Valley Wall Length (FT):	3,273	Top of Sed. Pool Elev.	1190.5
Max Water Surface Elev.	1237.8	Top of Dead Pool Elev.	
Recreation Boundary (AC)	8,120	Top of Cons. Pool Elev.	1219.7

Spillway	3 - 50' X 22.2' gates

Spillway Elevation(s)	1207	Power Pool Elevation	
Total Storage (AF)	131,000	Surcharge (AF)	39,000
Conservation Pool Storage (AF)	51,400	Flood Control Storage (AF)	33,100
Sediment Storage (AF)		Dead Storage (AF)	7,500

Geology	
Water Quality	

Previous Cost Estimate	$41,775,000	Year of Cost Estimate	01/1981
Grouping:	4		

Issues	Relocate 9.6 miles of 69kv power line, 5 miles of 66kv power line, 8.4 miles of 12 inch gas line, 12 miles of county road
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Low dependable yield Medium cost per unit Medium proximity to demand

Reservoir Data Report

Reservoir Name	Kellond Lake
Agency	U.S. Army Corps of Engineers
Location	Pushmataha County, approximately 7 miles north of Antlers, OK
Primary Study Document(s)	Central Oklahoma Project Water Conveyance Plan Formulation
Primary Study Date	07/19/75
Region:	Southeast
Basin	6-Kiamichi River-2
Streams	Ten Mile Creek @ river mile 0.8
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	103
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	3,410	Dependable Yield (AF)	56,011
Dam Crest Elevation	524.50	Max Surface Area (AC)	
Dam Length (FT)	2,015	Dam Height (FT)	78
Embankment Volume (CY)		Flood Pool Elevation	510
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	519.1	Top of Dead Pool Elev.	465
Recreation Boundary (AC)	7,900	Top of Cons. Pool Elev.	499

Spillway	200' uncontrolled and 1-11' diameter gated conduit

Spillway Elevation(s)	510	Power Pool Elevation	
Total Storage (AF)	92,320	Surcharge (AF)	
Conservation Pool Storage (AF)	49,010	Flood Control Storage (AF)	47,940
Sediment Storage (AF)		Dead Storage (AF)	1,370

Geology	
Water Quality	

Previous Cost Estimate	$32,000,000	Year of Cost Estimate	7/1974
Grouping:	3		

Issues	With Hugo, Sardis and Tuskahoma in operation, FC is not justified. WS and hydropower could be options in the future.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	High dependable yield Medium/High cost per unit Medium proximity to demand Reasonable proximity to conveyance

Reservoir Data Report

Reservoir Name	Kendrick Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Lincoln County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	60-Deep Fork River
Streams	Dry Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	82
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	1,986	Dependable Yield (AF)	7,800
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	852

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	28,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Standard treatment with hardness reduction and corrosion control.		
Previous Cost Estimate	$31,660,000	Year of Cost Estimate	5/1988
Grouping:	1		
Issues	Streambed elevation 820.		
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name: Lake Valley Reservoir

Agency:

Location: Washita County

Primary Study Document(s):

Primary Study Date:

Region: Washita

Basin:

Streams:

Beneficial Uses:

DrainArea (Sq Mi):

Lat/Long or Section:

Dam Type:

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway:

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology:

Water Quality:

Previous Cost Estimate: **Year of Cost Estimate:**

Grouping: 0

Issues:

Fatal Flaw(s) Present? ☐

Qualifying Statements: Listed on 1966 Map - No Other Information Found

Reservoir Data Report

Reservoir Name	Lebos Lake
Agency	Engineering Advisory Committee to the Red River Compact Commission
Location	Jackson County
Primary Study Document(s)	Report of the Engineering Advisory Committee to the Red River Compact Commission
Primary Study Date	6 /19/70
Region:	Southwest
Basin	40-Prairie Dog Town Fork Red River-1
Streams	Lebos Creek which appears to also be named Sandy Creek
Beneficial Uses	
DrainArea (Sq Mi)	304
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)	4,300	Dependable Yield (AF)	15,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	96,000	Surcharge (AF)	
Conservation Pool Storage (AF)	57,000	Flood Control Storage (AF)	39,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues	Also considered by the Bureau of Reclamation for 15,000 AF of imported water.		
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Lela Reservoir also referred to as the Watchorn Project or Pawnee Reservoir
Agency	Bureau of Reclamation
Location	Pawnee and Noble Counties 1.5 miles west of Pawnee, OK
Primary Study Document(s)	Appraisal Report, Watchorn Project, Oklahoma; and Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix, BOR, Amarillo, TX, October 1979
Primary Study Date	12/19/73
Region:	Upper Arkansas
Basin	71-Arkansas River-Cimarron Rivers to Keystone Lake
Streams	Black Bear Creek
Beneficial Uses	WS, R, F&W
DrainArea (Sq Mi)	545
Lat/Long or Section	Sections 35 & 36, T22N and Section 2, T21N, R4E Indian Meridian
Dam Type	Rolled earth filled with 30' crest width

Cons. Sto. Surface Area (AC)	9,700	Dependable Yield (AF)	47,000
Dam Crest Elevation	896.00	Max Surface Area (AC)	11,400
Dam Length (FT)	2,922	Dam Height (FT)	81
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	2,738	Top of Sed. Pool Elev.	852.9
Max Water Surface Elev.	890.1	Top of Dead Pool Elev.	
Recreation Boundary (AC)	16,600	Top of Cons. Pool Elev.	886

Spillway	7-50' X 22' gates

Spillway Elevation(s)	873	Power Pool Elevation	
Total Storage (AF)	224,300	Surcharge (AF)	43,300
Conservation Pool Storage (AF)	165,500	Flood Control Storage (AF)	0
Sediment Storage (AF)	15,500	Dead Storage (AF)	

Geology	Acceptable
Water Quality	Chlorides exceed EPA criteria by 20% but should be suitable for all uses.

Previous Cost Estimate	$70,360,000	Year of Cost Estimate	01/1978
Grouping:	4		

Issues	The Enid, Garber, Otoe, Upper Otoe and Perry sites were considered. Lela was deemed most favorable.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	High dependable yield High/Medium proximity to demand Medium cost per unit Near underutilized existing supply (Kaw Lake)

Reservoir Data Report

Reservoir Name	Little River Reservoir
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Potawatomie County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	62-Little River-2
Streams	Little River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	200
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	9,450	Dependable Yield (AF)	16,800
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	950

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	175,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Requires standard treatment with hardness and taste & odor reduction.		
Previous Cost Estimate	$76,115,000	Year of Cost Estimate	5/1988
Grouping:	1		
Issues	Streambed elevation 910.		
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		
Qualifying Statements:			

Reservoir Data Report

Reservoir Name	Lukfata Lake
Agency	Multi-agencies, U.S. Army Corp of Engineers, Tulsa District
Location	McCurtain County, 16 miles northwest of Broken Bow, OK
Primary Study Document(s)	Red River Basin, AR, TX, LA, and OK, Interagency Comprehensive Technical Report, updated Lukfata Lake, Glover Creek, Oklahoma, Design Memorandum No. 4 General Design March 1976
Primary Study Date	03/19/89
Region:	Southeast
Basin	3-Little River (McCurtain County)-2
Streams	Glover River @ river mile 24.5
Beneficial Uses	FC, R, F&W, WS
DrainArea (Sq Mi)	252
Lat/Long or Section	Section 32, T4S, R23E Indian Meridian
Dam Type	Rock filled with impervious earth core and 32' crest width

Cons. Sto. Surface Area (AC)	1,680	Dependable Yield (AF)	36,967
Dam Crest Elevation	694.50	Max Surface Area (AC)	10,940
Dam Length (FT)	2,890	Dam Height (FT)	165
Embankment Volume (CY)	1,663,000	Flood Pool Elevation	656.5
Valley Wall Length (FT):	725	Top of Sed. Pool Elev.	
Max Water Surface Elev.	689.1	Top of Dead Pool Elev.	560.5
Recreation Boundary (AC)	15,150	Top of Cons. Pool Elev.	600

Spillway	600' limited service uncontrolled spillway and 12' diameter tunnel		
Spillway Elevation(s)	666	Power Pool Elevation	
Total Storage (AF)	507,300	Surcharge (AF)	255,200
Conservation Pool Storage (AF)	37,460	Flood Control Storage (AF)	208,630
Sediment Storage (AF)	6,010	Dead Storage (AF)	
Geology	Acceptable with adequate construction materials		
Water Quality	Good to excellent		
Previous Cost Estimate	$30,000,000	Year of Cost Estimate	01/1976
Grouping:	2		
Issues	Ultimate development of the site could yield 160 MGD. Significant environmental issues exist.		
Fatal Flaw(s)	Potential adverse effect on the Leopard Darter.		
Present?	☑		
Qualifying Statements:	Good dependable yield Low cost per unit Near existing supply Not near population center		

Reservoir Data Report

Reservoir Name	Mangum Reservoir (Lower Mangum Damsite)
Agency	U.S. Army Corps of Engineers
Location	Greer County 2 miles Southwest of Mangum, OK
Primary Study Document(s)	Mangum Reservoir Study, Mangum, OK, Phase V, Planning Assistance to States Program, Prepared for the Oklahoma Water Resources Board
Primary Study Date	09/20/05
Region:	Southwest
Basin	39-Salt Fork Red River-2
Streams	Salt Fork of the Red River
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	Section 5, T4N, R22W and Section 32, T5N, R22W Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	2,604	Dependable Yield (AF)	18,494
Dam Crest Elevation	1,580.00	Max Surface Area (AC)	
Dam Length (FT)	5,000	Dam Height (FT)	80
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	3,341	Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1550

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	47,043	Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology	Suitable at damsite, karst features (sinkholes, caves, disappearing streams, springs and underground water courses) exist south of the uppermost reaches of the reservoir.		
Water Quality	Located on Salt Fork of Red River		
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	4		
Issues	Potential for upstream water loss in the Commissioner Bend area due to faulting and karst features.		
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	No pre-existing cost data Good dependable yield Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Mangum Reservoir also known as the Upper Mangum Site
Agency	Bureau of Reclamation, Plans and Estimates Branch, Amarillo, TX
Location	Greer County 6.5 miles southwest of Mangum, OK
Primary Study Document(s)	OB-64 Oklahoma State Water Plan, Supporting Data for Reconnaissance Design and Estimate, Mangum Dam and Reservoir
Primary Study Date	11/19/73
Region:	Southwest
Basin	39-Salf Fork RR-2
Streams	Salt Fork of the Red River
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	1,326
Lat/Long or Section	Section 9, T4N, R23W Indian Meridian
Dam Type	zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	2,966	**Dependable Yield (AF)**	39,656
Dam Crest Elevation	1,662.00	**Max Surface Area (AC)**	8,355
Dam Length (FT)	17,900	**Dam Height (FT)**	107
Embankment Volume (CY)	5,076,000	**Flood Pool Elevation**	1646
Valley Wall Length (FT):	3,341	**Top of Sed. Pool Elev.**	1608
Max Water Surface Elev.	1656	**Top of Dead Pool Elev.**	
Recreation Boundary (AC)	13,050	**Top of Cons. Pool Elev.**	1637

Spillway	9 - 21.7' X 50' gates

Spillway Elevation(s)	1625	**Power Pool Elevation**	
Total Storage (AF)	292,500	**Surcharge (AF)**	70,300
Conservation Pool Storage (AF)	110,200	**Flood Control Storage (AF)**	60,000
Sediment Storage (AF)	52,000	**Dead Storage (AF)**	

Geology	gypsum-Karst features exist at or near the site
Water Quality	Located on Salt Fork of Red River

Previous Cost Estimate	$38,680,000	**Year of Cost Estimate**	01/1973
Grouping:	2		

Issues	Relocate 1.14 miles of paved county road, relocate 25,000' of 12-inch pipeline,
Fatal Flaw(s) Present? ☑	Subsequent studies by the Bureau of Reclamation (Jackson 1991) and U.S. Army Corps of Engineers 1993, 1995 and 1999) concluded the Upper Mangum Site was unsuitable.
Qualifying Statements:	

Reservoir Data Report

Reservoir Name	Morse Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Okfuskee County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	60-Deep Fork River
Streams	Nuyaka Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	84
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	3,510	Dependable Yield (AF)	16,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	711

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	58,700	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Standard treatment with iron/manganese removal and treatment for corrosion and tastes & odors.		
Previous Cost Estimate	$68,293,000	Year of Cost Estimate	5/1988
Grouping:	1		
Issues	Streambed elevation 670.		
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Mountain View Reservoir
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Washita County
Primary Study Document(s)	OB- 59, Supporting data for Mountain View Dam and Reservoir, Appraisal Type Estimate
Primary Study Date	01/19/73
Region:	West Central
Basin	19-Upper Washita-3
Streams	Washita River
Beneficial Uses	R, FC, F&W, WS
DrainArea (Sq Mi)	1,152
Lat/Long or Section	Sections 25, 26, 33, 34 & 35, T8N, R15W Indian Meridian
Dam Type	Embankment with 30' wide crest

Cons. Sto. Surface Area (AC)	9,388	Dependable Yield (AF)	50,000
Dam Crest Elevation	1,395.00	Max Surface Area (AC)	13,395
Dam Length (FT)	10,720	Dam Height (FT)	70
Embankment Volume (CY)	4,016,675	Flood Pool Elevation	1385.7
Valley Wall Length (FT):	11,652	Top of Sed. Pool Elev.	1356.5
Max Water Surface Elev.	1389.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)	19,550	Top of Cons. Pool Elev.	1377.5

Spillway	11-21.7' X 50' gates

Spillway Elevation(s)	1364	Power Pool Elevation	
Total Storage (AF)	344,000	Surcharge (AF)	45,000
Conservation Pool Storage (AF)	150,000	Flood Control Storage (AF)	90,000
Sediment Storage (AF)	59,000	Dead Storage (AF)	

Geology	
Water Quality	

Previous Cost Estimate	$34,240,000	Year of Cost Estimate	01/1973
Grouping:	3		

Issues	41,000' of 24 inch natural gas pipeline. SH-113 crosses extreme eastern inlet and far eastern site of dam.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	High dependable yield Low proximity to demand Low cost per unit

Reservoir Data Report

Reservoir Name	Muncrief Dam also named Purcell Reservoir (alternative to the Dibble site)
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	McClain County
Primary Study Document(s)	OB-68 Oklahoma State Water Plan, Plans and Estimate for Muncrief Dam & Reservoir and Pipeline to Chickasha
Primary Study Date	07/19/72
Region:	Central
Basin	57-Lower Canadian River-2
Streams	Walnut Creek
Beneficial Uses	WS, FC, R, F&W
DrainArea (Sq Mi)	193
Lat/Long or Section	Sections 2 & 3, T6N, R2W Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	6,670	Dependable Yield (AF)	20,000
Dam Crest Elevation	1,103.00	Max Surface Area (AC)	8,321
Dam Length (FT)	8,685	Dam Height (FT)	63
Embankment Volume (CY)	2,776,287	Flood Pool Elevation	1093.7
Valley Wall Length (FT):	9,203	Top of Sed. Pool Elev.	1062.1
Max Water Surface Elev.	1097.33	Top of Dead Pool Elev.	
Recreation Boundary (AC)	12,880	Top of Cons. Pool Elev.	1090.2

Spillway	5-21.7' X 50' gates		
Spillway Elevation(s)	1072	Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	112,000	Flood Control Storage (AF)	25,200
Sediment Storage (AF)	13,000	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$5,800,000	Year of Cost Estimate	01/1972
Grouping:	4		
Issues	Would inundate part of Washington, two sewage lagoons, relocate 10,000' of 138 kV power line, raise 2500' of SH 39 (20'), raise 3000' of SH 126 (10'), 18 miles of 4" to 24" oil and gas pipelines		
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Cost estimate does not appear to be correct, therefore conclusion of very low unit cost cannot be supported Medium proximity to demand Good dependable yield		

Reservoir Data Report

Reservoir Name: Navina Reservoir also known as the Seward Project, also termed the Lower Navina Site

Agency: Bureau of Reclamation, Southwest Region, Amarillo, TX

Location: 2 miles S.E. of Navina, OK. Logan, Kingfisher and Oklahoma Counties

Primary Study Document(s): Seward Project Report; also Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District, September 1985

Primary Study Date: 12/19/81

Region: Central

Basin: 60-Deep Fork River

Streams: Cottonwood Creek tributary of the Cimarron River

Beneficial Uses: R, F&W, WS

DrainArea (Sq Mi): 229

Lat/Long or Section: Sections 4, 9 & 16, T15N, R3W Indian Meridian

Dam Type: Zoned earth filled embankment, 32.8 feet wide

Cons. Sto. Surface Area (AC)	6,971	Dependable Yield (AF)	34,615
Dam Crest Elevation	1,028.87	Max Surface Area (AC)	8,586
Dam Length (FT)	6,214	Dam Height (FT)	68
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	1023	Top of Dead Pool Elev.	977.69
Recreation Boundary (AC)	15,590	Top of Cons. Pool Elev.	1017.59

Spillway: 12-36' X 24.3' gates

Spillway Elevation(s)	994.62	Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	42,132
Conservation Pool Storage (AF)	111,846	Flood Control Storage (AF)	
Sediment Storage (AF)	7,400	Dead Storage (AF)	1,208

Geology: Suitable

Water Quality: Fair, high nutrient load, exceeds sulfate limits by 50%, mild laxative

Previous Cost Estimate: $286,800,000 **Year of Cost Estimate:** 01/1985

Grouping: 4

Issues: Stopped by Sen. Don Nickles 02/15/1984 due to lack of sponsor interest, cost and potential water quality issues.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Extremely high cost per unit
High proximity to demand
Good dependable yield
This configuration lacks flood control

Reservoir Data Report

Reservoir Name	Non Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Coal County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Blue Boggy
Basin	8-Muddy Boggy River-2
Streams	Caney Boggy Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	94
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	5,600	Dependable Yield (AF)	27,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	662

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	71,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Standard treatment with corrosion control.

Previous Cost Estimate	$56,061,000	Year of Cost Estimate	05/1988

Grouping:	1
Issues	Streambed elevation 610.
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Nuyaka Reservoir
Agency	U. S. Army Corps of Engineers
Location	Okmulgee County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/85
Region:	Eufaula
Basin	48-Canadian River (To North Canadian River)
Streams	Deep Fork River
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	1,894
Lat/Long or Section	Sections 10, 11 & 15, T14N, R11E Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	53,000	Dependable Yield (AF)	224,044
Dam Crest Elevation	762.50	Max Surface Area (AC)	
Dam Length (FT)	4,200	Dam Height (FT)	110
Embankment Volume (CY)		Flood Pool Elevation	733.5
Valley Wall Length (FT):	3,785	Top of Sed. Pool Elev.	
Max Water Surface Elev.	757.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	722

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	1,400,000	Flood Control Storage (AF)	700,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Suitable for all water uses. Possible temporary high iron concentrations.		
Previous Cost Estimate	$407,800,000	Year of Cost Estimate	01/1985
Grouping:	4		
Issues	Town of Dentonville and a significant industrial development in Sec 28. Relocate multiple cemeteries (Sec. 34), SH-16, 56, and 48 all cross reservoir perimeter In multiple places. 115kV t-line intersects both south forks of reservoir.		
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Extremely high dependable yield High proximity to demand Low cost per unit		

Reservoir Data Report

Reservoir Name	Oakwood Reservoir
Agency	Bureau of Reclamation
Location	5 Miles southwest of Oakwood, OK, Dewey County
Primary Study Document(s)	Geary Project, Oklahoma, Concluding Report
Primary Study Date	09/19/81
Region:	West Central
Basin	59-Upper Canadian River
Streams	Canadian River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	Sections 2, 3, 9 & 10, T16N, R15W, Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	22,800	Dependable Yield (AF)	100,000
Dam Crest Elevation		Max Surface Area (AC)	25,000
Dam Length (FT)	9,500	Dam Height (FT)	124
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	1684	Top of Dead Pool Elev.	1616
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1678

Spillway	700' gated		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	144,000
Conservation Pool Storage (AF)	680,000	Flood Control Storage (AF)	
Sediment Storage (AF)	152,000	Dead Storage (AF)	127,000
Geology			
Water Quality			
Previous Cost Estimate	$282,465,000	Year of Cost Estimate	1/1980
Grouping:	3		
Issues			
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Very high dependable yield Medium cost per unit Low/Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Okarche Reservoir
Agency	
Location	Canadian County
Primary Study Document(s)	
Primary Study Date	
Region:	Central
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	0
Issues	
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Listed on 1966 Map - No Other Information Found

Reservoir Data Report

Reservoir Name: Otoe Lake

Agency: U.S Army Corps of Engineers, Southwest Division, Tulsa District

Location: Noble County

Primary Study Document(s): Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board; and Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix, BOR, Amarillo, TX, October 1979

Primary Study Date: 07/19/95

Region: Upper Arkansas

Basin: 72-Arkansas River Mainstem (To Kansas State Line)

Streams: Red Rock Creek

Beneficial Uses: WS, FC, R, F&W

DrainArea (Sq Mi):

Lat/Long or Section: Sections 3, 10, & 15, T23N, R2E and Section 34, T24N, R2E Indian Meridian

Dam Type: Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	19,950	Dependable Yield (AF)	46,000
Dam Crest Elevation	931.00	Max Surface Area (AC)	28,950
Dam Length (FT)		Dam Height (FT)	85
Embankment Volume (CY)		Flood Pool Elevation	920.2
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	924.9	Top of Dead Pool Elev.	
Recreation Boundary (AC)	43,430	Top of Cons. Pool Elev.	913.9

Spillway: 4-21.2' X 50' gates

Spillway Elevation(s)	899	Power Pool Elevation	
Total Storage (AF)	670,200	Surcharge (AF)	124,900
Conservation Pool Storage (AF)	403,300	Flood Control Storage (AF)	142,000
Sediment Storage (AF)		Dead Storage (AF)	

Geology:

Water Quality:

Previous Cost Estimate: $123,100,000 **Year of Cost Estimate**: 01/1978

Grouping: 3

Issues: According to report: Low likelihood "due to proximity to demand, dependable yield, available storage, relocation costs and/or water quality." Reliant on conveyance to be practical.

Fatal Flaw(s)

Present? ☐

Qualifying Statements: Near existing underutilized source (Kaw)
Low cost per unit
High/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Paden Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Okfuskee County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	60-Deep Fork River
Streams	Hilliby Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	39
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	1,228	Dependable Yield (AF)	5,200
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	776

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	19,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Requires treatment for total dissolved solids.		
Previous Cost Estimate	$12,325,000	Year of Cost Estimate	05/1988
Grouping:	1		
Issues	Streambed elevation 739.		
Fatal Flaw(s) Present?	☑ Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Parker Lake
Agency	U.S. Army Corps of Engineers, Tulsa District
Location	Coal and Hughes County, 23 miles east of Ada, OK
Primary Study Document(s)	Parker Lake, Muddy Boggy River, Oklahoma, Design Memorandum No. 1, General Design; also Red River Basin, AR, TX, LA, and OK, Interagency Comprehensive Technical Report, 1989
Primary Study Date	11/19/86
Region:	Blue Boggy
Basin	8-Muddy Boggy River-2
Streams	Muddy Boggy Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	164
Lat/Long or Section	Sections 5 & 8, T3N, R10E Indian Meridian
Dam Type	Zoned earth filled embankment with 30' crest width

Cons. Sto. Surface Area (AC)	6,100	Dependable Yield (AF)	45,900
Dam Crest Elevation	725.30	Max Surface Area (AC)	9,420
Dam Length (FT)	2,200	Dam Height (FT)	100
Embankment Volume (CY)	1,456,950	Flood Pool Elevation	704.5
Valley Wall Length (FT):	2,876	Top of Sed. Pool Elev.	
Max Water Surface Elev.	722.1	Top of Dead Pool Elev.	657
Recreation Boundary (AC)	11,550	Top of Cons. Pool Elev.	690

Spillway	100' uncontrolled saddle and 1-8' diameter gated conduit

Spillway Elevation(s)	704.8	Power Pool Elevation	
Total Storage (AF)	220,240	Surcharge (AF)	
Conservation Pool Storage (AF)	109,940	Flood Control Storage (AF)	110,300
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Hard to very hard waters with moderate chloride concentrations. Turbid with fairly high nutrient concentrations.

Previous Cost Estimate	$53,111,000	Year of Cost Estimate	01/1987

Grouping:	4
Issues	Need local sponsor for water supply.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	High dependable yield Medium cost per unit High/Medium proximity to demand Close to conveyance facility

Reservoir Data Report

Reservoir Name	Pawnee Reservoir
Agency	U. S. Army Corps of Engineers
Location	Pawnee County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/85
Region:	Upper Arkansas
Basin	71-Arkansas River-Cimarron Rivers to Keystone Lake
Streams	Black Bear Creek
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	545
Lat/Long or Section	Section 27 & 34, T22N, R4E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	10,000	Dependable Yield (AF)	48,170
Dam Crest Elevation	921.50	Max Surface Area (AC)	
Dam Length (FT)	6,300	Dam Height (FT)	100
Embankment Volume (CY)		Flood Pool Elevation	900.5
Valley Wall Length (FT):	2,781	Top of Sed. Pool Elev.	
Max Water Surface Elev.	916.5	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	885.7

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	210,350	Flood Control Storage (AF)	190,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Acceptable but with marginally high chloride concentrations.		
Previous Cost Estimate	$164,700,000	Year of Cost Estimate	01/1985
Grouping:	4		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Low cost per unit High dependable yield High/Medium proximity to demand Near underutilized existing supply (Kaw Lake) Flood control version of Lela		

Reservoir Data Report

Reservoir Name	Peaceable Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Pittsburg County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	07/19/95
Region:	Eufaula
Basin	48-Canadian River to North Canadian River)
Streams	Peaceable Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	33,600
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Pecan Creek Reservoir
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Pottawatomie County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	62-Little River-2
Streams	Pecan Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	32
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	950	Dependable Yield (AF)	3,360
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1000

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	15,100	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Acceptable for all beneficial uses.		
Previous Cost Estimate	$10,777,000	Year of Cost Estimate	5/1988
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Peggs Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Cherokee County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	07/19/95
Region:	Grand
Basin	80-Grand (Nesho) River-1
Streams	Spring Creek
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	20,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	88,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Perkins Lake
Agency	U.S. Army Corps of Engineers, Tulsa and Little Rock Districts, The Oklahoma Water Resources Board and
Location	Lincoln and Logan Counties generally on the line between Payne and Lincoln Counties, east of Perkins
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma, Feasibility Report, Volume IV-Oklahoma
Primary Study Date	05/19/91
Region:	Upper Arkansas
Basin	63-
Streams	Cimarron River at River Mile 80.7
Beneficial Uses	
DrainArea (Sq Mi)	12,973
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	21,055	Dependable Yield (AF)	156,830
Dam Crest Elevation	911.50	Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	90
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	906.5	Top of Dead Pool Elev.	873
Recreation Boundary (AC)		Top of Cons. Pool Elev.	895

Spillway	16-40' X 22' gates		
Spillway Elevation(s)	873	Power Pool Elevation	
Total Storage (AF)	1,090,956	Surcharge (AF)	
Conservation Pool Storage (AF)	201,522	Flood Control Storage (AF)	637,519
Sediment Storage (AF)		Dead Storage (AF)	251,915
Geology			
Water Quality			
Previous Cost Estimate	$408,155,000	Year of Cost Estimate	5/1991
Grouping:	2		
Issues	Not economically viable in 1991.		
Fatal Flaw(s) Present? ☑	Inundates parts of three cities, Perkins, Langston and Guthrie, unless protected by levees		
Qualifying Statements:	Very high dependable yield Medium cost per unit		

Reservoir Data Report

Reservoir Name	Perry Reservoir
Agency	
Location	Noble County
Primary Study Document(s)	
Primary Study Date	
Region:	Upper Arkansas
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	0		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Listed on 1966 Map - No Other Information Found		

Reservoir Data Report

Reservoir Name	Picket Reservoir
Agency	
Location	Creek County
Primary Study Document(s)	
Primary Study Date	
Region:	Middle Arkansas
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	0		
Issues			
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Listed on 1966 Map - No Other Information Found		

Reservoir Data Report

Reservoir Name	Port Lake
Agency	Bureau of Reclamation, Oklahoma City Planning Office
Location	Washita County
Primary Study Document(s)	OB-60 Oklahoma State Water Plan, Supporting Data for Port Dam and Reservoir, Appraisal Type Estimate
Primary Study Date	03/19/73
Region:	Southwest
Basin	34-Lower North Fork RR-3
Streams	Elk Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	283
Lat/Long or Section	Sections 16, 21 & 28, T8N, R19W Indian Meridian
Dam Type	zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	4,480	Dependable Yield (AF)	9,000
Dam Crest Elevation	1,644.00	Max Surface Area (AC)	7,400
Dam Length (FT)	9,100	Dam Height (FT)	59
Embankment Volume (CY)	3,699,593	Flood Pool Elevation	1634.8
Valley Wall Length (FT):	9,573	Top of Sed. Pool Elev.	1613.5
Max Water Surface Elev.	1638.3	Top of Dead Pool Elev.	
Recreation Boundary (AC)	15,030	Top of Cons. Pool Elev.	1626

Spillway	7 - 21.8' X 50' gates		
Spillway Elevation(s)	1613	Power Pool Elevation	
Total Storage (AF)	115,700	Surcharge (AF)	
Conservation Pool Storage (AF)	42,000	Flood Control Storage (AF)	47,700
Sediment Storage (AF)	26,000	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$23,660,000	Year of Cost Estimate	01/1973
Grouping:	3		
Issues	Relocate 2 miles of SH 55, improve 11 miles of secondary road, relocate 1500 feet of 26-inch gas pipeline, relocate 3 miles of county road		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Low dependable yield Medium cost per unit Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Purdy Reservoir
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Garvin County
Primary Study Document(s)	OB-61 Oklahoma State Water Plan, Supporting Data for Purdy Dam and Reservoir, Appraisal Type Estimate, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	01/19/73
Region:	Lower Washita
Basin	14-Lower Washita
Streams	Rush Creek
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	147
Lat/Long or Section	Sections 24 & 25, T3N, R4W Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	5,792	Dependable Yield (AF)	20,000
Dam Crest Elevation	1,094.00	Max Surface Area (AC)	7,748
Dam Length (FT)	4,215	Dam Height (FT)	84
Embankment Volume (CY)	2,981,648	Flood Pool Elevation	1081.2
Valley Wall Length (FT):	4,108	Top of Sed. Pool Elev.	1038
Max Water Surface Elev.	1088.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)	11,620	Top of Cons. Pool Elev.	1074.1

Spillway	3-50' X 22.2' gates		
Spillway Elevation(s)	1059	Power Pool Elevation	
Total Storage (AF)	236,000	Surcharge (AF)	51,000
Conservation Pool Storage (AF)	126,000	Flood Control Storage (AF)	45,000
Sediment Storage (AF)	14,000	Dead Storage (AF)	
Geology			
Water Quality	Marginal quality with standard treatment		
Previous Cost Estimate	$83,438,000	Year of Cost Estimate	01/1986
Grouping:	4		
Issues	Relocate 18 miles of 8" oil pipeline, Relocate SH 76 requiring 6.5 miles of roadway and a bridge, relocate 8 miles of county roads		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Good dependable yield Medium cost per unit Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Quapaw Lake also known as Meeker Reservoir
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Lincoln County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	60-Deep Fork River
Streams	Quapaw Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	69
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	2,280	Dependable Yield (AF)	9,200
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	884

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	33,300	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Standard treatment with corrosion control, iron/manganese removal and taste & odor reduction.

Previous Cost Estimate	$24,842,000	Year of Cost Estimate	05/1988

Grouping:	1
Issues	streambed elevation 860.
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Rainy Mountain Creek Reservoir
Agency	Bureau of Reclamation, Oklahoma City Development Office
Location	Kiowa County
Primary Study Document(s)	OB-62 Supporting Data for Rainy Mountain Creek Dam and Reservoir, Appraisal Type Estimate
Primary Study Date	01/19/73
Region:	West Central
Basin	19-Upper Washita-3
Streams	Rainy Mountain Creek and Sugar Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	276
Lat/Long or Section	Sections 20, 27, 28, 34 & 35, T7N, R15W Indian Meridian
Dam Type	Embankment with 30' wide crest

Cons. Sto. Surface Area (AC)	6,739	Dependable Yield (AF)	5,000
Dam Crest Elevation	1,391.00	Max Surface Area (AC)	10,900
Dam Length (FT)	14,540	Dam Height (FT)	51
Embankment Volume (CY)	2,574,434	Flood Pool Elevation	1379.3
Valley Wall Length (FT):	7,221	Top of Sed. Pool Elev.	1357.6
Max Water Surface Elev.	1384.8	Top of Dead Pool Elev.	
Recreation Boundary (AC)	16,050	Top of Cons. Pool Elev.	1370.9

Spillway	5-21.3' X 50' gates		
Spillway Elevation(s)	1358	Power Pool Elevation	
Total Storage (AF)	211,200	Surcharge (AF)	54,700
Conservation Pool Storage (AF)	65,000	Flood Control Storage (AF)	66,500
Sediment Storage (AF)	25,000	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$23,900,000	Year of Cost Estimate	01/1973
Grouping:	3		
Issues	34,800' of 138kv power line, Relocate Rainy Mountain Indian Mission and cemetery, 39000' of 16 inch oil pipeline		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Low dependable yield Medium cost per unit Low/Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Ravia Reservoir
Agency	Bureau of Reclamation, Region 5
Location	Johnston County
Primary Study Document(s)	OB- 13 Oklahoma Basins Project, Preliminary Evaluation of Water Resources Development Potential for Mill Creek Basin, Johnston County, Oklahoma & OB-11 Ravia Dam and Reservoir, Supporting Data for Quickie Estimate, Oklahoma City Development Office Feb 69;
Primary Study Date	03/19/69
Region:	Lower Washita
Basin	21-Red River Mainstem (to Walnut Bayou)
Streams	Mill Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	88
Lat/Long or Section	Sections 16, 19, 20, & 21, T3S, R5E Indian Meridian
Dam Type	Rolled earth filled embankment with 30' crest width

Cons. Sto. Surface Area (AC)	1,718	Dependable Yield (AF)	25,300
Dam Crest Elevation	890.00	Max Surface Area (AC)	2,509
Dam Length (FT)	9,800	Dam Height (FT)	155
Embankment Volume (CY)	2,623,619	Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	755
Max Water Surface Elev.	886	Top of Dead Pool Elev.	
Recreation Boundary (AC)	5,000	Top of Cons. Pool Elev.	871

Spillway	ogee spillway

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	51,600
Conservation Pool Storage (AF)	100,800	Flood Control Storage (AF)	
Sediment Storage (AF)	135	Dead Storage (AF)	

Geology	
Water Quality	TDS 300-400 mg/l, expected to be good quality water with standard treatment.

Previous Cost Estimate	$80,772,000	Year of Cost Estimate	10/1989

Grouping:	4
Issues	Relocation of 7 miles of 115kv transmission line. Note: These data were modified by inclusion of information from "Special Report on Southeast Oklahoma Water Supply Study, Bureau of Reclamation, Great Plains Region, Billings, Montana, October 1989 also
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Good dependable yield Medium proximity to demand Medium cost per unit Near existing supply (Texoma), but with better water quality

Reservoir Data Report

Reservoir Name	Renfrow Reservoir
Agency	
Location	Grant County
Primary Study Document(s)	
Primary Study Date	
Region:	Upper Arkansas
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	0
Issues	
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Listed on 1966 Map - No Other Information Found

Reservoir Data Report

Reservoir Name	Salina Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Mayes County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	7 /19/95
Region:	Grand
Basin	80-Grand (Nesho) River-1
Streams	Salina Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	16,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	73,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	1
Issues	
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Sand Reservoir
Agency	U. S. Army Corps of Engineers
Location	Osage County 9 miles west of Bartlesville, OK
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/85
Region:	Middle Arkansas
Basin	76-Caney River-2
Streams	Sand Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	137
Lat/Long or Section	Section 18, T26N, R11E Indian Meridian
Dam Type	Zoned earth fill embankment with 28' crest width

Cons. Sto. Surface Area (AC)	2,000	Dependable Yield (AF)	8,740
Dam Crest Elevation	808.00	Max Surface Area (AC)	
Dam Length (FT)	1,950	Dam Height (FT)	105
Embankment Volume (CY)	1,328,000	Flood Pool Elevation	786
Valley Wall Length (FT):	1,604	Top of Sed. Pool Elev.	
Max Water Surface Elev.	802.7	Top of Dead Pool Elev.	
Recreation Boundary (AC)	3,300	Top of Cons. Pool Elev.	766.5

Spillway	500' uncontrolled		
Spillway Elevation(s)	786	Power Pool Elevation	
Total Storage (AF)	91,000	Surcharge (AF)	
Conservation Pool Storage (AF)	35,000	Flood Control Storage (AF)	51,700
Sediment Storage (AF)	4,300	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$31,600,000	Year of Cost Estimate	10/1985
Grouping:	3		
Issues	Relocate 1.4 miles of state highway, relocate 2.5 miles of county road, relocate 50 graves and 4.8 miles of power line, and 4.8 miles of pipeline.		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Low dependable yield Medium/Low cost per unit Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Sandy Creek Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Bryan and Johnston Counties
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board, and Comprehensive Technical Report of Southeast Oklahoma Water Supply Study, Bureau of Reclamation September 1988
Primary Study Date	7 /19/95
Region:	Blue Boggy
Basin	12-Blue River-2
Streams	Blue River
Beneficial Uses	WS, P, F&W, R
DrainArea (Sq Mi)	318
Lat/Long or Section	Section 6, T5S, R9E Indian Meridian
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	1,840	Dependable Yield (AF)	10,800
Dam Crest Elevation		Max Surface Area (AC)	5,770
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	640	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	615

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	105,000	Surcharge (AF)	
Conservation Pool Storage (AF)	16,920	Flood Control Storage (AF)	88,080
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Good quality water with standard treatment.		
Previous Cost Estimate	$32,459,000	Year of Cost Estimate	1/1986
Grouping:	4		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Very good quality water Good dependable yield Low cost per unit Candidate for Scenic River designation Near existing source (Texoma) Flood control storage is actually for power Medium proximity to demand Reasonable proximity to conveyance		

Reservoir Data Report

Reservoir Name	Sasakwa Reservoir
Agency	U. S. Army Corps of Engineers
Location	Seminole County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	09/19/85
Region:	Central
Basin	61-Little River-1
Streams	Little River
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	865
Lat/Long or Section	Sections 14 & 23, T6N, R7E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	13,400	Dependable Yield (AF)	79,872
Dam Crest Elevation	866.00	Max Surface Area (AC)	
Dam Length (FT)	3,300	Dam Height (FT)	110
Embankment Volume (CY)		Flood Pool Elevation	844.9
Valley Wall Length (FT):	3,347	Top of Sed. Pool Elev.	
Max Water Surface Elev.	860.9	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	831.6

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	325,000	Flood Control Storage (AF)	209,000
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Chloride concentrations exceed EPA limits. Periodic high iron concentrations. Marginally suited for M&I use.

Previous Cost Estimate	$179,600,000	Year of Cost Estimate	10/1985

Grouping:	4
Issues	SH-43 cross far northern extent for 0.5 km. 69kV and a 345kV t-line cross northern perimeter.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Very high dependable yield Low cost unit High proximity to demand Near conveyance facility

Reservoir Data Report

Reservoir Name: Scissortail Reservoir also known as the Ada site

Agency: Bureau of Reclamation and City of Ada

Location: Pontotoc County, 1.5 Miles west of Ada, OK

Primary Study Document(s): Final Comprehensive Report Compilation, Phases I, IA, II, and III, Proposed Scissortail Feasibility Study, Ada, OK

Primary Study Date: 08/20/09

Region: Central

Basin: 56-Lower Canadian River-1

Streams: Spring Brook Creek & Canadian Sandy Creek

Beneficial Uses: WS, R, F&W

DrainArea (Sq Mi): 195

Lat/Long or Section: Section 31, T4N, R6E Indian Meridian

Dam Type: Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	5,200	Dependable Yield (AF)	33,270
Dam Crest Elevation	955.00	Max Surface Area (AC)	7,027
Dam Length (FT)	1,800	Dam Height (FT)	70
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	1,916	Top of Sed. Pool Elev.	905
Max Water Surface Elev.	950	Top of Dead Pool Elev.	
Recreation Boundary (AC)	11,346	Top of Cons. Pool Elev.	938

Spillway: 4-50 ft tainter gates with uncontrolled spillway

Spillway Elevation(s)	921.5	Power Pool Elevation	
Total Storage (AF)	177,524	Surcharge (AF)	76,924
Conservation Pool Storage (AF)	91,200	Flood Control Storage (AF)	
Sediment Storage (AF)	9,400	Dead Storage (AF)	

Geology: Sandstone and shale with adequate impermeable borrow material

Water Quality: Good with conventional treatment

Previous Cost Estimate: $187,000,000 **Year of Cost Estimate:** 9/2009

Grouping: 4

Issues: Mitigation of impacts on the American Burying Beetle

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
High dependable yield
High cost per unit
Very good water quality
Near conveyance facility
Sponsor Interest
High proximity to demand

Reservoir Data Report

Reservoir Name	Seward Reservoir also known as the Seward Project
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	1 mile west of Seward, OK. Logan and Oklahoma Counties
Primary Study Document(s)	Seward Project Report, also Appraisal Report on Seward Project-Oklahoma December 1974 (Revised November 1975)
Primary Study Date	12/19/81
Region:	Central
Basin	64-Middle Cimarron River
Streams	Cottonwood Creek tributary of the Cimarron River, Deer Creek and Chisholm Creek
Beneficial Uses	R, F&W, WS
DrainArea (Sq Mi)	304
Lat/Long or Section	Sections 3&10, T15N, R3W Indian Meridian
Dam Type	Rolled earth fill structure

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	25,300
Dam Crest Elevation	1,027.00	Max Surface Area (AC)	11,280
Dam Length (FT)	5,000	Dam Height (FT)	72
Embankment Volume (CY)	1,280,000	Flood Pool Elevation	1018.3
Valley Wall Length (FT):	4,035	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1021.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)	15,265	Top of Cons. Pool Elev.	1012.8

Spillway	7-50' X 22.2' gates		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	232,780	Surcharge (AF)	31,680
Conservation Pool Storage (AF)	141,100	Flood Control Storage (AF)	51,000
Sediment Storage (AF)	9,000	Dead Storage (AF)	
Geology	Suitable with adequate construction materials		
Water Quality	No significant water quality issues. TDS is 380 ppm.		
Previous Cost Estimate	$42,200,000	Year of Cost Estimate	01/1974
Grouping:	2		
Issues	raise SH 74 for 2.2 miles, relocate 2.6 miles of county roads, raise 2.4 miles of county road, protect 6 oil and gas pipelines from 3-21 inch,		
Fatal Flaw(s) Present? ☑	A major wastewater treatment plant and numerous expensive homes would require replacement. The Seward Project Report recommended the Navina site over this damsite.		
Qualifying Statements:			

Reservoir Data Report

Reservoir Name	Sheridan Reservoir
Agency	U. S. Army Corps of Engineers
Location	Kingfisher County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District; and Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix, BOR, Amarillo, TX, October 1979
Primary Study Date	09/19/85
Region:	Upper Arkansas
Basin	63-Lower Cimarron River
Streams	Skeleton Creek
Beneficial Uses	FC, WS, R, F&W
DrainArea (Sq Mi)	299
Lat/Long or Section	Sections 18 & 19, T19N, R4W and Sections 23 & 24, T19N, R5W Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	9,100	Dependable Yield (AF)	23,525
Dam Crest Elevation	1,035.00	Max Surface Area (AC)	16,340
Dam Length (FT)	17,800	Dam Height (FT)	85
Embankment Volume (CY)		Flood Pool Elevation	1016.7
Valley Wall Length (FT):	11,129	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1029.7	Top of Dead Pool Elev.	
Recreation Boundary (AC)	24,510	Top of Cons. Pool Elev.	1008.2

Spillway	4-21' X 50' gates		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	95,900
Conservation Pool Storage (AF)	127,600	Flood Control Storage (AF)	92,500
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Would meet most water quality criteria but has experienced petroleum related contamination. Fertilizer runoff may cause high nutrient loading.		
Previous Cost Estimate	$174,300,000	Year of Cost Estimate	10/1985
Grouping:	4		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	High dependable yield Medium/High cost per unit High/Medium proximity to demand Potential sponsor interest		

Reservoir Data Report

Reservoir Name	Sherwood Reservoir
Agency	
Location	McCurtain County
Primary Study Document(s)	
Primary Study Date	
Region:	Southeast
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	0		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Listed on 1966 Map - No Other Information Found		

Reservoir Data Report

Reservoir Name: Shidler Lake

Agency: U.S. Army Corps of Engineers, Tulsa District

Location: Osage County

Primary Study Document(s): Shidler Lake, Salt Creek, Oklahoma, Design Memorandum No. 3, General Design, also Survey Report on Shidler Reservoir, September 6, 1963

Primary Study Date: 03/19/71

Region: Upper Arkansas

Basin: 72-Arkansas River Mainstem (To Kansas State Line)

Streams: Salt Creek

Beneficial Uses: FC, WS, WQ, R, F&W

DrainArea (Sq Mi): 99

Lat/Long or Section: Sections 25 & 26, T27N, R6E Indian Meridian

Dam Type: Rolled earth embankment with 32' crest width

Cons. Sto. Surface Area (AC)	2,450	Dependable Yield (AF)	16,803
Dam Crest Elevation	1,152.00	Max Surface Area (AC)	4,010
Dam Length (FT)	6,050	Dam Height (FT)	110
Embankment Volume (CY)		Flood Pool Elevation	1130.5
Valley Wall Length (FT):	3,305	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1147	Top of Dead Pool Elev.	1054
Recreation Boundary (AC)	7,000	Top of Cons. Pool Elev.	1114.5

Spillway: 200' Uncontrolled saddle spillway and 2-5.25' X 5' sluices

Spillway Elevation(s)	1133	Power Pool Elevation	
Total Storage (AF)	108,100	Surcharge (AF)	
Conservation Pool Storage (AF)	54,920	Flood Control Storage (AF)	49,050
Sediment Storage (AF)	4,130	Dead Storage (AF)	

Geology:

Water Quality:

Previous Cost Estimate: $10,900,000 **Year of Cost Estimate:** 01/1971

Grouping: 4

Issues: Relocate .67 miles of county road, 2.5 miles of 7.2kv power line, 5140' of 10-inch gas line, relocate 8500' of 12 & 16 inch gas line.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Good dependable yield
Near existing supply (Kaw Lake)
Cost estimate does not appear to be correct, therefore conclusion of low unit cost cannot be supported.
High/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Shiloh Reservoir
Agency	
Location	Logan County
Primary Study Document(s)	
Primary Study Date	
Region:	Upper Arkansas
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	0		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Listed on 1966 Map - No Other Information Found		

Reservoir Data Report

Reservoir Name	Sid Lake
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Delaware County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	7 /19/95
Region:	Grand
Basin	80-Grand (Nesho) River-1
Streams	Spavinaw Creek
Beneficial Uses	WS, R, F&W
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	20,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	95,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name: Skeleton Reservoir

Agency: U. S. Army Corps of Engineers

Location: Logan County

Primary Study Document(s): Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District

Primary Study Date: 9 /19/85

Region: Upper Arkansas

Basin: 63-Lower Cimarron River

Streams: Skeleton Creek

Beneficial Uses: FC, WS, F&W, R

DrainArea (Sq Mi): 547

Lat/Long or Section: Sections 5, 7 & 8, T18N, R3W Indian Meridian

Dam Type: Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	14,000	Dependable Yield (AF)	41,448
Dam Crest Elevation	1,004.00	Max Surface Area (AC)	
Dam Length (FT)	6,600	Dam Height (FT)	95
Embankment Volume (CY)		Flood Pool Elevation	986.4
Valley Wall Length (FT):	5,999	Top of Sed. Pool Elev.	
Max Water Surface Elev.	999.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	981.6

Spillway:

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	250,000	Flood Control Storage (AF)	72,100
Sediment Storage (AF)		Dead Storage (AF)	

Geology:

Water Quality: Would meet most water quality criteria but has experienced petroleum related contamination. Fertilizer runoff may cause high nutrient loading.

Previous Cost Estimate: $144,400,000 **Year of Cost Estimate:** 10/1985

Grouping: 4

Issues: SH-51 crosses eastern and western forks for 1 and 2.5 km spans. SH-74 crosses two inlets for 1.5 and 2.7 km spans. 115kV t-line crosses perimeter six times.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Very high dependable yield
Larger version of Sheridan
Medium cost per unit
High/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Slapout Reservoir		
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District		
Location	Beaver County, 7.5 miles southeast of Knowles, OK		
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board and Northwest and Western Oklahoma Hydrologic Study, Water Supply Availability, Boyle Engineering, November 1987		
Primary Study Date	7 /19/95		
Region:	Panhandle		
Basin	53-Upper North Canadian River-2		
Streams	Beaver River-North Canadian River		
Beneficial Uses	FC, WS, F&W, R		
DrainArea (Sq Mi)	2,042		
Lat/Long or Section	Sections 22, 27, and 34, T4N, R27E and Section 3, T3N, R27E Indian Meridian		
Dam Type	Zoned earth fill embankment		
Cons. Sto. Surface Area (AC)	9,040	Dependable Yield (AF)	18,800
Dam Crest Elevation	2,308.00	Max Surface Area (AC)	13,250
Dam Length (FT)		Dam Height (FT)	100
Embankment Volume (CY)		Flood Pool Elevation	2295.2
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	2301.9	Top of Dead Pool Elev.	
Recreation Boundary (AC)	19,870	Top of Cons. Pool Elev.	2282

Spillway	9-21.2' X 50' gates		
Spillway Elevation(s)	2274	Power Pool Elevation	
Total Storage (AF)	469,400	Surcharge (AF)	83,400
Conservation Pool Storage (AF)	249,000	Flood Control Storage (AF)	137,000
Sediment Storage (AF)		Dead Storage (AF)	30,500
Geology			
Water Quality			
Previous Cost Estimate	$72,090,000	Year of Cost Estimate	1/1978
Grouping:	2		
Issues	Also, Oklahoma State Water Plan, Northern 44 Counties, Engineering Appendix, BOR, Amarillo, TX, October 1979		
Fatal Flaw(s)	Downstream of Optima which has failed to develop		
Present?	✔		
Qualifying Statements:			

Reservoir Data Report

Reservoir Name	Snyder Lake
Agency	Bureau of Reclamation, Plans and Estimates Branch, Amarillo, TX
Location	Tillman and Kiowa Counties
Primary Study Document(s)	OB-67 Oklahoma State Water Plan Supporting Data for Snyder Dam and Reservoir, Appraisal Estimate
Primary Study Date	02/19/74
Region:	Beaver Cache
Basin	30-Deep Red River and West Cache-2
Streams	Deep Red Run Creek
Beneficial Uses	F&W, WS, R
DrainArea (Sq Mi)	48
Lat/Long or Section	Sections 33 & 34, T2N, R16W Indian Meridian
Dam Type	Zoned embankment with 30' Crest width

Cons. Sto. Surface Area (AC)	3,668	Dependable Yield (AF)	10,600
Dam Crest Elevation	1,287.00	Max Surface Area (AC)	4,099
Dam Length (FT)	16,660	Dam Height (FT)	72
Embankment Volume (CY)	4,069,409	Flood Pool Elevation	
Valley Wall Length (FT):	2,967	Top of Sed. Pool Elev.	1227
Max Water Surface Elev.	1281.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)	6,800	Top of Cons. Pool Elev.	1277.3

Spillway	3 - 21.2' X 50' gates		
Spillway Elevation(s)	1256	Power Pool Elevation	
Total Storage (AF)	110,000	Surcharge (AF)	15,000
Conservation Pool Storage (AF)	90,000	Flood Control Storage (AF)	
Sediment Storage (AF)	5,000	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$24,250,000	Year of Cost Estimate	01/1974
Grouping:	3		
Issues	Relocate 10 miles of county road and 10 miles of rural electric power line		
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Good dependable yield Low/Medium proximity to demand Medium cost per unit		

Reservoir Data Report

Reservoir Name: Speermore Reservoir

Agency:

Location: Beaver County

Primary Study Document(s):

Primary Study Date:

Region: Panhandle

Basin:

Streams:

Beneficial Uses:

DrainArea (Sq Mi):

Lat/Long or Section:

Dam Type:

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway:

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology:

Water Quality:

Previous Cost Estimate		Year of Cost Estimate	

Grouping: 0

Issues:

Fatal Flaw(s) Present? ☐

Qualifying Statements: Listed on 1966 Map - No Other Information Found

Reservoir Data Report

Reservoir Name	Spring Creek Reservoir
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Pontotoc County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	56-Lower Canadian River-1
Streams	Spring Brook Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	52
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	1,820	Dependable Yield (AF)	9,800
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	959

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	35,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Suitable for all beneficial uses-standard treatment.

Previous Cost Estimate	$39,860,000	Year of Cost Estimate	5/1988
Grouping:	1		

Issues	
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Steedman Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Pontotoc County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Blue Boggy
Basin	8-Muddy Boggy River-2
Streams	Muddy Boggy Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	27
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	1,535	Dependable Yield (AF)	6,600
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	802

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	24,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Requires treatment for total dissolved solids, iron/manganese, and corrosion control.

Previous Cost Estimate	$32,541,000	Year of Cost Estimate	5/1988

Grouping:	1
Issues	Streambed elevation 750.
Fatal Flaw(s) Present? ✔	Not Enough Data to Properly Evaluate

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Tahlequah Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Cherokee County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board
Primary Study Date	7 /19/95
Region:	Lower Arkansas
Basin	82-Illinois River
Streams	
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	350,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	1,500,000	Flood Control Storage (AF)	200,000
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	
Previous Cost Estimate	
Year of Cost Estimate	
Grouping:	2
Issues	
Fatal Flaw(s)	Designated Scenic River
Present?	✔

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Taloga Reservoir
Agency	
Location	Dewey County
Primary Study Document(s)	
Primary Study Date	
Region:	West Central
Basin	
Streams	
Beneficial Uses	
DrainArea (Sq Mi)	
Lat/Long or Section	
Dam Type	

Cons. Sto. Surface Area (AC)		Dependable Yield (AF)	
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)		Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	0		
Issues			
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Listed on 1966 Map - No Other Information Found		

Reservoir Data Report

Reservoir Name	Tate Mountain Reservoir
Agency	Bureau of Reclamation
Location	7 miles North and 6.5 miles west of Sasakwa, OK, Seminole County
Primary Study Document(s)	OK-178 East Central Water Supply Study, Oklahoma, Report of Damsite and Structure Review Team, Tate Mountain Dam and Reservoir
Primary Study Date	12/19/88
Region:	Central
Basin	62-Little River-2
Streams	Little River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	606
Lat/Long or Section	Sections 30 & 31, T7N, R7E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	5,940	Dependable Yield (AF)	49,800
Dam Crest Elevation	880.00	Max Surface Area (AC)	
Dam Length (FT)	1,790	Dam Height (FT)	90
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	1,341	Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	851

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	134,600	Flood Control Storage (AF)	
Sediment Storage (AF)	16,500	Dead Storage (AF)	

Geology	Some issues, construction materials appear adequate.
Water Quality	Dissolved solids moderate, moderately hard, dissolved iron and manganese are low, alkalinity good, nutrient load average.

Previous Cost Estimate		Year of Cost Estimate	

Grouping:	4
Issues	US-377 crosses a .68 km span of the reservoir. 69kV t-line crosses reservoir perimeter at 6 places. 115kV t-line crosses one span of 1.6 km. 345kV t-line crosses one span for 1.88 km.
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Very high dependable yield High/Medium proximity to demand Good water quality Near conveyance facility

Reservoir Data Report

Reservoir Name	Temple Reservoir
Agency	Engineering Advisory Committee to the Red River Compact Commission
Location	Cotton County
Primary Study Document(s)	Report of the Engineering Advisory Committee to the Red River Compact Commission
Primary Study Date	6 /19/70
Region:	Beaver Cache
Basin	28-Cache Creek-2
Streams	Cache Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	1,877
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	33,700	Dependable Yield (AF)	117,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	1,003,700	Surcharge (AF)	
Conservation Pool Storage (AF)	814,500	Flood Control Storage (AF)	185,800
Sediment Storage (AF)	3,400	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues			
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Trico Lake
Agency	Engineering Advisory Committee to the Red River Compact Commission
Location	Greer, Kiowa and Beckham Counties
Primary Study Document(s)	Report of the Engineering Advisory Committee to the Red River Compact Commission
Primary Study Date	6 /19/70
Region:	Southwest
Basin	36-Upper North Fork Red River-1
Streams	North Fork Red River
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	1,992
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	1,990	Dependable Yield (AF)	32,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	518,500	Surcharge (AF)	
Conservation Pool Storage (AF)	391,000	Flood Control Storage (AF)	127,500
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate		Year of Cost Estimate	
Grouping:	1		
Issues	Would be used to replace Altus Reservoir in the event conveyance was used to convert Altus Reservoir into terminal storage.		
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate; Dependent on conveyance.		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Tupelo Lake
Agency	U.S. Army Corps of Engineers
Location	Coal County
Primary Study Document(s)	Central Oklahoma Project Water Conveyance Plan Formulation
Primary Study Date	07/19/75
Region:	Blue Boggy
Basin	9-Clear Boggy Creek
Streams	Clear Boggy Creek at confluence of Boggy Creek & Leader Creek river mile 73.5
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	380
Lat/Long or Section	Sections 3 & 4, T1S, R9E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	11,950	**Dependable Yield (AF)**	100,820
Dam Crest Elevation	659.00	**Max Surface Area (AC)**	
Dam Length (FT)		**Dam Height (FT)**	
Embankment Volume (CY)		**Flood Pool Elevation**	
Valley Wall Length (FT):	6,476	**Top of Sed. Pool Elev.**	
Max Water Surface Elev.	653.6	**Top of Dead Pool Elev.**	599.5
Recreation Boundary (AC)	23,500	**Top of Cons. Pool Elev.**	633

Spillway	200' uncontrolled and 1-12' diameter gated conduit		
Spillway Elevation(s)	633	**Power Pool Elevation**	
Total Storage (AF)	242,000	**Surcharge (AF)**	
Conservation Pool Storage (AF)	227,730	**Flood Control Storage (AF)**	
Sediment Storage (AF)		**Dead Storage (AF)**	14,270
Geology			
Water Quality	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region, May 1988 indicates water quality suitable for M&I use with standard treatment.		
Previous Cost Estimate	$99,960,000	**Year of Cost Estimate**	05/1988
Grouping:	4		
Issues	Report concluded Tupelo was economically unjustifiable for flood control and potential water quality problems. SH-3 cross north finger. SH-48 crosses a 2.5 km span. SH-31 runs parallel to dam site, but inside reservoir perimeter.		
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	High dependable yield High/Medium proximity to demand Medium cost per unit Close to conveyance facility		

Reservoir Data Report

Reservoir Name	Tuskahoma Lake
Agency	Multi-agencies
Location	Pushmataha & LeFlore Counties
Primary Study Document(s)	Red River Basin, AR, TX, LA, and OK, Interagency Comprehensive Technical Report
Primary Study Date	03/19/89
Region:	Southeast
Basin	6-Kiamichi River-2
Streams	Kiamichi River
Beneficial Uses	P, WS, R, F&W
DrainArea (Sq Mi)	347
Lat/Long or Section	Sections 16 & 21, T2N, R21E Indian Meridian
Dam Type	Zoned embankment with 32' crest width

Cons. Sto. Surface Area (AC)	4,500	Dependable Yield (AF)	63,852
Dam Crest Elevation	653.80	Max Surface Area (AC)	4,500
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.	648.8	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	625

Spillway	200' concrete uncontrolled spillway and 2- 4' X 5' sluices (invert 596)		
Spillway Elevation(s)	625	Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	49,100	Flood Control Storage (AF)	
Sediment Storage (AF)	12,100	Dead Storage (AF)	
Geology			
Water Quality			
Previous Cost Estimate	$49,000,000	Year of Cost Estimate	01/1987
Grouping:	3		

Issues

This is a pumped storage hydro facility. The project was also studied for flood control and 200 mgd of water supply yield. With Hugo and Sardis in operation, Tuskahoma becomes the most cost effective next lake in the region.

Fatal Flaw(s)

Present? ☑

Qualifying Statements:

Very large dependable yield
High cost per unit
High/Medium proximity to demand
Potential Ouachita Rock Pocketbook Mussel endangered species issue

Reservoir Data Report

Reservoir Name	Tuskegee Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Okfuskee County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	60-Deep Fork River
Streams	Deep Fork River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	1,500
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	44,186	Dependable Yield (AF)	180,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	770

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	650,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Require treatment for iron/manganese, total dissolved solids, hardness, and taste & odors.		
Previous Cost Estimate	$241,085,000	Year of Cost Estimate	5/1988
Grouping:	1		
Issues	Streambed elevation 680.		
Fatal Flaw(s) Present?	☑ Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Union Reservoir also known as the Geary Project and Minco Project
Agency	Bureau of Reclamation
Location	5 miles N.N.W of Clinton, OK. Canadian and Grady Counties
Primary Study Document(s)	Geary Project, Oklahoma also A-MI-7 (OK076) Minco Project-Oklahoma, Supporting Data for Union Dam and Reservoir, Reconnaissance Cost Estimate, May 1971, and Geary Project Concluding Report September 1981
Primary Study Date	10/19/73
Region:	Central
Basin	58-Middle Canadian River
Streams	Canadian River
Beneficial Uses	WS, R, F&W
DrainArea (Sq Mi)	
Lat/Long or Section	Sections 1, 12 & 13 T10N, R8W and Sections 25 & 36, T11N, R8W Indian Meridian
Dam Type	Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	28,900	Dependable Yield (AF)	155,700
Dam Crest Elevation	1,364.00	Max Surface Area (AC)	30,200
Dam Length (FT)	30,903	Dam Height (FT)	99
Embankment Volume (CY)	14,590,000	Flood Pool Elevation	1355.7
Valley Wall Length (FT):	15,404	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1357.7	Top of Dead Pool Elev.	1275
Recreation Boundary (AC)	38,250	Top of Cons. Pool Elev.	1344

Spillway	15-50'X21.7' gates and 800' concrete spillway		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	1,231,962	Surcharge (AF)	92,000
Conservation Pool Storage (AF)	800,000	Flood Control Storage (AF)	
Sediment Storage (AF)	315,000	Dead Storage (AF)	34,000
Geology	Geologically favorable with adequate materials		
Water Quality	Dissolved Solids of 1400-2200 ppm. Suitable for industrial uses and irrigation only		
Previous Cost Estimate	$418,008,000	Year of Cost Estimate	01/1980
Grouping:	3		
Issues	Report concluded Union site is not as attractive as the Hydro site. Cost is higher, more farmland would be inundated, more relocations required, more wildlife habitat affected.		
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Poor water quality Very high dependable yield Medium cost per unit High/Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Vanoss Lake
Agency	Bureau of Reclamation, Southwest Region, Amarillo, TX
Location	Pontotoc County
Primary Study Document(s)	Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region
Primary Study Date	5 /19/88
Region:	Central
Basin	56-Lower Canadian River-1
Streams	Canadian Sandy Creek
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	79
Lat/Long or Section	
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	2,920	Dependable Yield (AF)	15,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	981

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	54,000	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Good quality water with standard treatment.		
Previous Cost Estimate	$46,612,000	Year of Cost Estimate	5/1988
Grouping:	1		
Issues	Streambed elevation 930.		
Fatal Flaw(s) Present? ✔	Not Enough Data to Properly Evaluate		

Qualifying Statements:

Reservoir Data Report

Reservoir Name: Verden Reservoir

Agency: Bureau of Reclamation, Oklahoma City Planning Office

Location: Caddo County

Primary Study Document(s): OB-63 Supporting Data for Verden Dam and Reservoir, Appraisal Type Estimate

Primary Study Date: 12/19/73

Region: Lower Washita

Basin: 16-Middle Washita-2

Streams: Spring Creek

Beneficial Uses: WS, F&W, R

DrainArea (Sq Mi): 76

Lat/Long or Section: Sections 34 & 35, T8N, R9W Indian Meridian

Dam Type: Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	2,048	Dependable Yield (AF)	5,000
Dam Crest Elevation	1,197.00	Max Surface Area (AC)	2,684
Dam Length (FT)	7,050	Dam Height (FT)	47
Embankment Volume (CY)	1,536,076	Flood Pool Elevation	
Valley Wall Length (FT):	3,488	Top of Sed. Pool Elev.	1162
Max Water Surface Elev.	1190.6	Top of Dead Pool Elev.	
Recreation Boundary (AC)	3,160	Top of Cons. Pool Elev.	1187.8

Spillway: 5 - 21.8' X 50' gates

Spillway Elevation(s)	1166	Power Pool Elevation	
Total Storage (AF)	46,000	Surcharge (AF)	6,000
Conservation Pool Storage (AF)	34,000	Flood Control Storage (AF)	
Sediment Storage (AF)	6,000	Dead Storage (AF)	

Geology:

Water Quality: gypsum makes the water unsuitable for M&I use

Previous Cost Estimate: $11,870,000 **Year of Cost Estimate:** 01/1973

Grouping: 3

Issues: Relocate two 69kv power lines 2 miles, breach existing Lake Chickasha Dam

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Low dependable yield
Poor water quality
High cost per unit
Medium proximity to demand

Reservoir Data Report

Reservoir Name	Vian Reservoir
Agency	U. S. Army Corps of Engineers
Location	Sequoyah County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District, also Oklahoma Water Plan, Water Transfer System for Northern 44 Counties, Eastern Portion, USACE September 1979
Primary Study Date	9 /19/85
Region:	Lower Arkansas
Basin	46-Lower Arkansas River-1
Streams	Vian Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	24
Lat/Long or Section	Section 16, T12N, R22E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	35,000	Dependable Yield (AF)	10,082
Dam Crest Elevation	647.50	Max Surface Area (AC)	
Dam Length (FT)	1,400	Dam Height (FT)	115
Embankment Volume (CY)		Flood Pool Elevation	625.5
Valley Wall Length (FT):	1,025	Top of Sed. Pool Elev.	
Max Water Surface Elev.	642.2	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	609

Spillway	2-31'X30' gates		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)	218,000	Surcharge (AF)	
Conservation Pool Storage (AF)	17,500	Flood Control Storage (AF)	10,400
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Suitable for all water uses.		
Previous Cost Estimate	$54,700,000	Year of Cost Estimate	10/1985
Grouping:	3		
Issues			
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Good dependable yield Very high cost per unit Medium proximity to demand		

Reservoir Data Report

Reservoir Name: Weatherford Reservoir also known as the Geary Project and Minco Project

Agency: Bureau of Reclamation

Location: 18 Miles E.N.E of Clinton, OK. Custer County. Canadian and Grady Counties

Primary Study Document(s): Geary Project, Oklahoma alsoA-MI-9 (OK-075) Minco Project-OK, Supporting Data for Weatherford Dam and Reservoir, Reconnaissance Cost Estimate, Oklahoma City Development Office, May 1971

Primary Study Date: 10/19/73

Region: West Central

Basin: 59-Upper Canadian River

Streams: Deer Creek

Beneficial Uses: WS, R, F&W, FC

DrainArea (Sq Mi): 230

Lat/Long or Section: Section 36, T13N, R14W Indian Meridian

Dam Type: Zoned embankment with 30' crest width

Cons. Sto. Surface Area (AC)	2,751	Dependable Yield (AF)	14,500
Dam Crest Elevation	1,594.00	Max Surface Area (AC)	5,679
Dam Length (FT)	4,117	Dam Height (FT)	89
Embankment Volume (CY)	1,701,324	Flood Pool Elevation	1580.38
Valley Wall Length (FT):	2,581	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1587.7	Top of Dead Pool Elev.	1524
Recreation Boundary (AC)	9,570	Top of Cons. Pool Elev.	1563

Spillway: 3-50' X 21.3' gates

Spillway Elevation(s)	1559	Power Pool Elevation	
Total Storage (AF)	162,933	Surcharge (AF)	37,441
Conservation Pool Storage (AF)	43,475	Flood Control Storage (AF)	62,000
Sediment Storage (AF)	20,017	Dead Storage (AF)	4,439

Geology: Geologically Favorable with adequate construction materials

Water Quality: Dissolved Solids of 1400-2200 ppm. Suitable for industrial uses only

Previous Cost Estimate: $25,427,000 **Year of Cost Estimate:** 01/1973

Grouping: 3

Issues: According to report, the Weatherford is not as attractive as the Hydro site. Cost is significantly higher per acre foot of yield. Relocations include an irrigation well, 3.5 miles of county road, 2 county bridges, raise SH 54.

Fatal Flaw(s)

Present? ☐

Qualifying Statements:
Good dependable yield
Medium cost per unit
Poor water quality (TDS)
Low/Medium proximity to demand

Reservoir Data Report

Reservoir Name	Weleetka Reservoir also known as Hickory Ridge Reservoir
Agency	U.S Army Corps of Engineers, Southwest Division, Tulsa District
Location	Okfuskee County
Primary Study Document(s)	Evaluation of Ground and Surface Water Supplies in Oklahoma, Planning Assistance to States Study for the Oklahoma Water Resources Board and Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region, May 1988
Primary Study Date	07/19/95
Region:	Central
Basin	50-Lower North Canadian River
Streams	North Canadian River
Beneficial Uses	WS, R, F&W
DrainArea (Sq Mi)	1,789
Lat/Long or Section	
Dam Type	Zoned earth fill embankment

Cons. Sto. Surface Area (AC)	8,257	Dependable Yield (AF)	110,000
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)		Dam Height (FT)	
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	770

Spillway	

Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	158,500	Flood Control Storage (AF)	
Sediment Storage (AF)		Dead Storage (AF)	

Geology	
Water Quality	Requires iron/manganese removal, hardness reduction and potentially removal of total dissolved solids.

Previous Cost Estimate	$50,629,000	Year of Cost Estimate	05/1988
Grouping:	1		

Issues	
Fatal Flaw(s) Present? ☑	Not Enough Data to Properly Evaluate

Qualifying Statements:

Reservoir Data Report

Reservoir Name	Wellston Lake
Agency	U.S. Army Corps of Engineers, Tulsa District
Location	Lincoln County
Primary Study Document(s)	Survey Report on Central Oklahoma Project, Volume 2 Appendices I & II, and Comprehensive Technical Report on East-Central Oklahoma Water Supply, Bureau of Reclamation, SW Region, May, 1988
Primary Study Date	1 /19/65
Region:	Central
Basin	60-Deep Fork River
Streams	Captain Creek at river mile 4.2
Beneficial Uses	WS, FC, F&W, R
DrainArea (Sq Mi)	58
Lat/Long or Section	Sections 21 & 22, T14N, R2E Indian Meridian
Dam Type	Zoned earth filled embankment with 32' crest width

Cons. Sto. Surface Area (AC)	1,555	Dependable Yield (AF)	7,700
Dam Crest Elevation		Max Surface Area (AC)	
Dam Length (FT)	3,550	Dam Height (FT)	70
Embankment Volume (CY)	1,700,000	Flood Pool Elevation	
Valley Wall Length (FT):		Top of Sed. Pool Elev.	
Max Water Surface Elev.		Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	894

Spillway	800' uncontrolled		
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	25,000	Flood Control Storage (AF)	
Sediment Storage (AF)	4,000	Dead Storage (AF)	
Geology			
Water Quality	Hard but suitable for M&I use.		
Previous Cost Estimate	$28,633,000	Year of Cost Estimate	05/1988
Grouping:	4		
Issues	SH-102 crosses reservoir perimeter twice, at spans of 1.8 km and 2.2 km. US-44 cross reservoir once for 1.7 km.		
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Low dependable yield Low cost per unit High/Medium proximity to demand		

Reservoir Data Report

Reservoir Name	Welty Lake
Agency	U. S. Army Corps of Engineers
Location	Creek County, 10 miles south of Bristow, OK
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	9 /19/85
Region:	Central
Basin	60-Deep Fork Reservoir
Streams	Deep Fork River
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	1,299
Lat/Long or Section	Sections 29 & 30, T14N, R9E and Sections 35& 36, T14N, R8E Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	35,100	Dependable Yield (AF)	207,240
Dam Crest Elevation	785.00	Max Surface Area (AC)	
Dam Length (FT)	8,235	Dam Height (FT)	85
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	11,262	Top of Sed. Pool Elev.	
Max Water Surface Elev.	780	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	779

Spillway	10-40' X 40' gates		
Spillway Elevation(s)	740	Power Pool Elevation	
Total Storage (AF)	816,500	Surcharge (AF)	
Conservation Pool Storage (AF)	800,000	Flood Control Storage (AF)	
Sediment Storage (AF)	16,500	Dead Storage (AF)	
Geology			
Water Quality	Suitable for all uses		
Previous Cost Estimate	$245,000,000	Year of Cost Estimate	10/1985
Grouping:	4		
Issues	SH-99 crosses southern fork for a span of 1.53 km. 115kV t-line cross northern perimeter for a 2.5 km span. BN rail line crosses extreme northern perimeter for a span of 1.5 km.		
Fatal Flaw(s) Present? ☐			
Qualifying Statements:	Very high dependable yield Low cost per unit High/Medium proximity to demand		

Reservoir Data Report

Reservoir Name	West Elm Creek Reservoir also termed West Elm Lake
Agency	U. S. Army Corps of Engineers
Location	Cleveland County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District; and Central Oklahoma Project, Feasibility Report for Water Resources Development, March 1978
Primary Study Date	09/19/85
Region:	Central
Basin	62-Little River-2
Streams	West Elm Creek @ river mile 1.6
Beneficial Uses	WS, F&W, R
DrainArea (Sq Mi)	16
Lat/Long or Section	Sections 23, 24, 26 & 27, T10N, R2W Indian Meridian
Dam Type	Zoned earth filled embankment

Cons. Sto. Surface Area (AC)	3,300	Dependable Yield (AF)	0
Dam Crest Elevation	1,189.00	Max Surface Area (AC)	
Dam Length (FT)	11,000	Dam Height (FT)	115
Embankment Volume (CY)		Flood Pool Elevation	
Valley Wall Length (FT):	7,183	Top of Sed. Pool Elev.	
Max Water Surface Elev.	1183.6	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	1175.5

Spillway	Saddle, Ogee, 100' width and gated 5' diameter conduit

Spillway Elevation(s)	1175.5	Power Pool Elevation	
Total Storage (AF)	103,600	Surcharge (AF)	
Conservation Pool Storage (AF)	102,800	Flood Control Storage (AF)	
Sediment Storage (AF)	800	Dead Storage (AF)	

Geology	
Water Quality	Conveyed from southeast Oklahoma, Excellent quality.

Previous Cost Estimate	$150,800,000	Year of Cost Estimate	10/1985
Grouping:	4		

Issues	
Fatal Flaw(s) Present? ☐	
Qualifying Statements:	Terminal storage only Sponsored High proximity to demand Near conveyance facility Very high cost per unit

Reservoir Data Report

Reservoir Name	Wetumka Reservoir
Agency	U. S. Army Corps of Engineers
Location	Hughes County
Primary Study Document(s)	Arkansas River Basin, Arkansas and Oklahoma Reconnaissance Report, U.S. Army Corps of Engineers, Tulsa District
Primary Study Date	9 /19/85
Region:	Eufaula
Basin	48-Canadian River (To North Canadian River)
Streams	Wewoka Creek
Beneficial Uses	FC, WS, F&W, R
DrainArea (Sq Mi)	280
Lat/Long or Section	Sections 29 & 32, T9N, R10E Indian Meridian
Dam Type	Zoned earth filled embankment

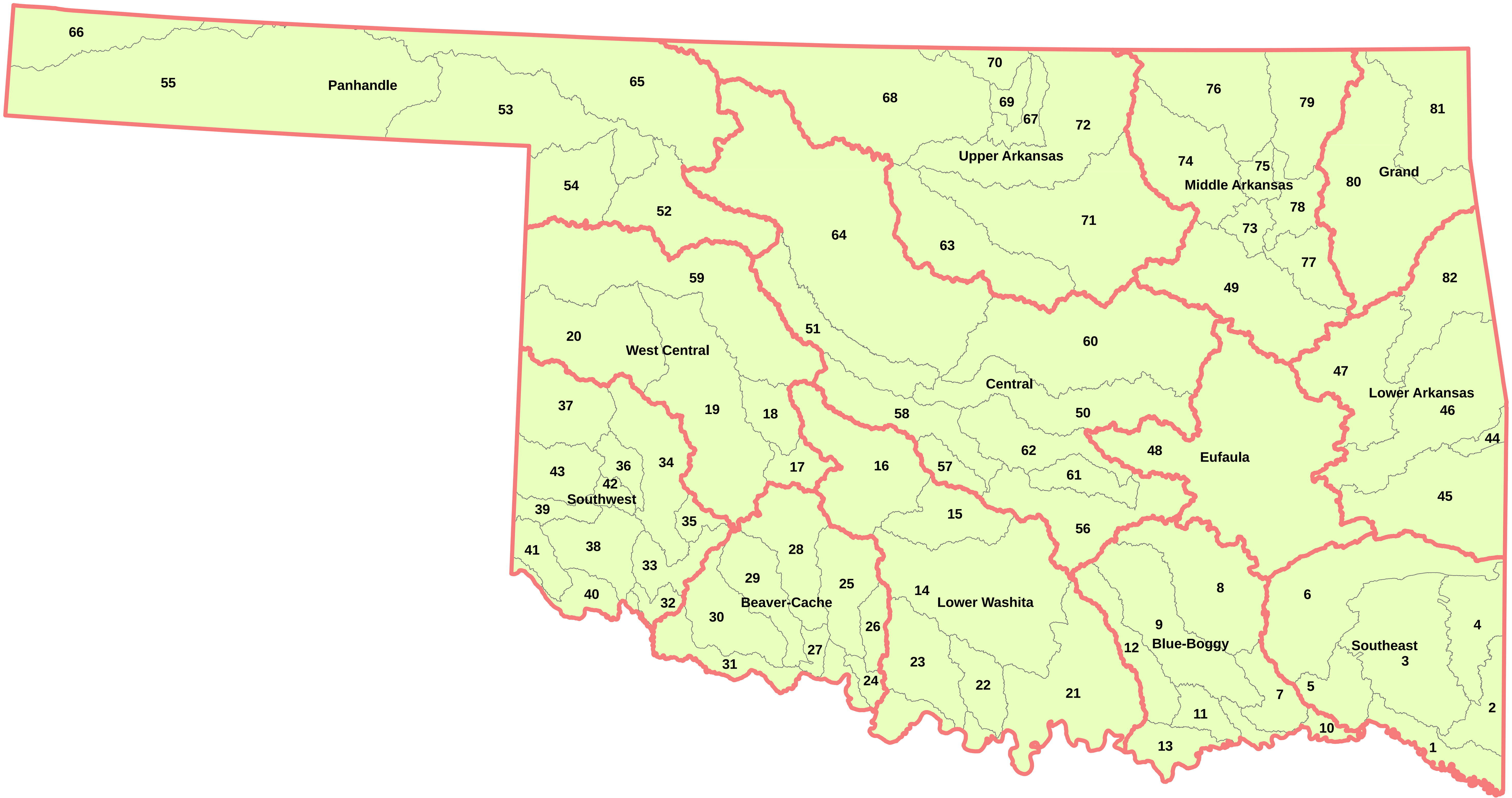
Cons. Sto. Surface Area (AC)	11,400	Dependable Yield (AF)	67,213
Dam Crest Elevation	807.00	Max Surface Area (AC)	
Dam Length (FT)	14,000	Dam Height (FT)	87
Embankment Volume (CY)		Flood Pool Elevation	781
Valley Wall Length (FT):	3,254	Top of Sed. Pool Elev.	
Max Water Surface Elev.	802	Top of Dead Pool Elev.	
Recreation Boundary (AC)		Top of Cons. Pool Elev.	773

Spillway			
Spillway Elevation(s)		Power Pool Elevation	
Total Storage (AF)		Surcharge (AF)	
Conservation Pool Storage (AF)	210,000	Flood Control Storage (AF)	110,000
Sediment Storage (AF)		Dead Storage (AF)	
Geology			
Water Quality	Polluted by oilfield brines. Unsuitable for M&I use due to Chlorides.		
Previous Cost Estimate	$164,700,000	Year of Cost Estimate	10/1985
Grouping:	3		
Issues			
Fatal Flaw(s) Present?	☐		
Qualifying Statements:	Very high dependable yield Medium cost per unit Potential water quality concerns High/Medium proximity to demand		

APPENDIX D

WATERSHED AND STREAM BASIN DESIGNATIONS

Planning Watershed Basins Map



APPENDIX E

WEIGHTED MATRIX MEETING NOTES
MARCH 18, 2010

MEETING SUMMARY
WEIGHTED MATRIX WORKSHOP
OKLAHOMA WATER RESOURCES BOARD (OWRB)
C. H. GUERNSEY & COMPANY (GUERNSEY)
RESERVOIR VIABILITY STUDY
March 18, 2010

PARTICIPANTS:

- Terri Sparks, OWRB
- Kyle Arthur, OWRB
- Mike Melton, OWRB
- John Rehring, CDM
- Brian Mitchell, CDM
- Karl Stickley, GUERNSEY
- Larry Roach, GUERNSEY
- Ken Senour, GUERNSEY

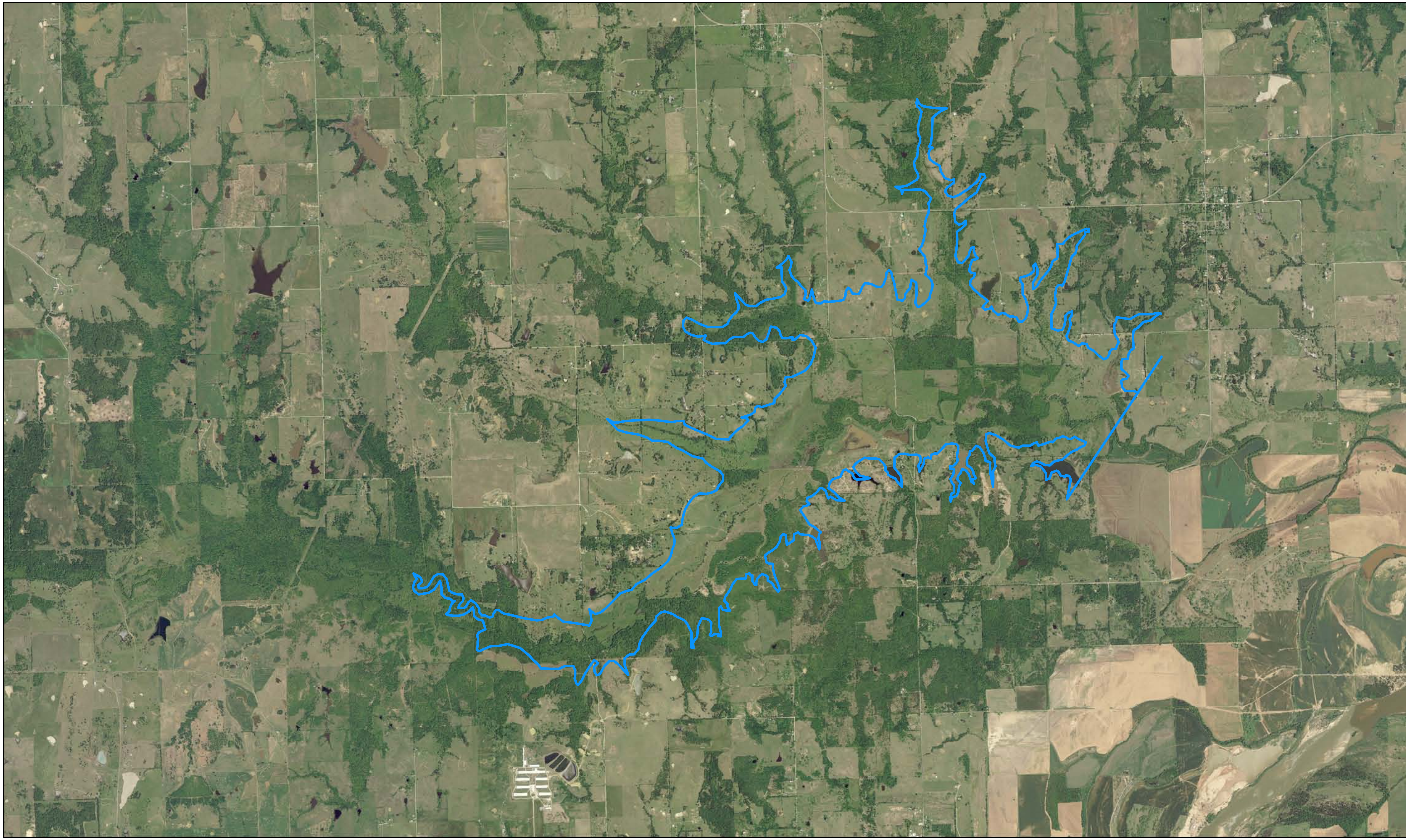
MEETING HIGHLIGHTS:

1. GUERNSEY requested the meeting to solicit OWRB input regarding the establishment and weighing of several criteria related to reservoir viability.
2. Pre-meeting information developed by GUERNSEY included (1) definition of the perfect reservoir, (2) weighted matrix criteria, and (3) weighted matrix work sheet.
3. Any reservoir < 5 MGD will not be considered.
4. NRCS water supply reservoirs will probably be marginal because most of them are <5 MGD.
5. Other factors identified for consideration included treatment costs, water rights, and dam materials (earthen).
6. One of the first fatal flaw issues to be addressed will include threatened and endangered species. If a species is present and its presence cannot be mitigated, that becomes a critical fatal flaw.
7. We went through the weighted matrix exercise and assigned values for the various components. The main focus was OWRB thoughts and input, with limited influence from GUERNSEY.
8. OWRB desired to further review the input on the matrix and include J.D. Strong in the process. OWRB will provide their consensus input soon.

Prepared by: Ken Senour, GUERNSEY
Date: March 18, 2010

APPENDIX F

AERIAL AND TOPOGRAPHICAL MAPS
FOR
SELECT CATEGORY 3 AND 4 RESERVOIRS



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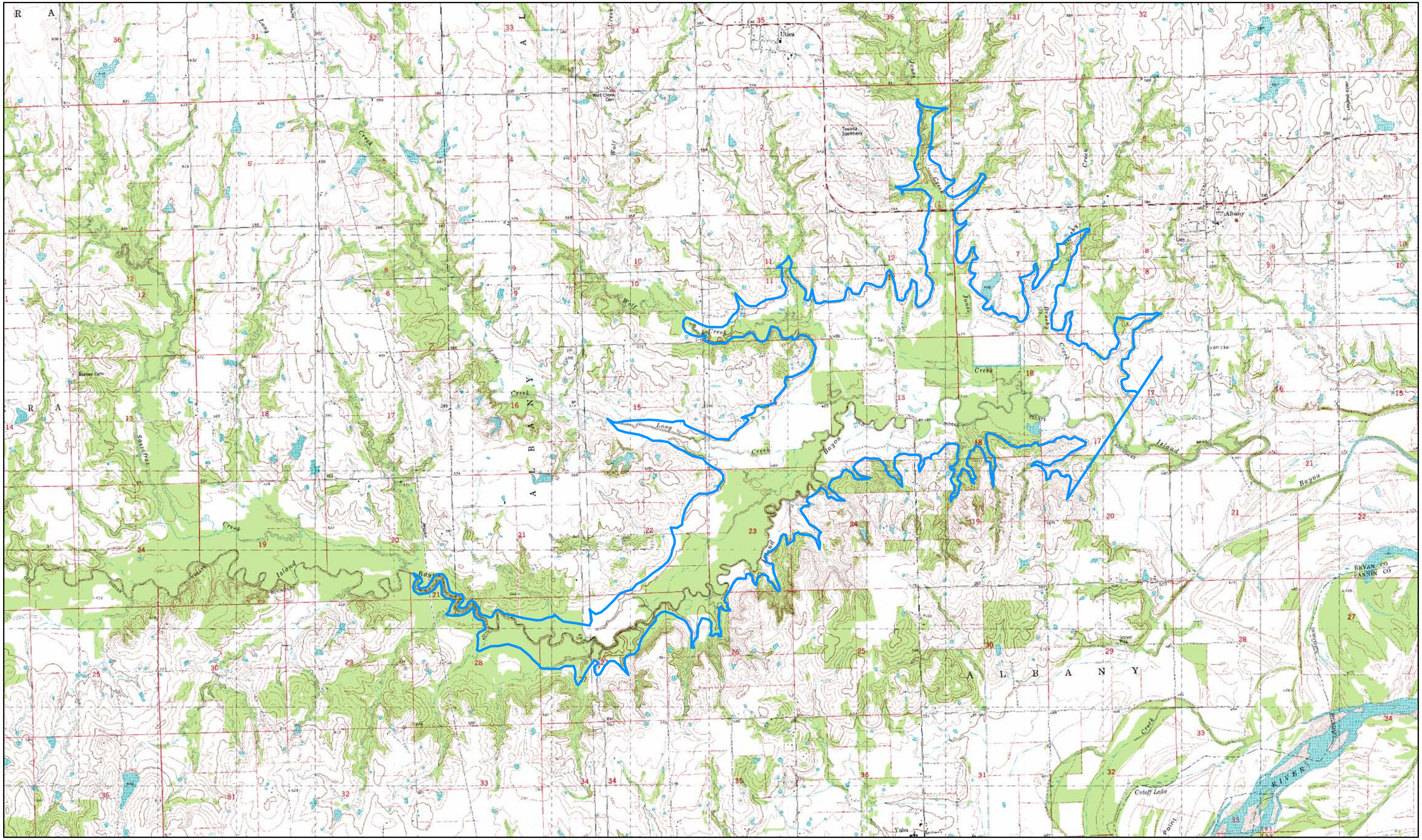
Albany Lake

3,200 1,600 0 3,200 Meters

N



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Engineers ● Architects ● Consultants

Albany Lake

3,200 1,600 0 3,200 Meters

N

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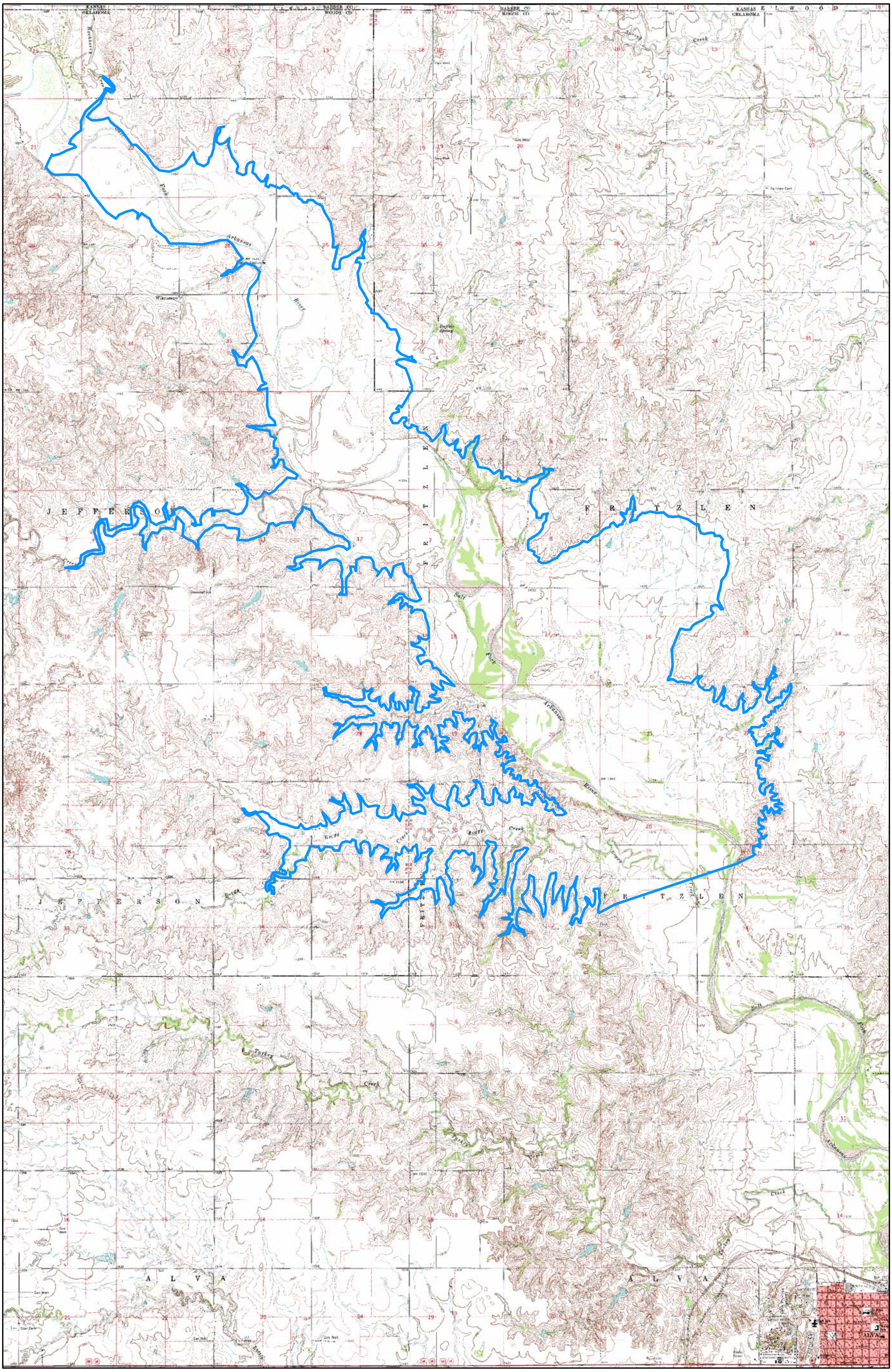
GUERNSEY

Alva Reservoir

0 700 1,400 2,800 4,200 5,600
Meters

N



Alva Reservoir

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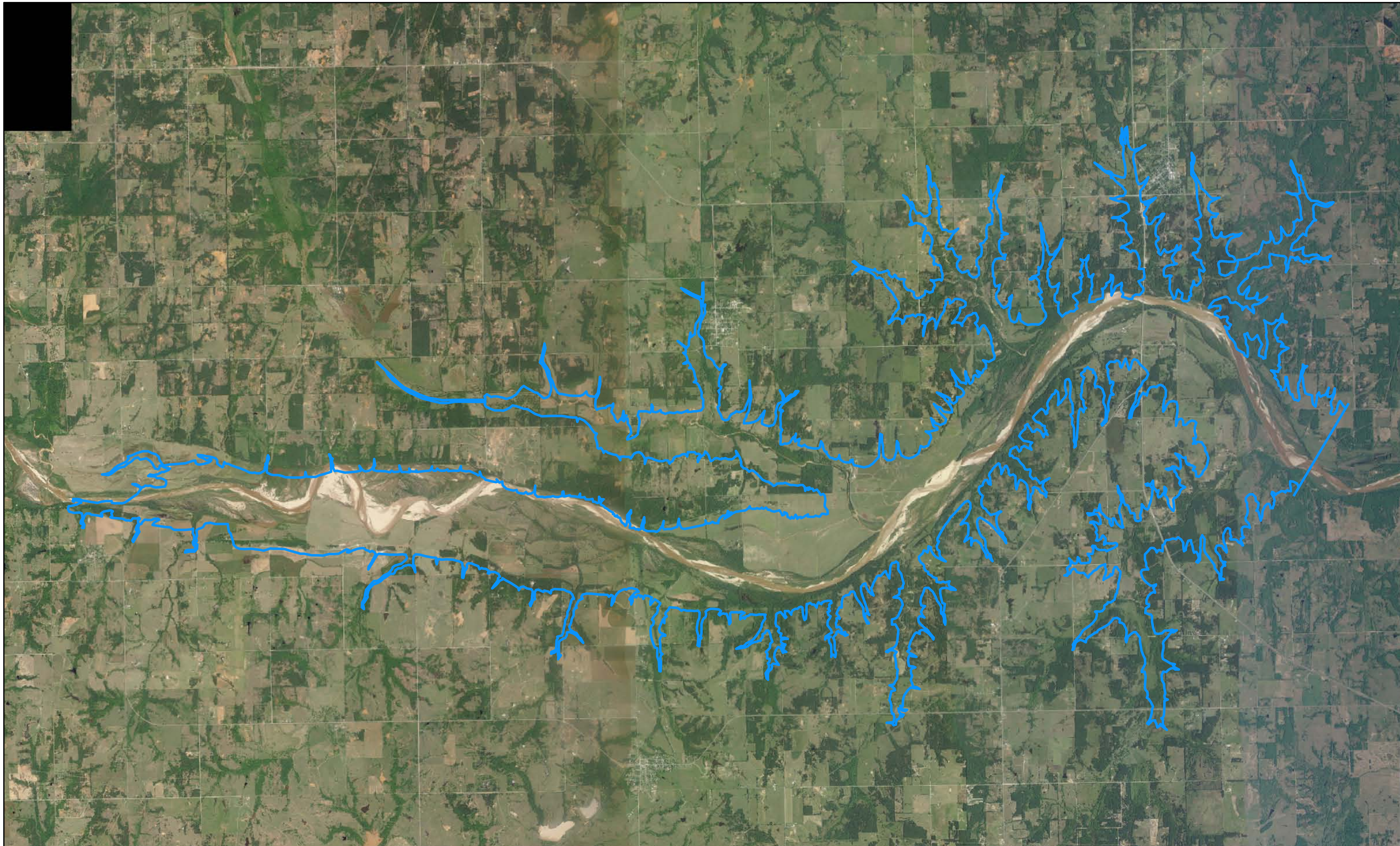
GUERNSEY



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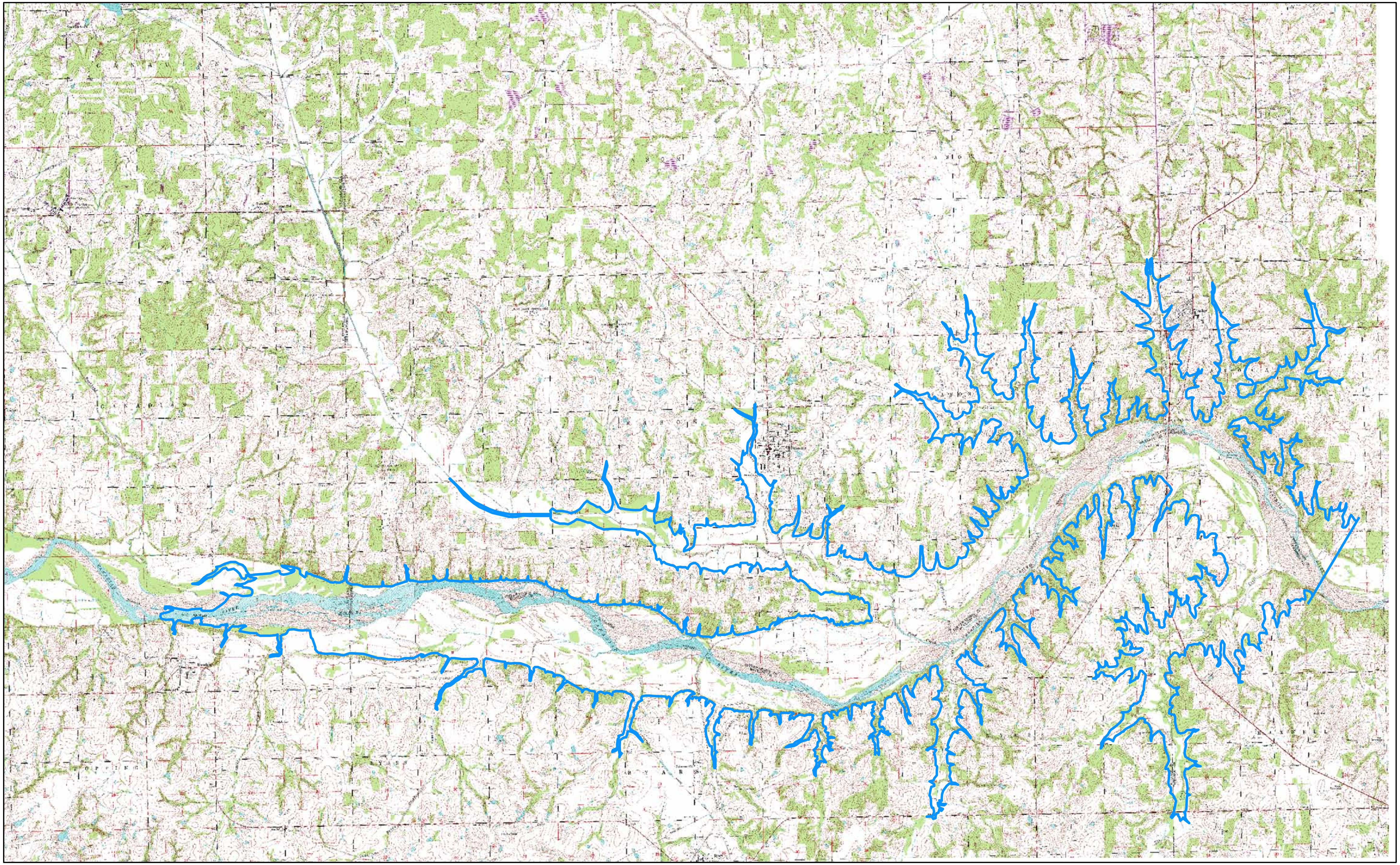
Asher Lake

0 1,300 2,600 5,200 7,800 10,400
Meters

N



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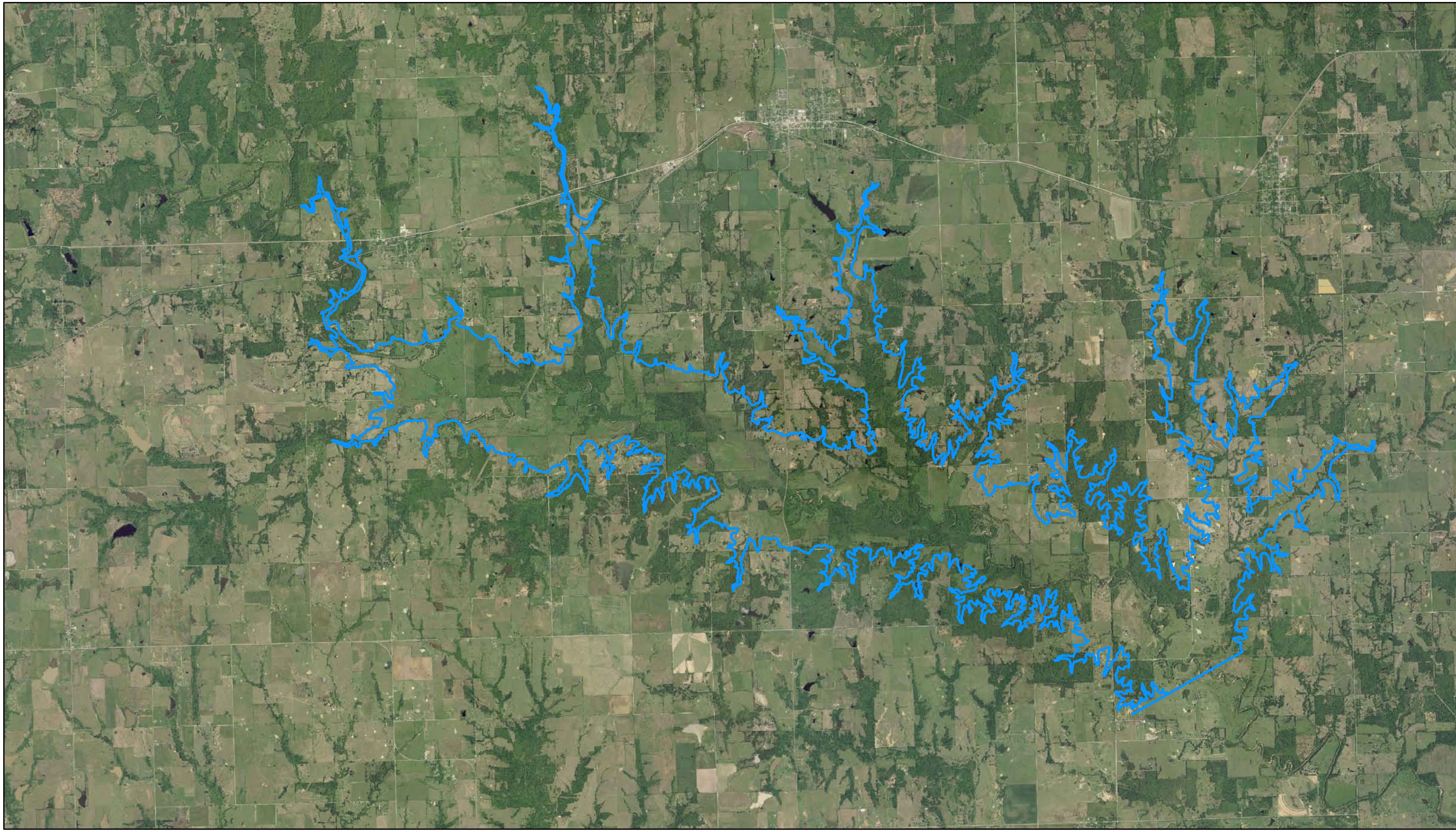
Asher Lake

0 1,375 2,750 5,500 8,250 11,000 Meters

N



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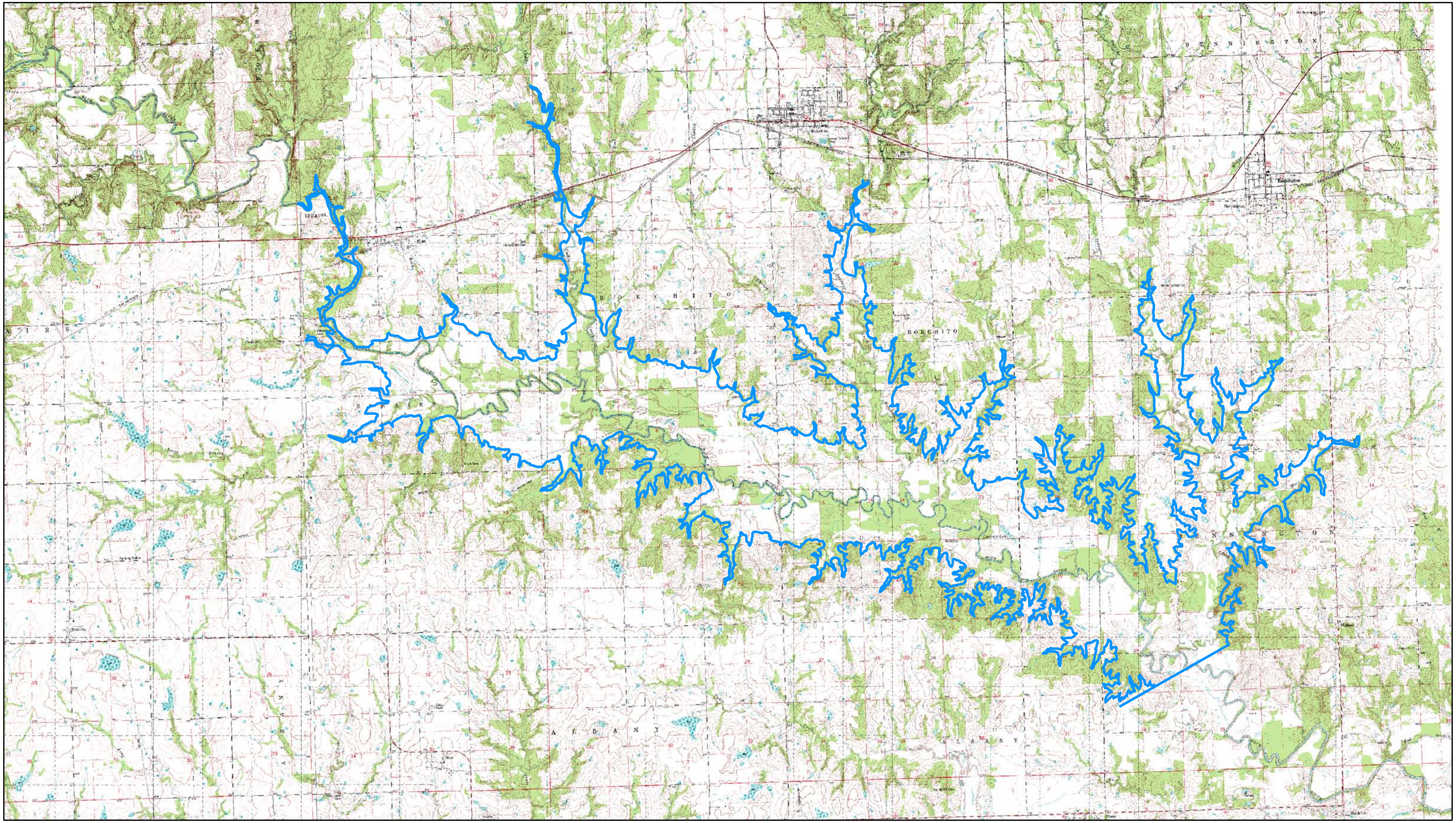
Bennington Reservoir (Durant Reservoir)

4,750 2,375 0 4,750 Meters

N



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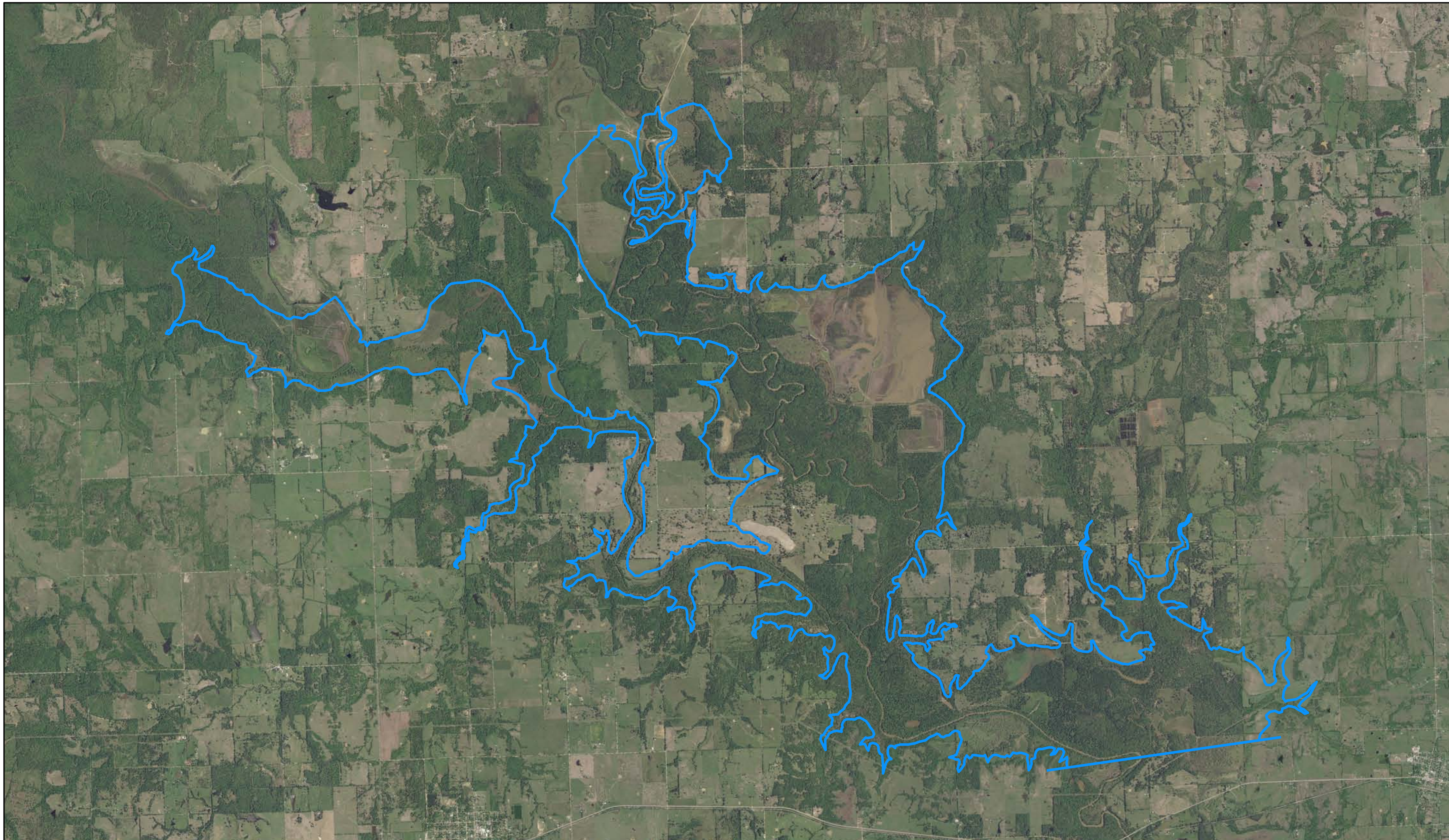
Bennington Reservoir (Durant Reservoir)

4,750 2,375 0 4,750 Meters

N



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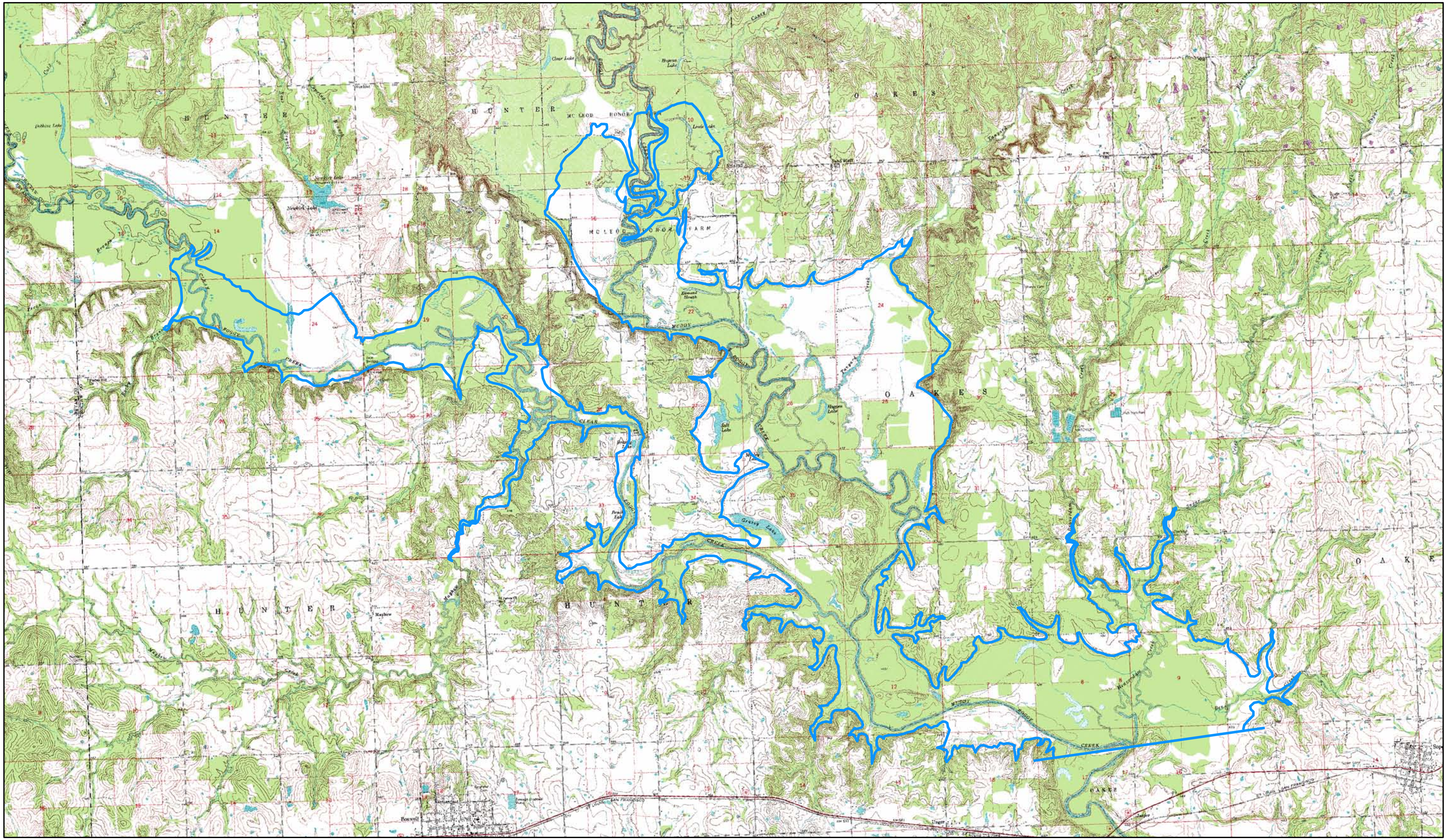
GUERNSEY

Boswell Lake

0 1,250 2,500 5,000 7,500 10,000 Meters

N



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Boswell Lake

0 1,250 2,500 5,000 7,500 10,000
Meters

N

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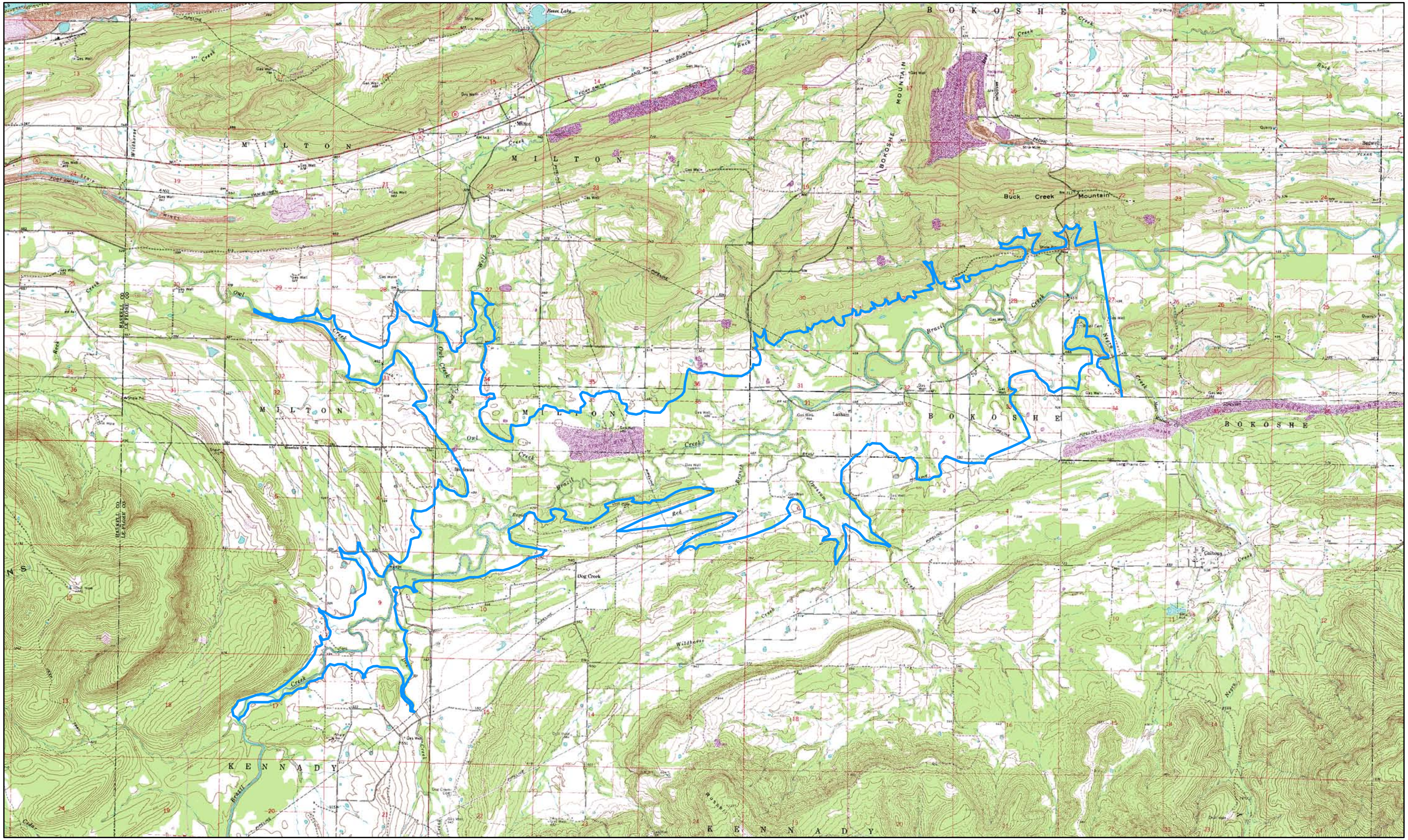
Brazil Lake

0 1,000 2,000 4,000 6,000 8,000 Meters

N



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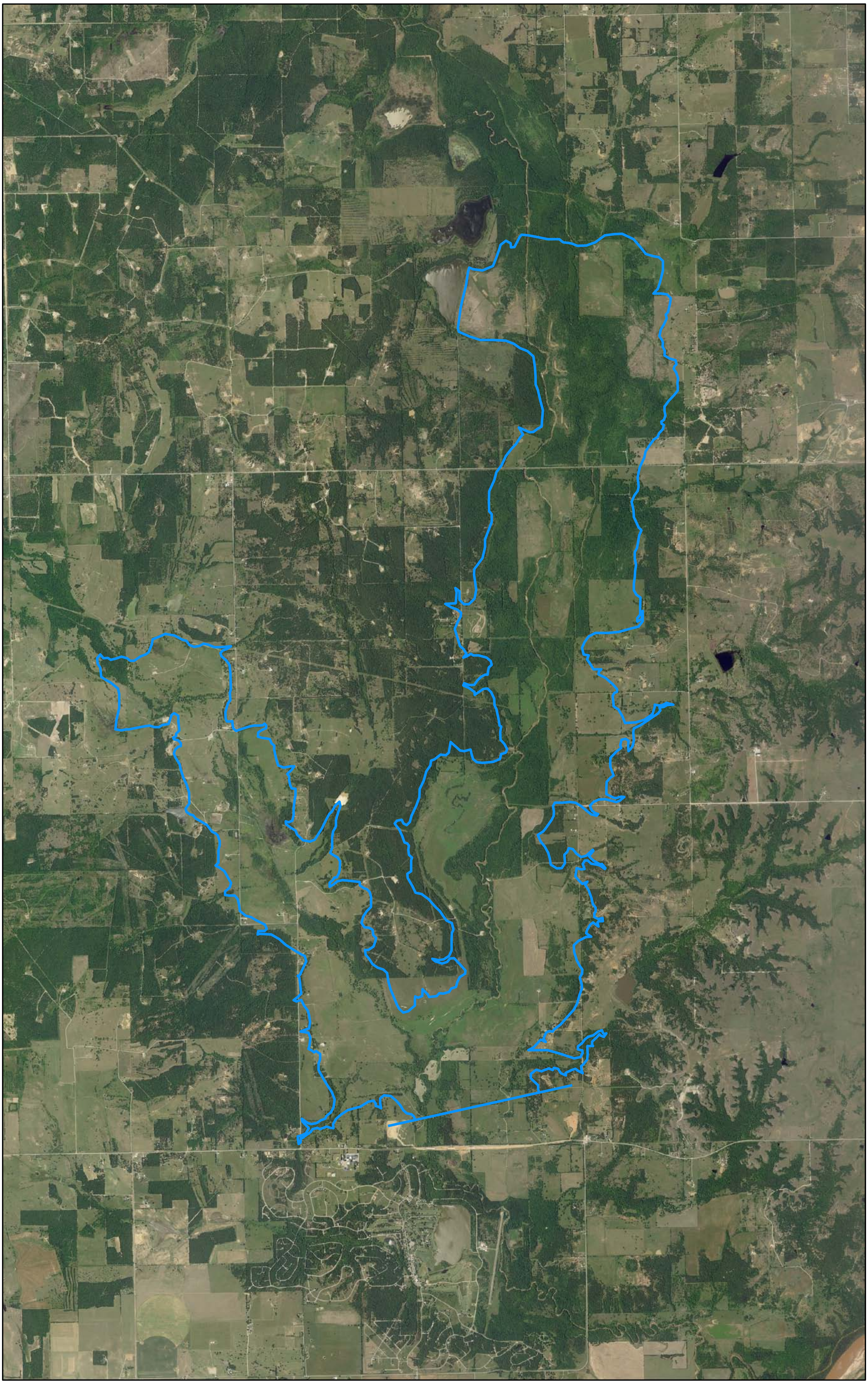
Brazil Lake

0 1,000 2,000 4,000 6,000 8,000 Meters

N



Burneyville Reservoir

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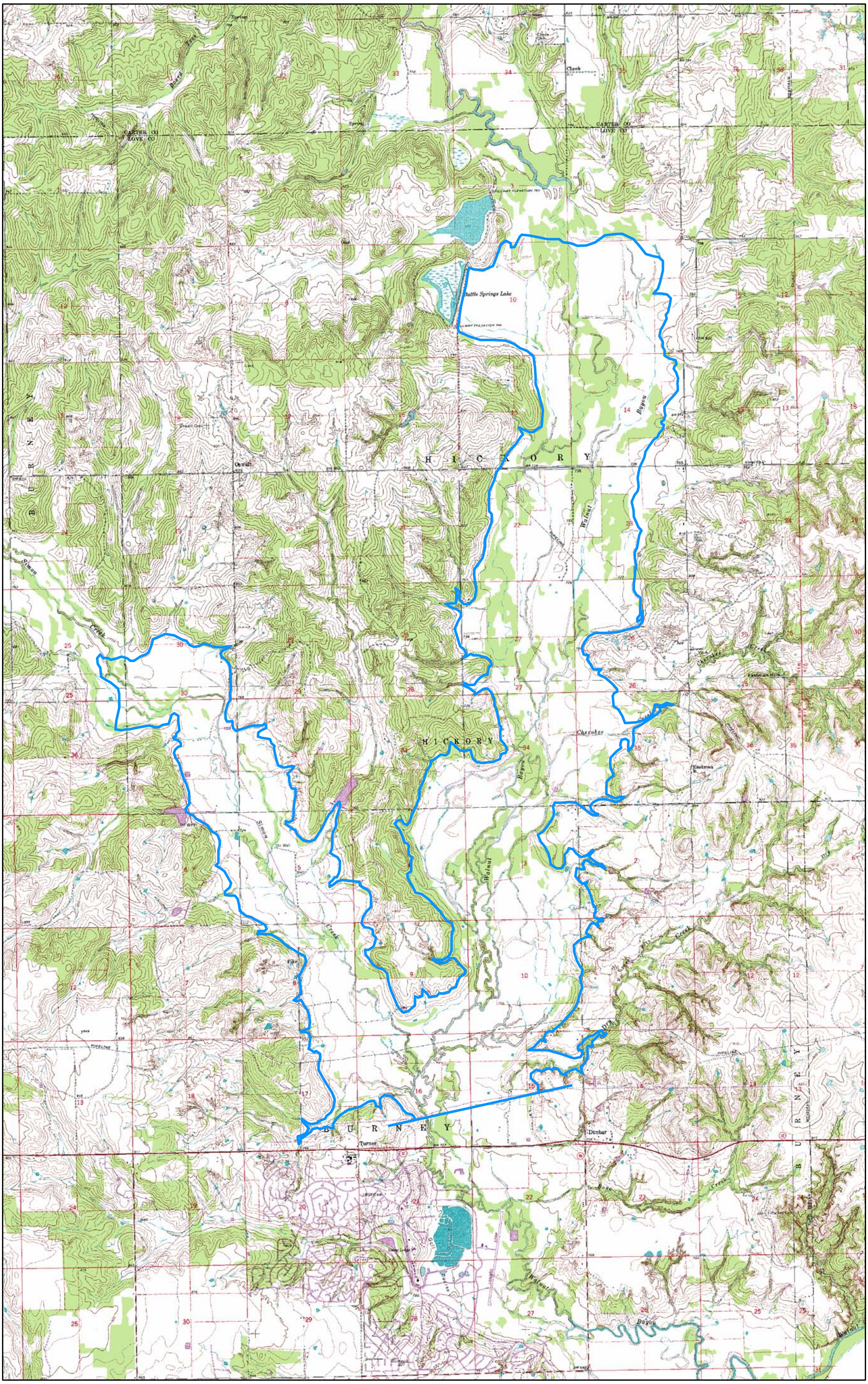

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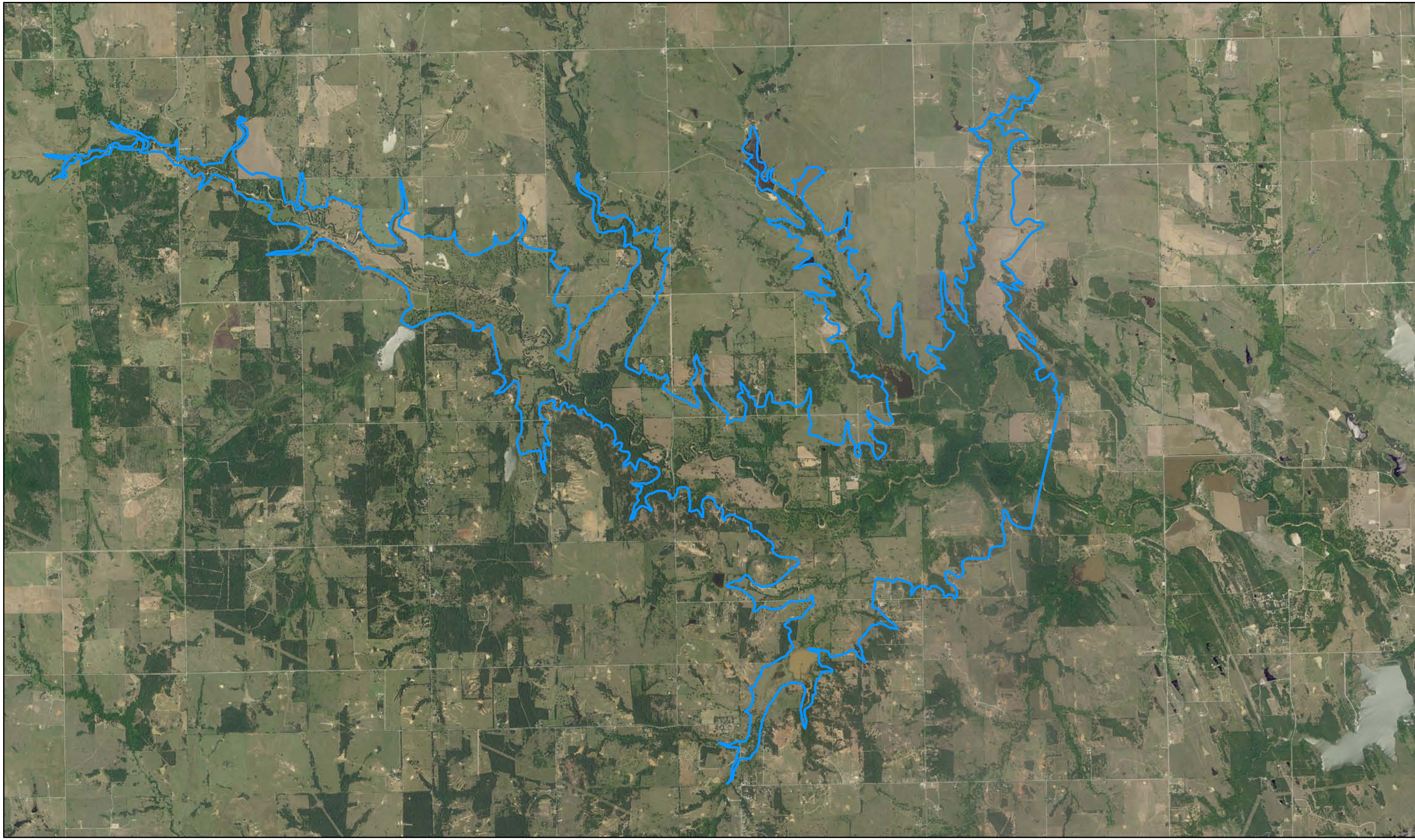
Burneyville Reservoir

N

0 600 1,200 2,400 3,600 4,800 Meters



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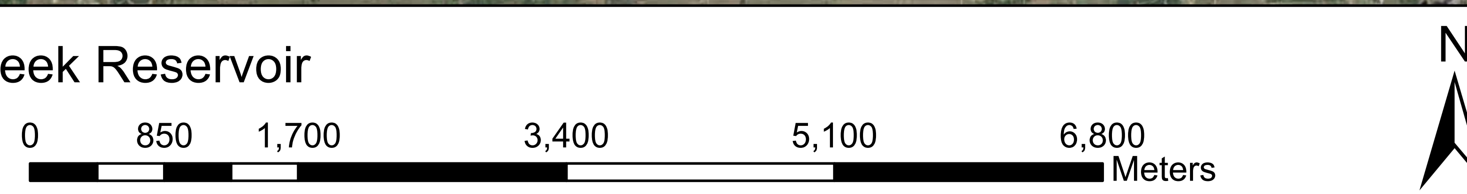
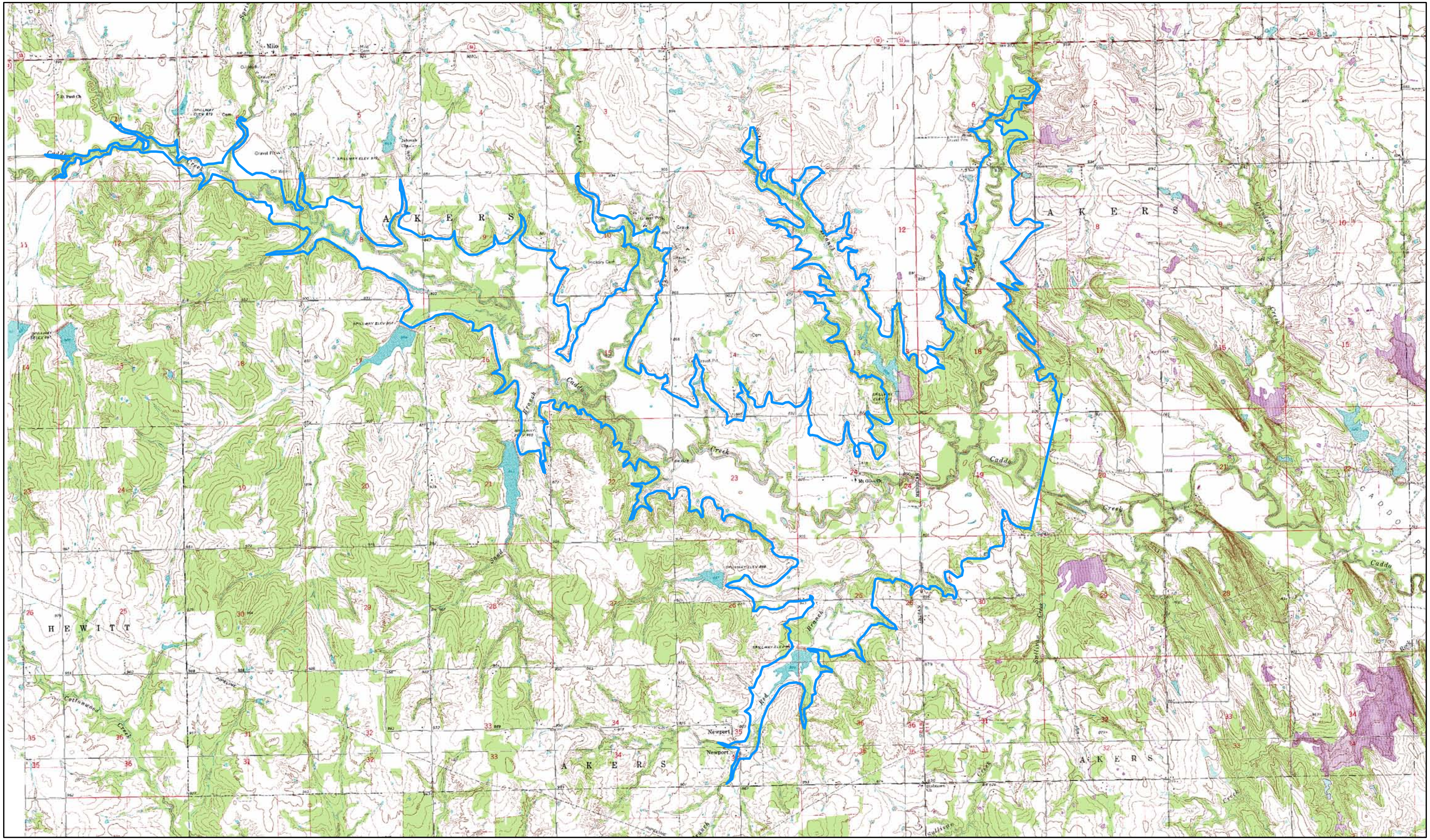
Caddo Creek Reservoir





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Caddo Creek Reservoir

0 850 1,700 3,400 5,100 6,800 Meters

N

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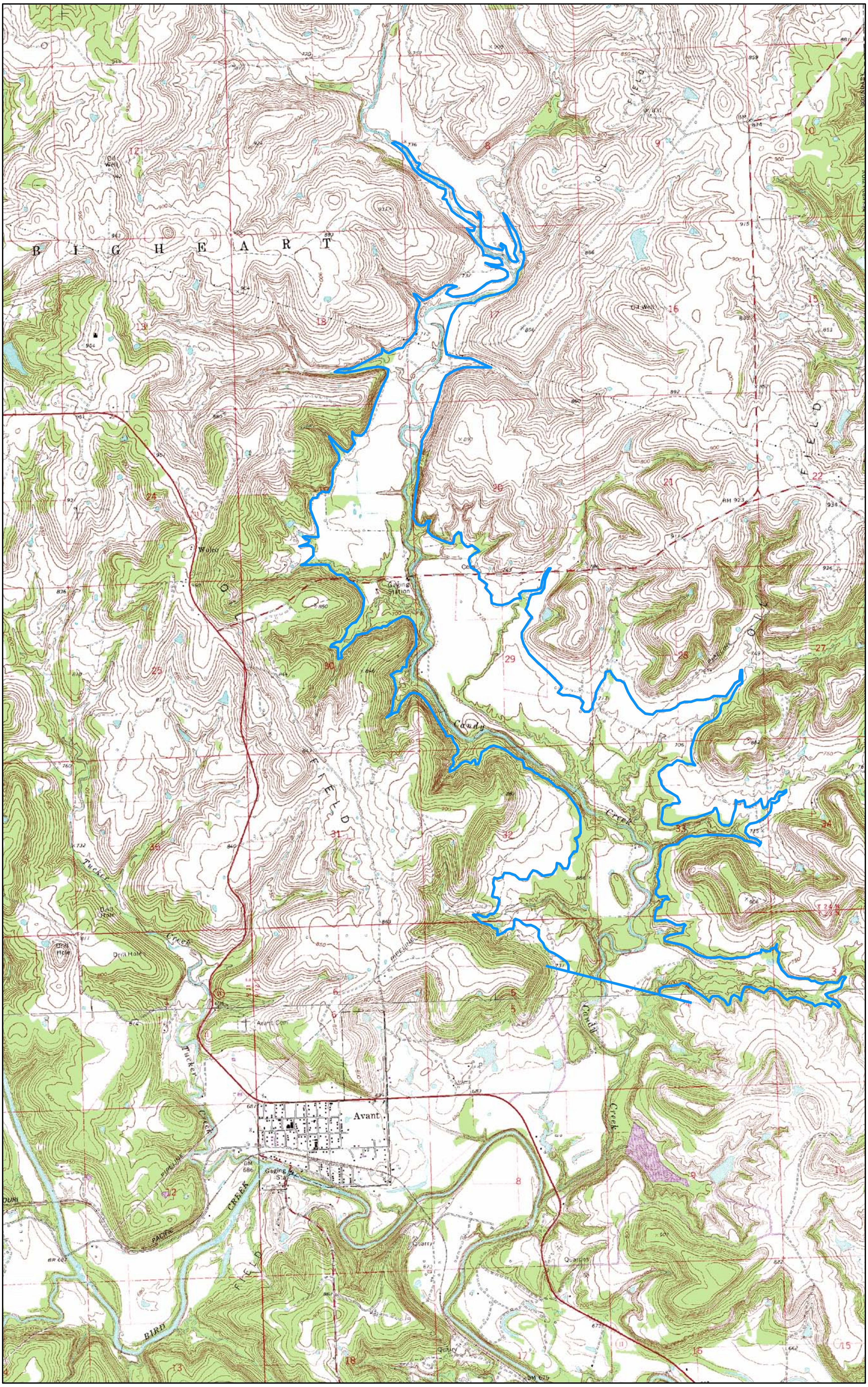
GUERNSEY

Candy Lake

N

0 385 770 1,540 2,310 3,080 Meters



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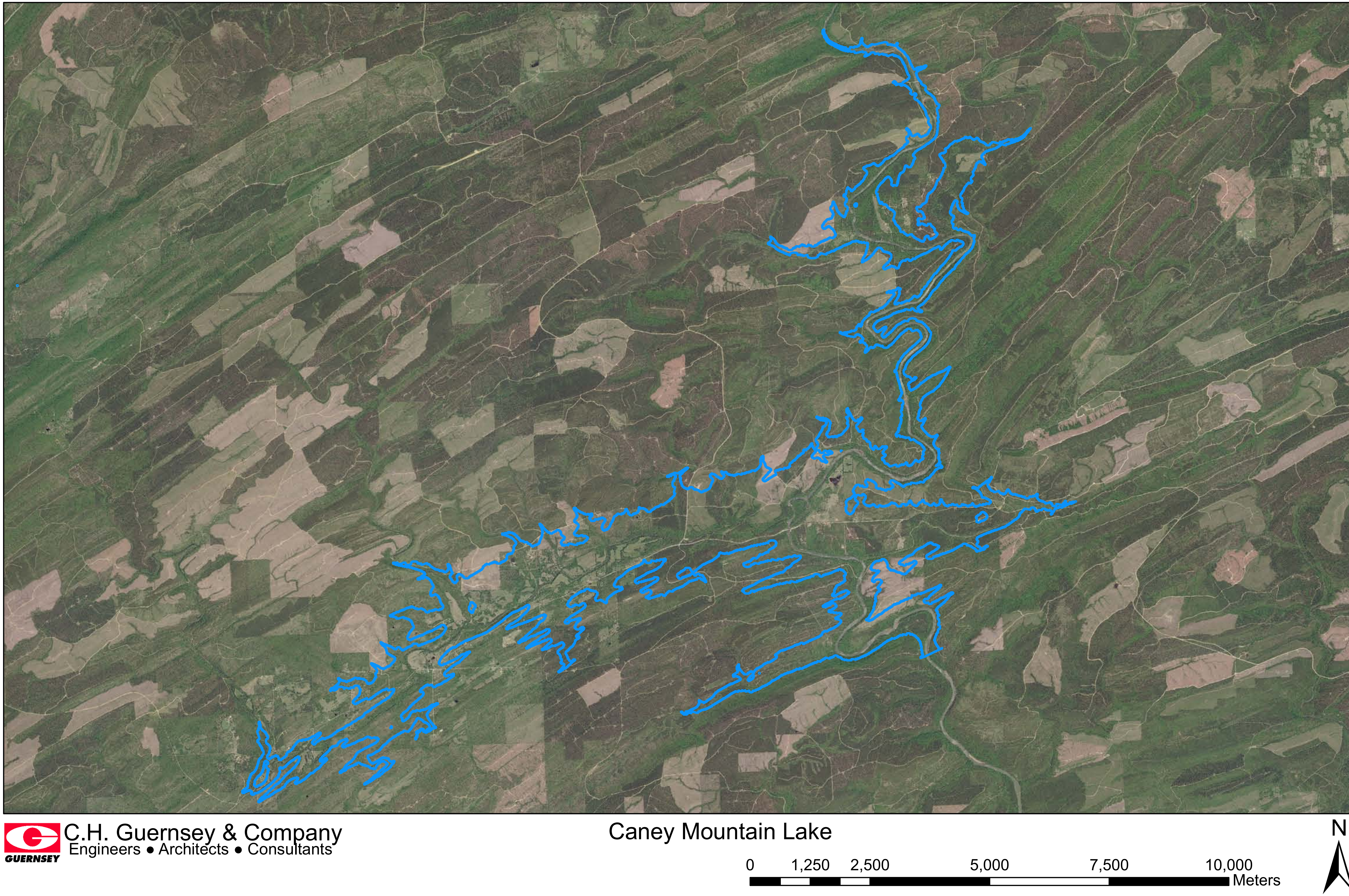
Candy Lake

N

0 385 770 1,540 2,310 3,080 Meters



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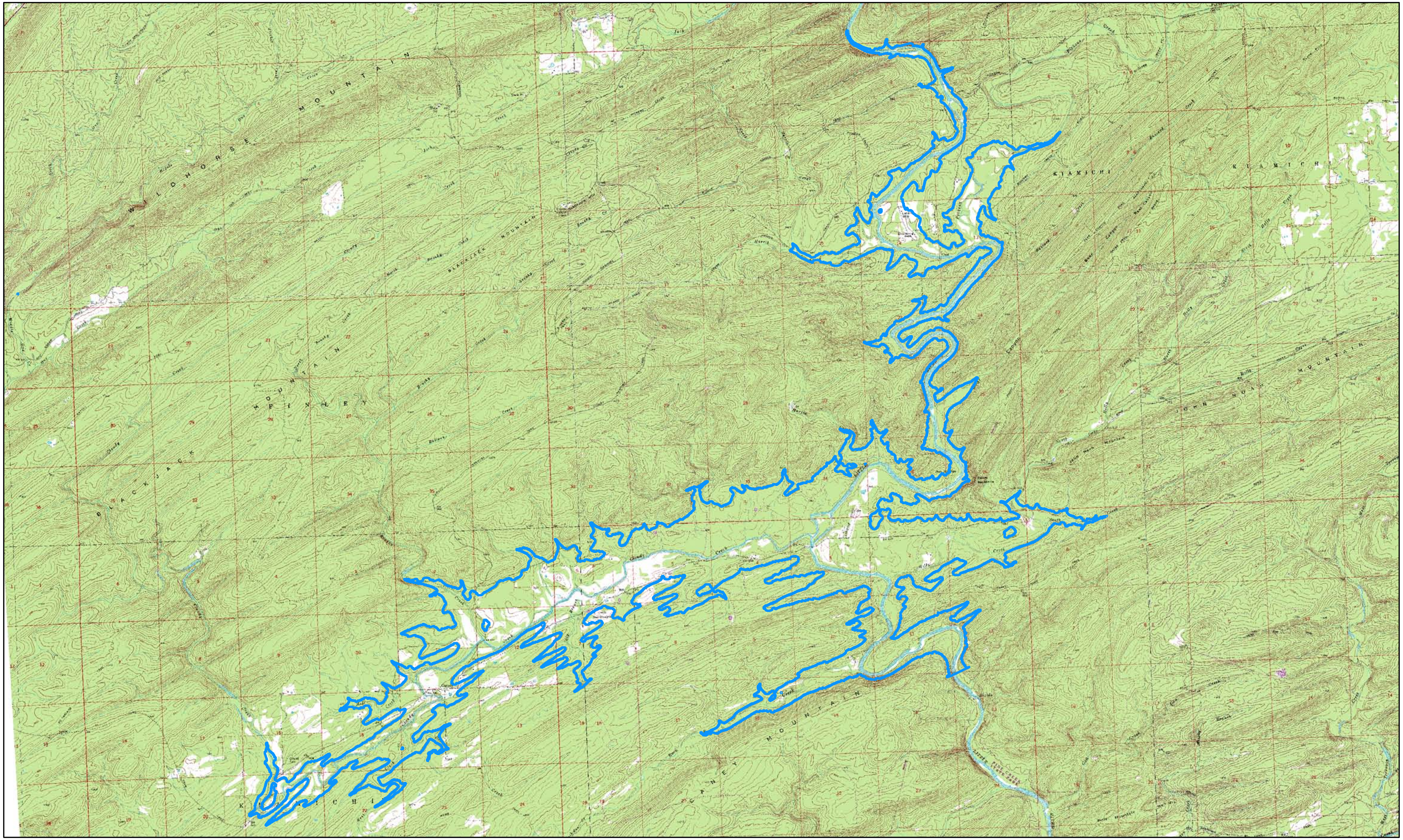
GUERNSEY
Caney Mountain Lake
0
1,250
2,500
5,000
7,500
10,000
Meters
N



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GUERNSEY

Caney Mountain Lake

N

0 1,250 2,500 5,000 7,500 10,000 Meters

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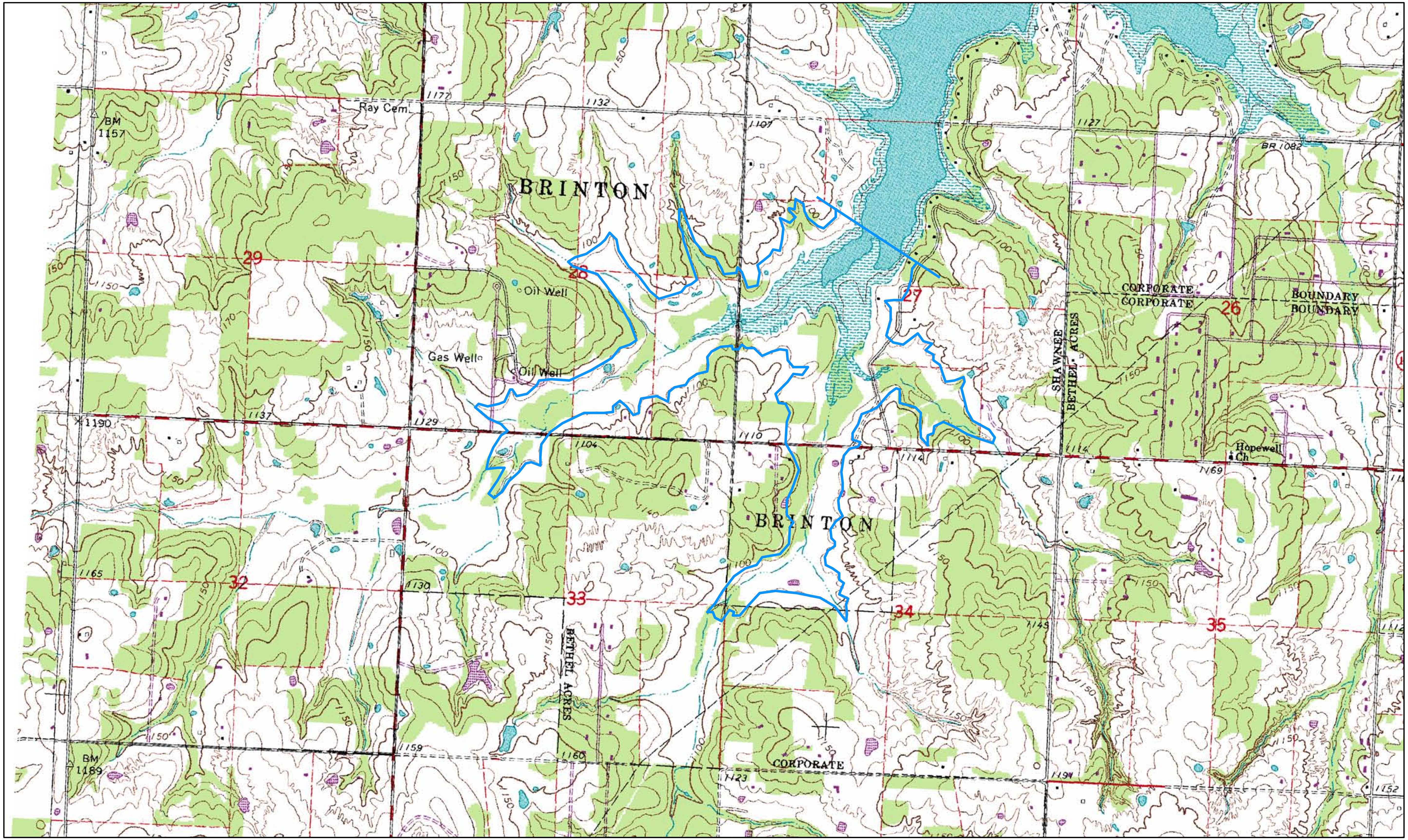
Centerpoint Lake

0 395 790 1,580 2,370 3,160 Meters

N



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GUERNSEY

Centerpoint Lake

0 395 790 1,580 2,370 3,160 Meters

N

GUERNSEY

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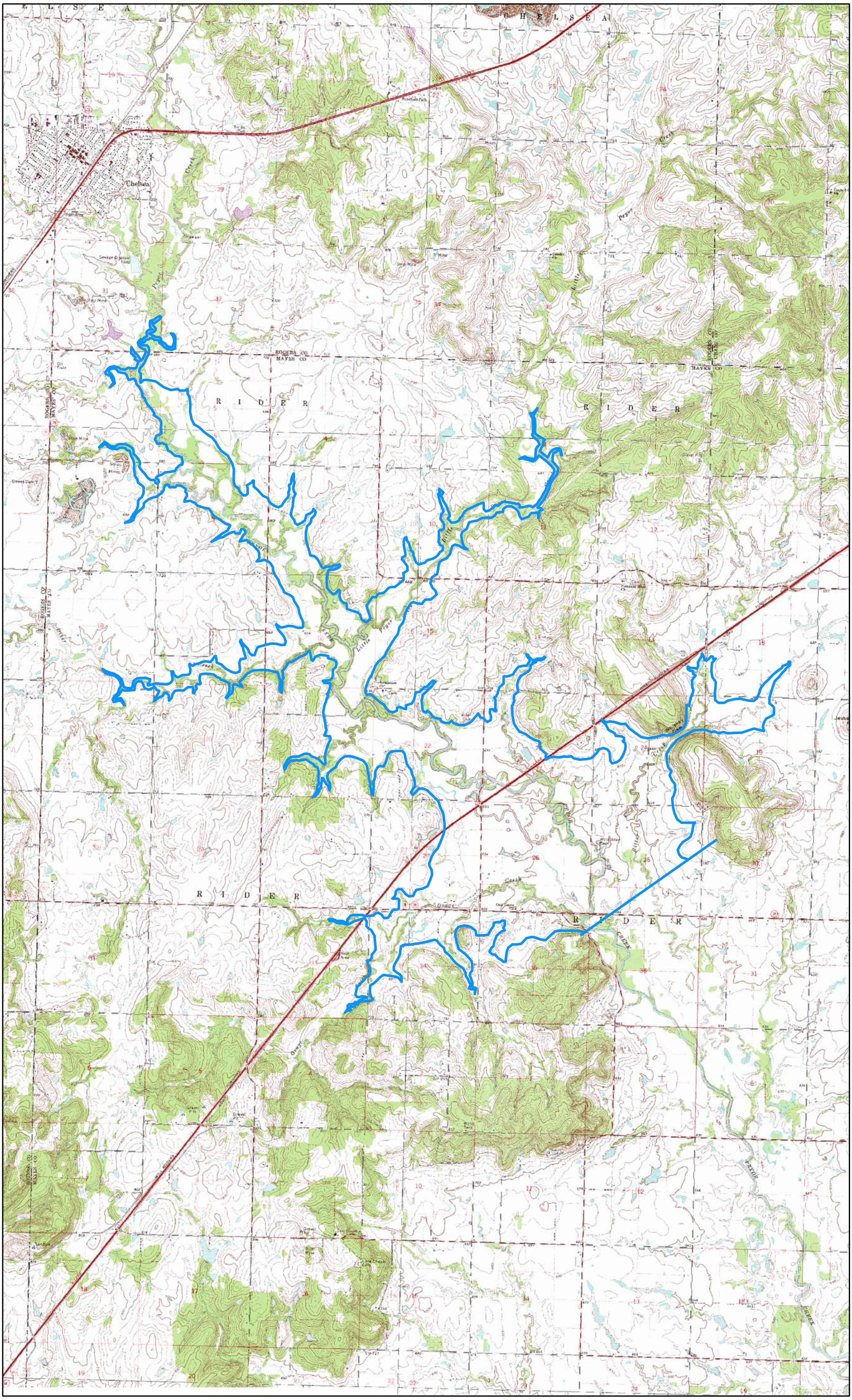
Chelsea Reservoir



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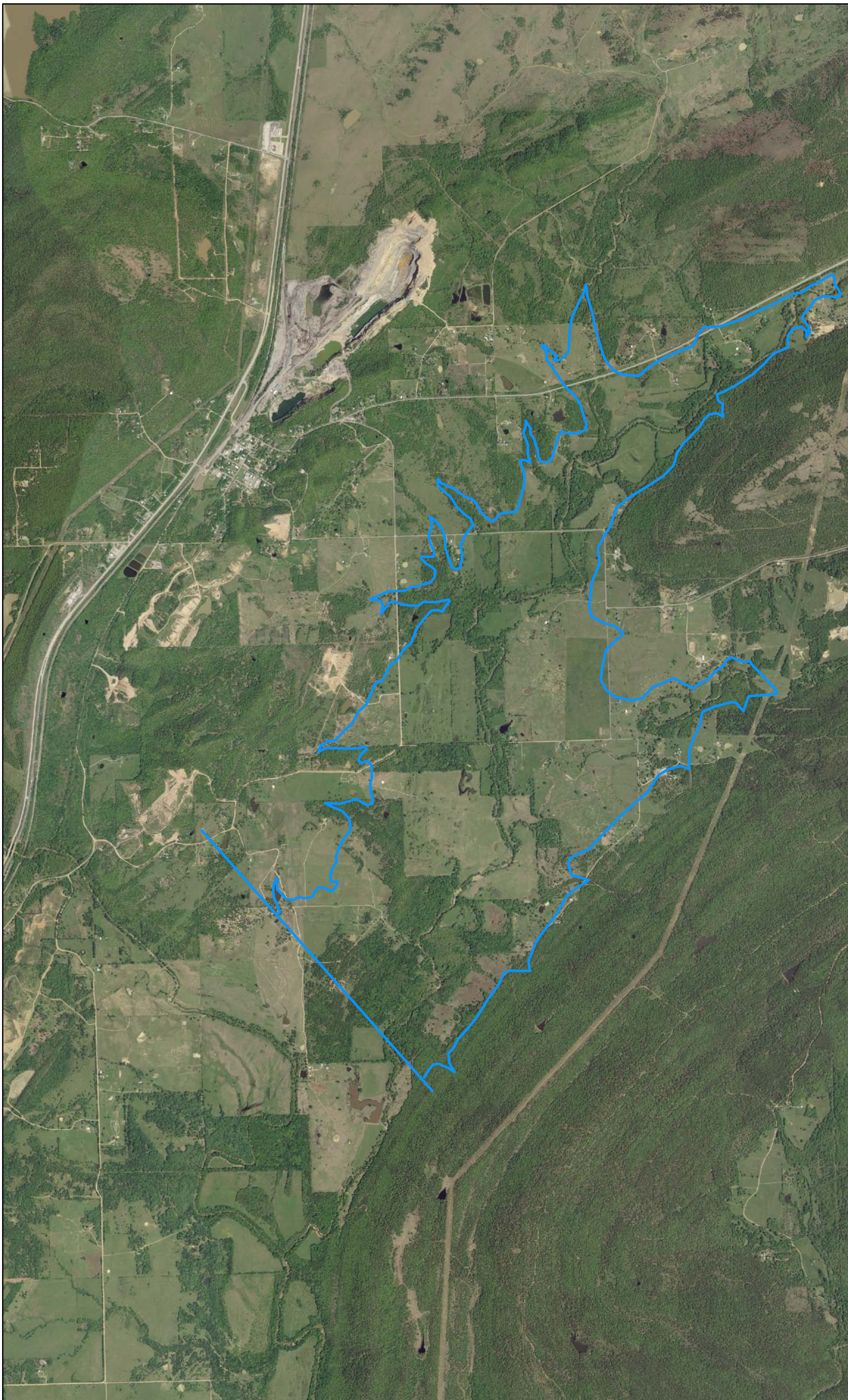
Chelsea Reservoir



Chickasaw Lake

1,100 550 0 1,100 Meters

N

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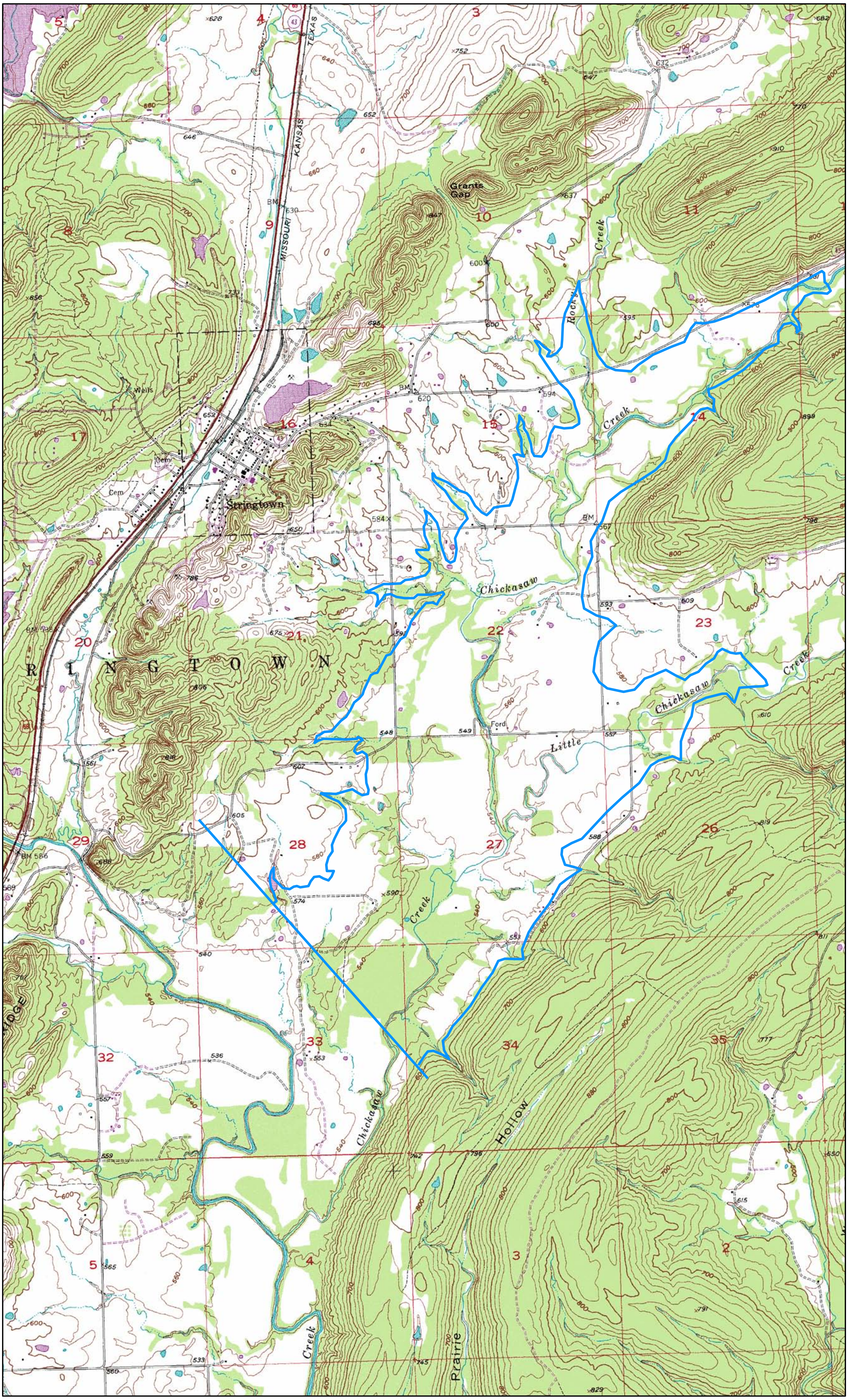

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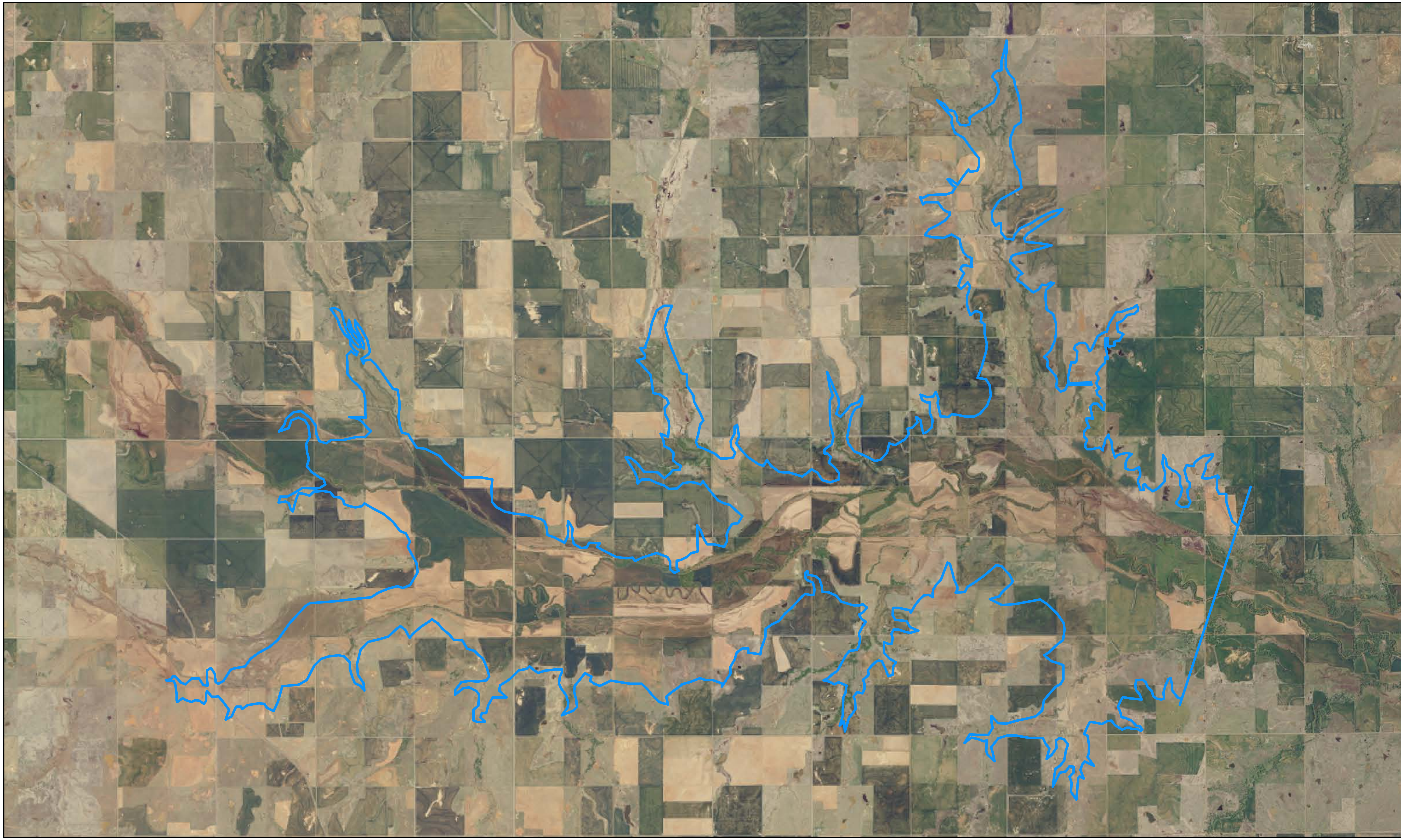

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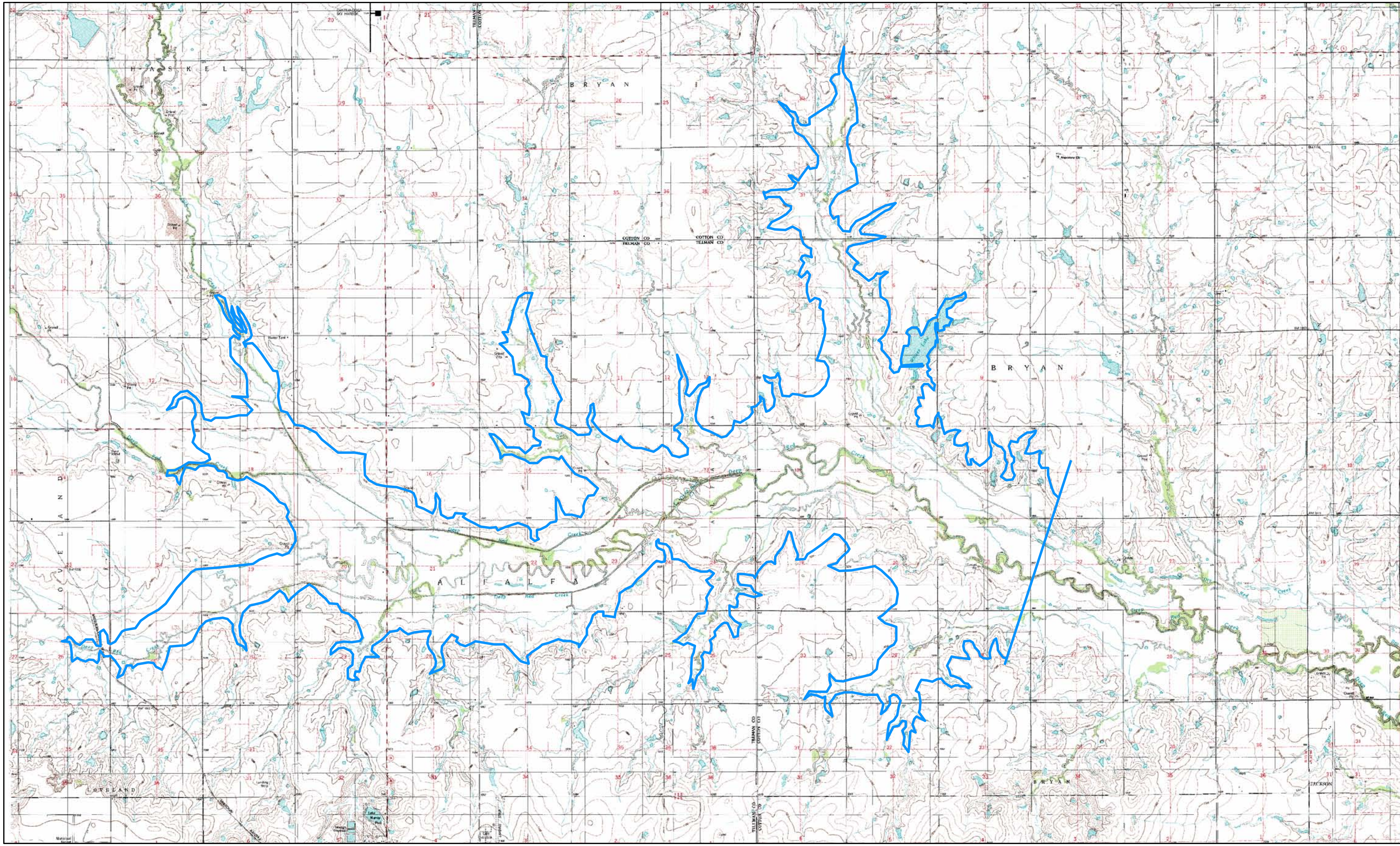
Cookietown Lake



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Cookietown Lake

0 1,300 2,600 5,200 7,800 10,400
Meters

N

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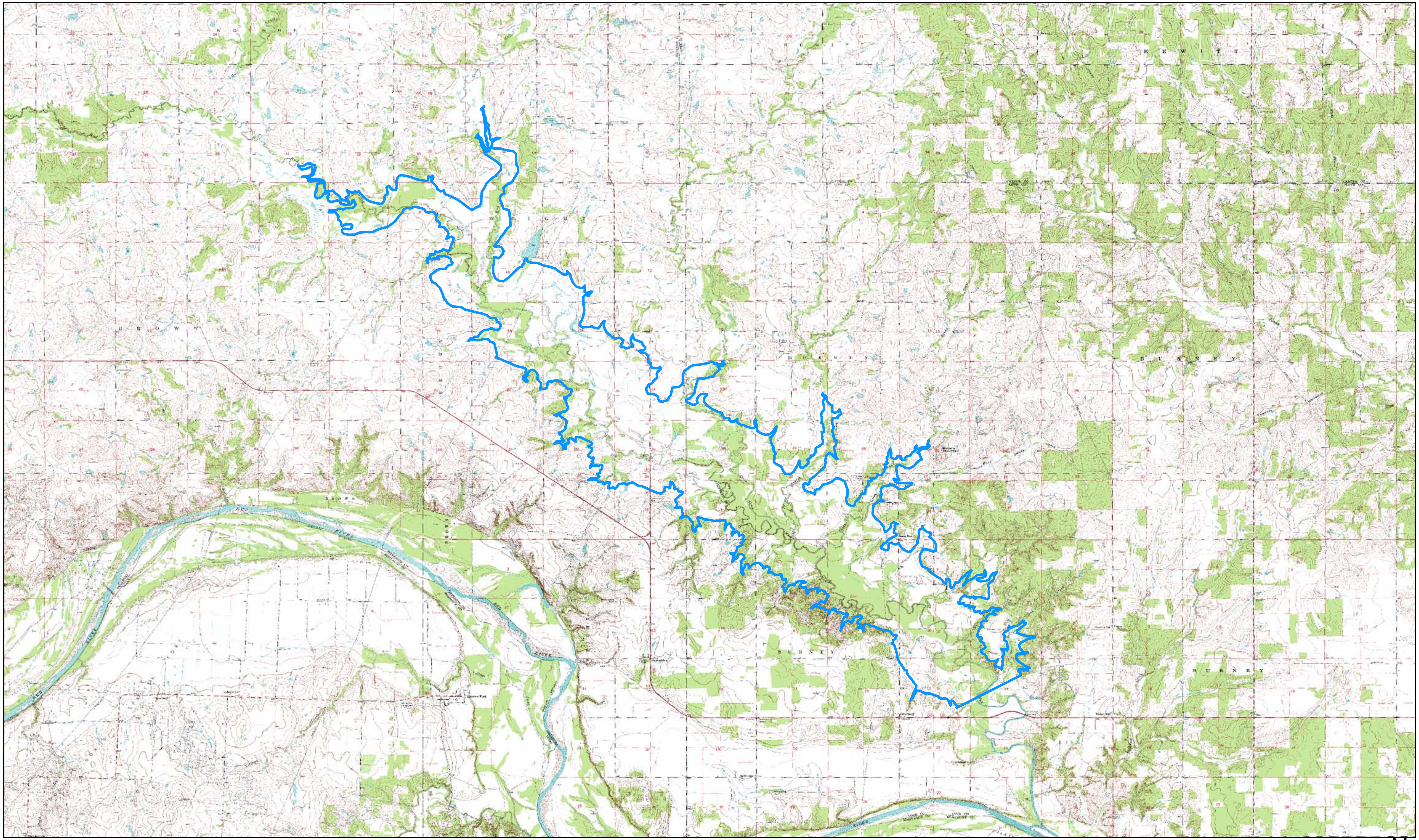
Courtney Reservoir



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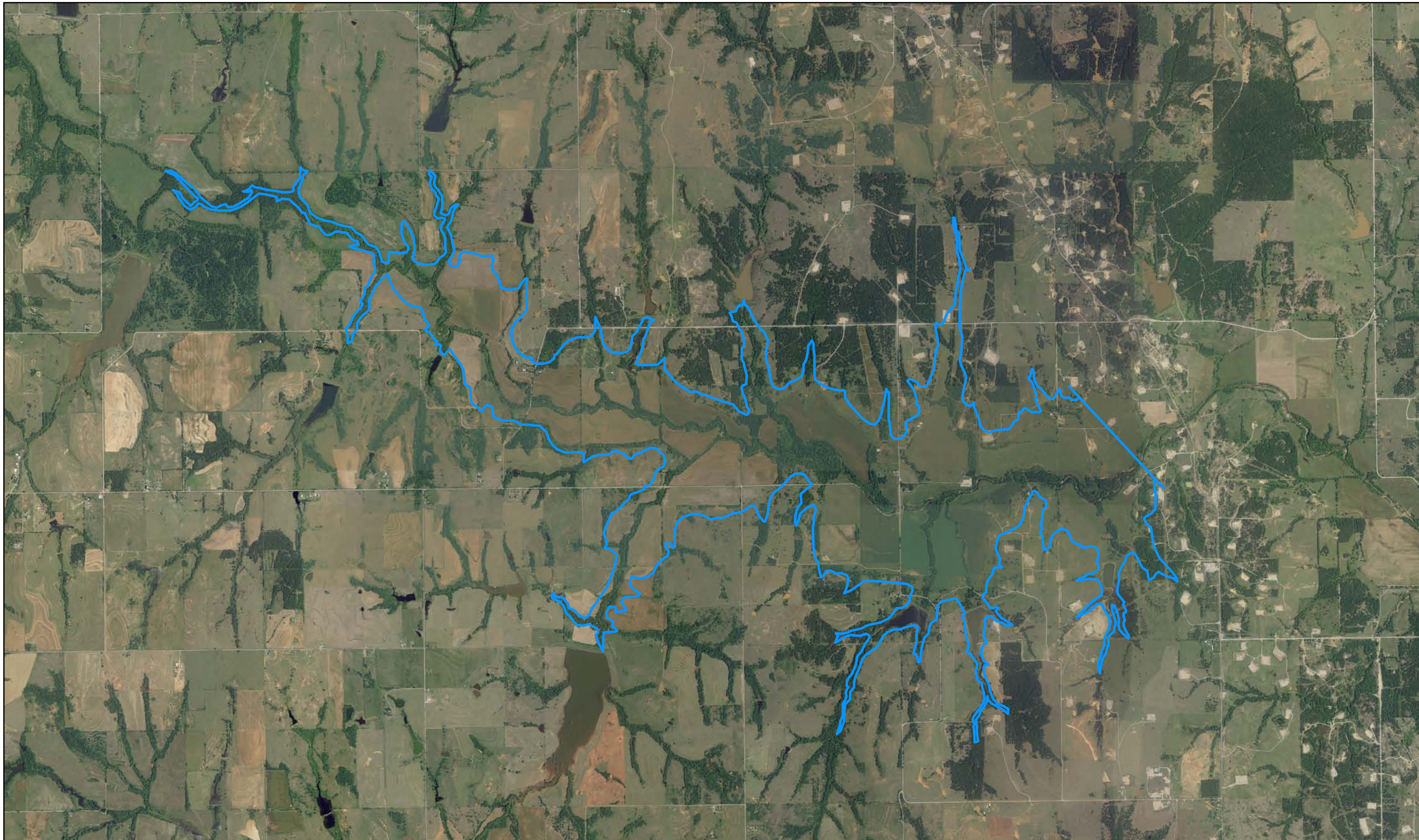
Courtney Reservoir

0 1,150 2,300 4,600 6,900 9,200
Meters

N



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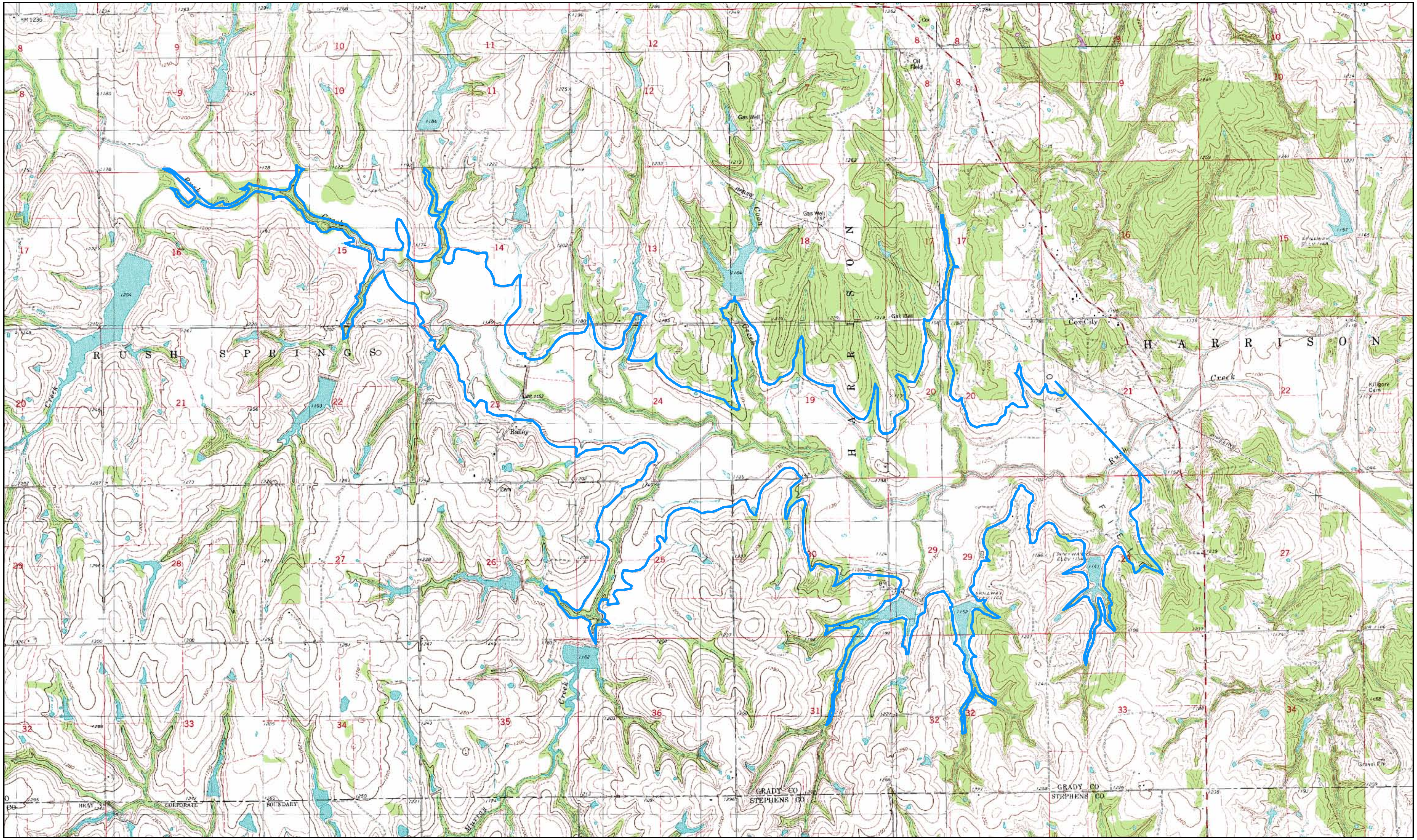
Cox City Lake



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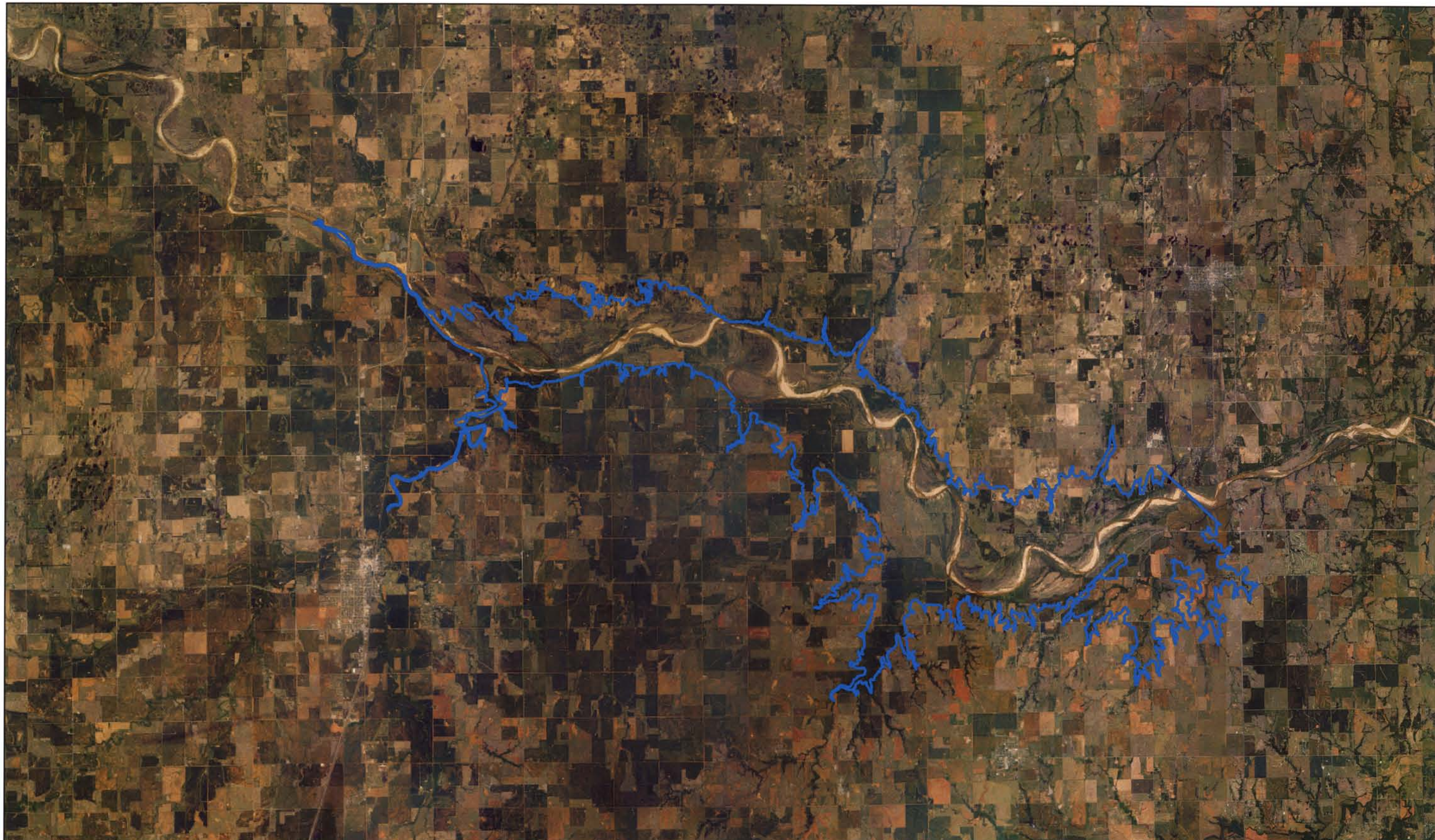
Cox City Lake

0 625 1,250 2,500 3,750 5,000 Meters

N



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Crescent Reservoir

0 2,700 5,400 10,800 16,200 21,600 Meters

N

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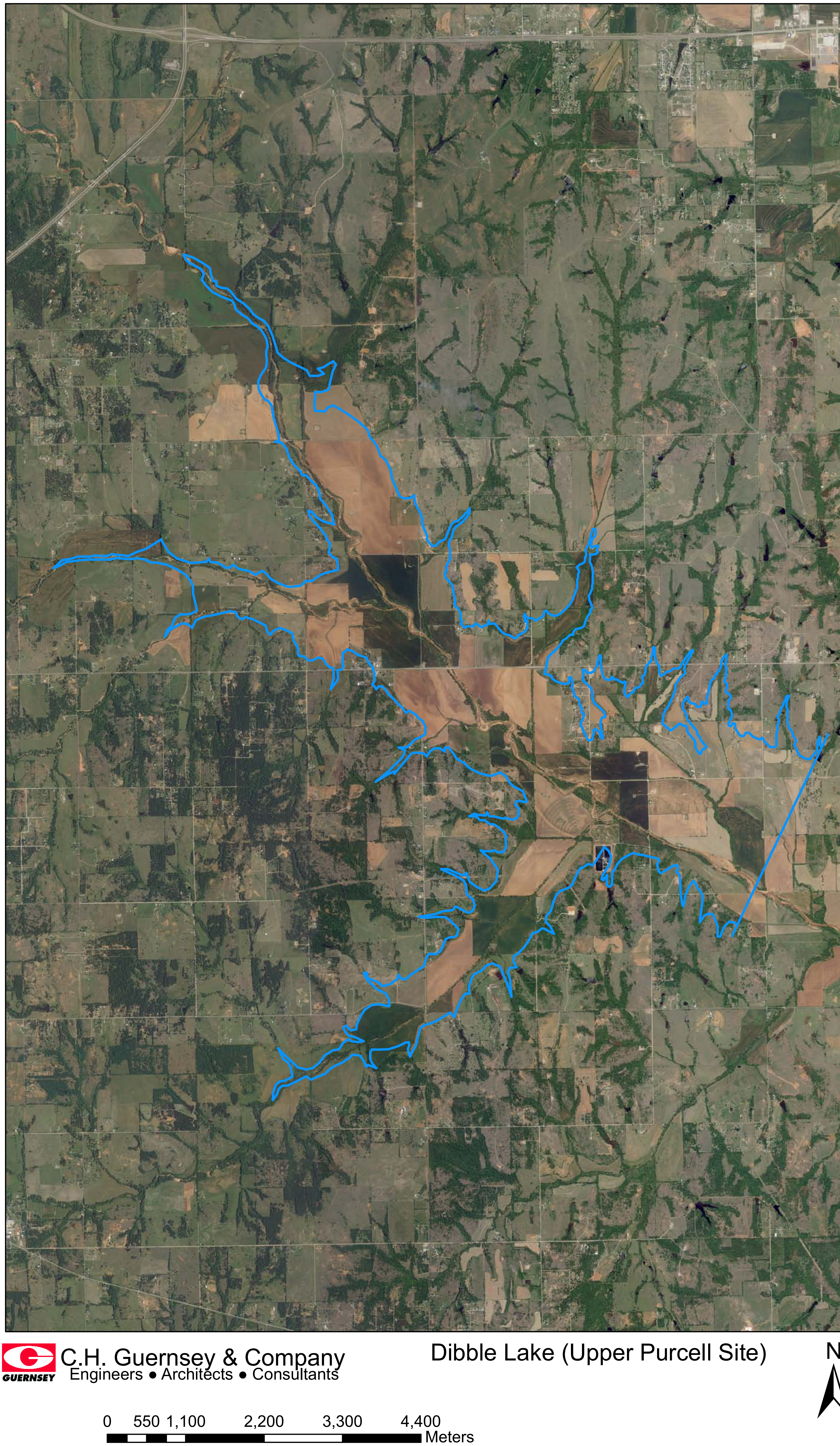
Crescent Reservoir



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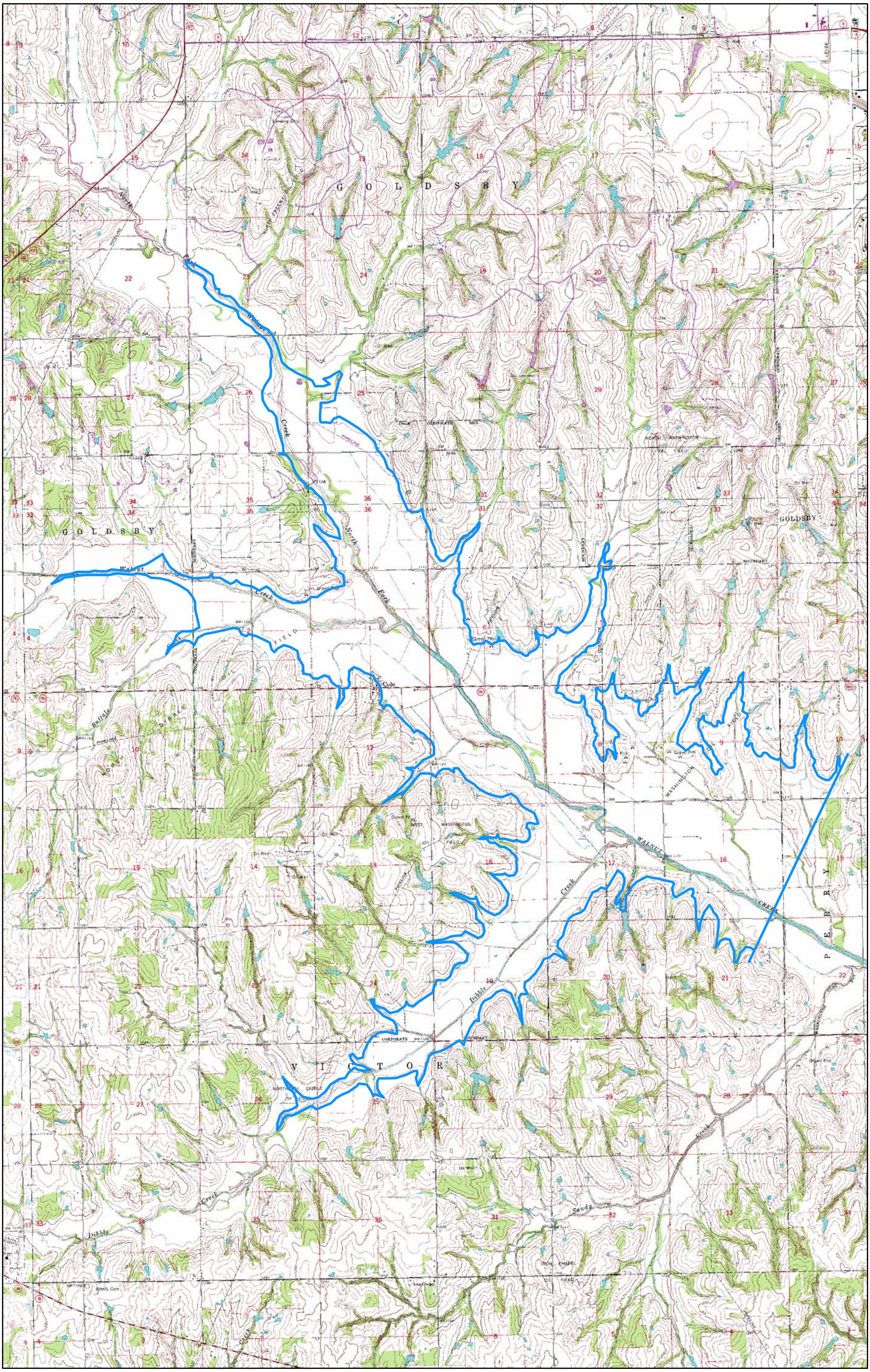
Dibble Lake (Upper Purcell Site)



Dibble Lake (Upper Purcell Site)

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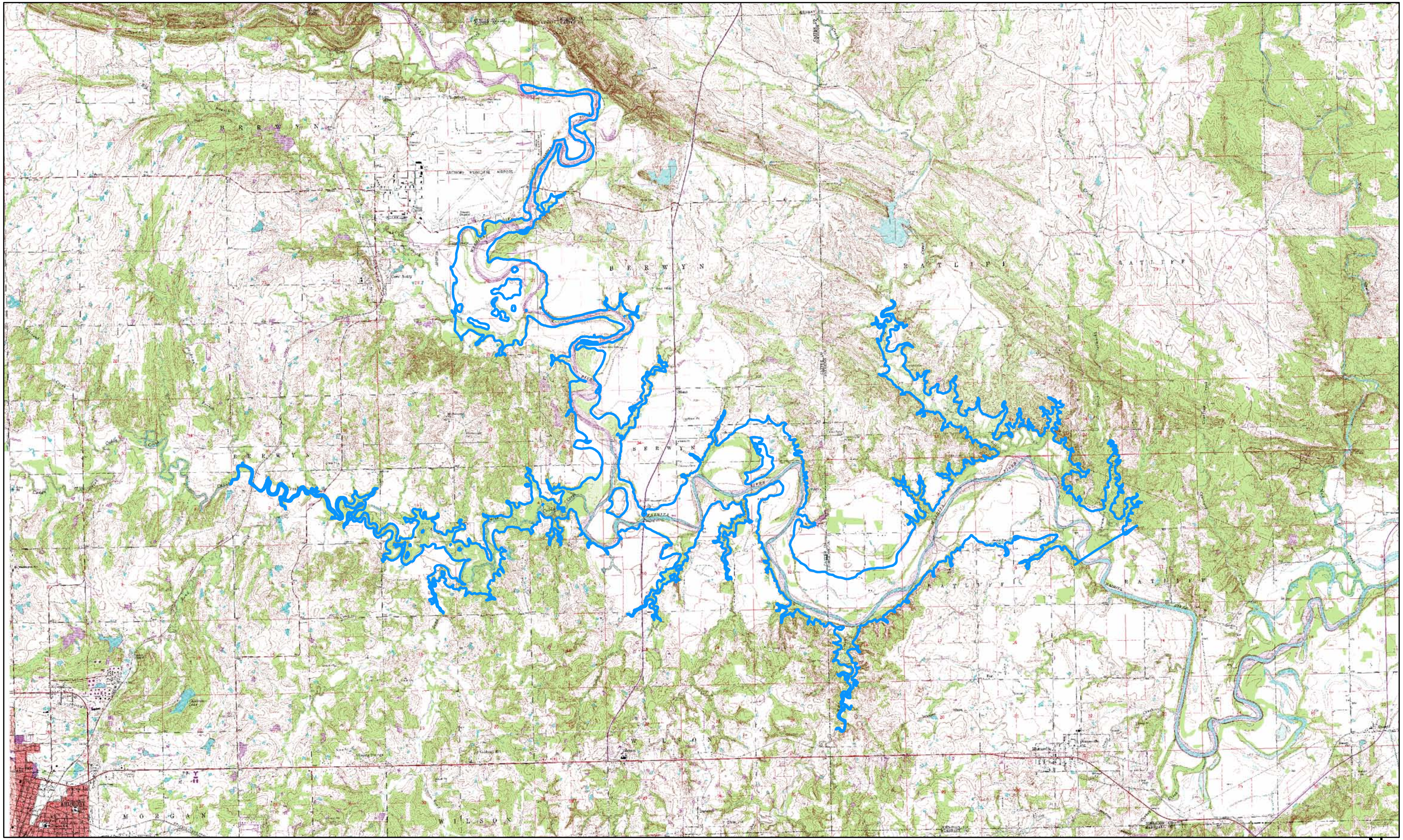
Durwood Reservoir

0 1,100 2,200 4,400 6,600 8,800 Meters

N



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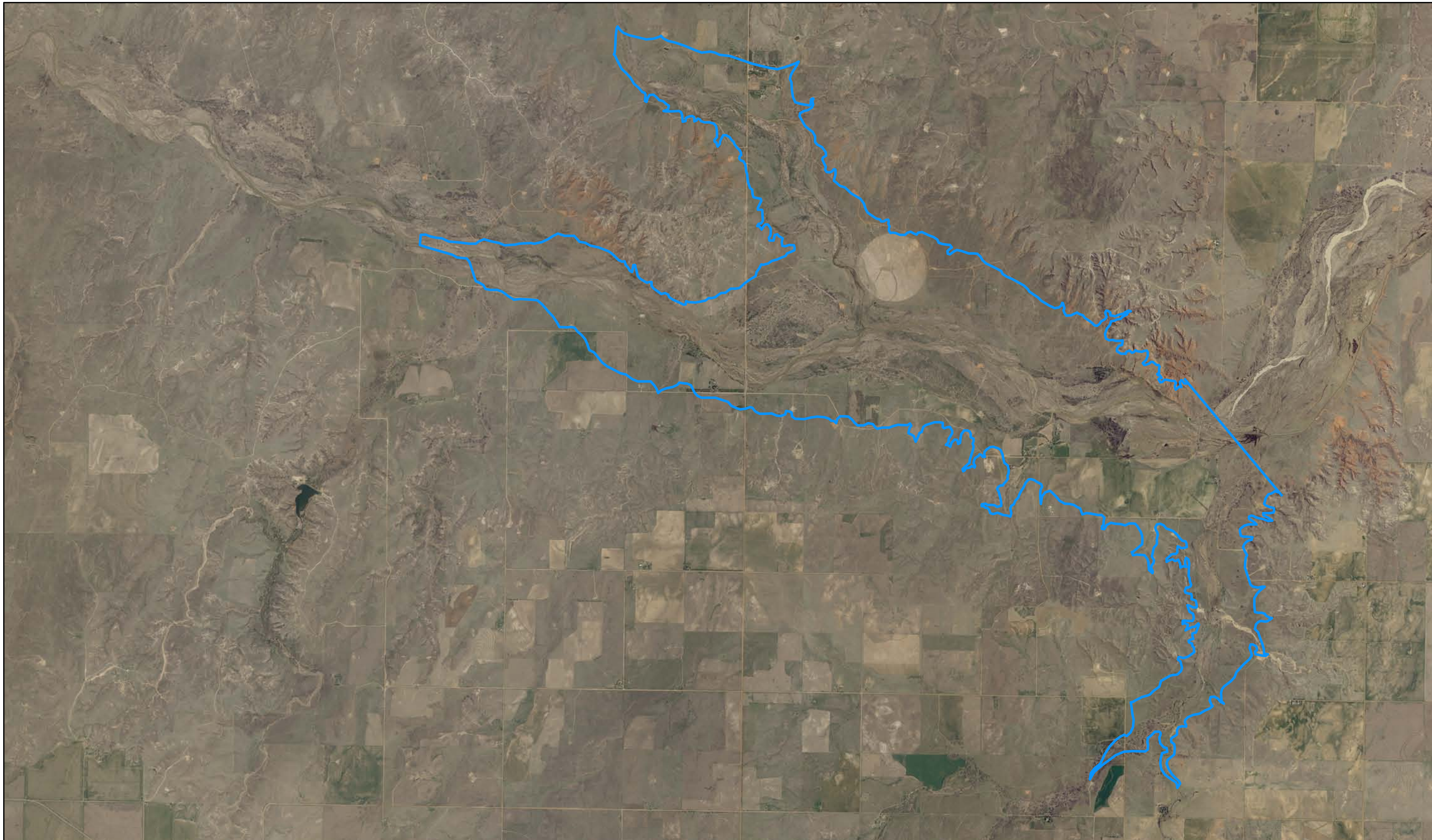
Durwood Reservoir

0 1,500 3,000 6,000 9,000 12,000 Meters

N



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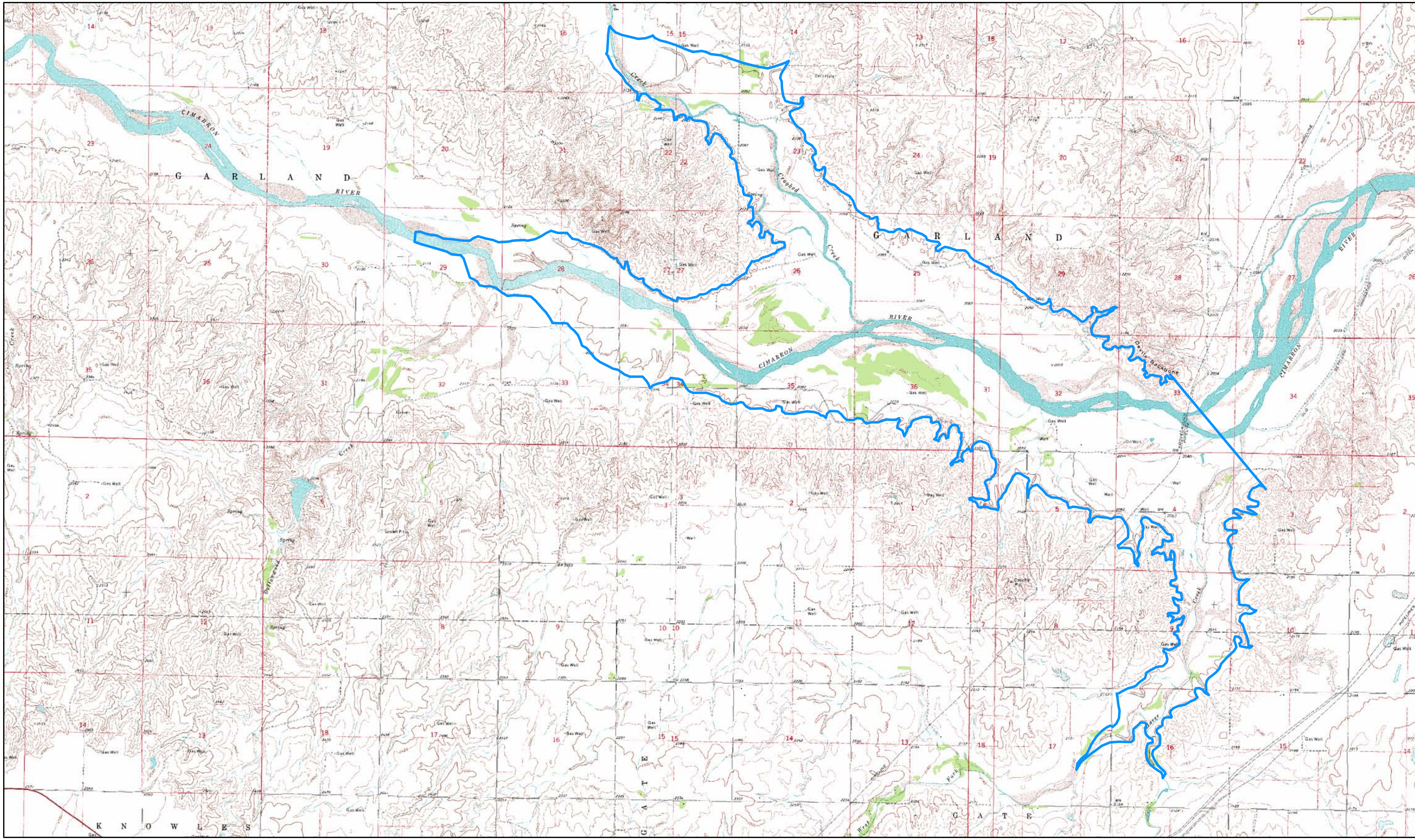
Englewood Reservoir

3,200 1,600 0 3,200 Meters

N



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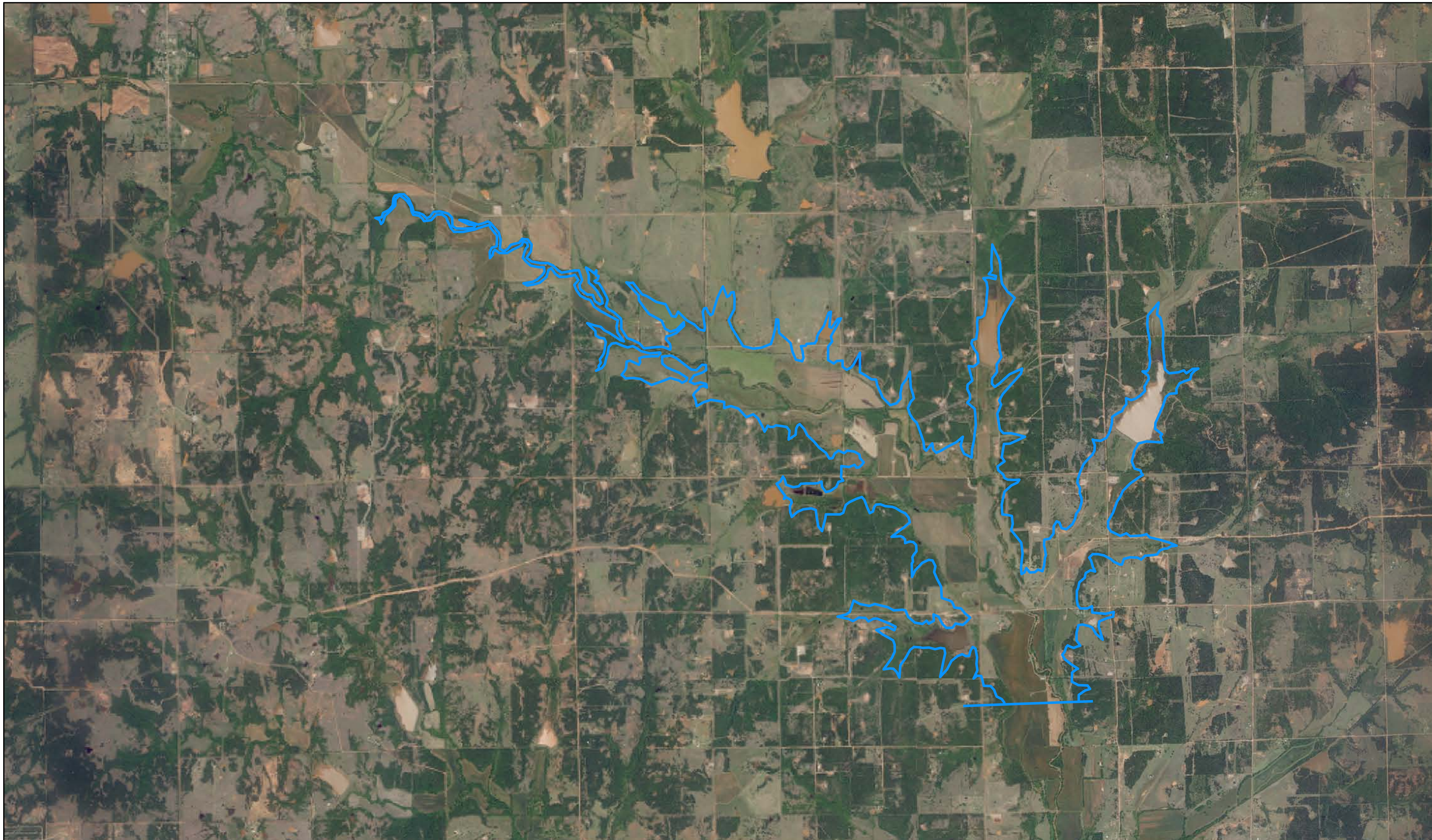
Englewood Reservoir

3,200 1,600 0 3,200 Meters

N



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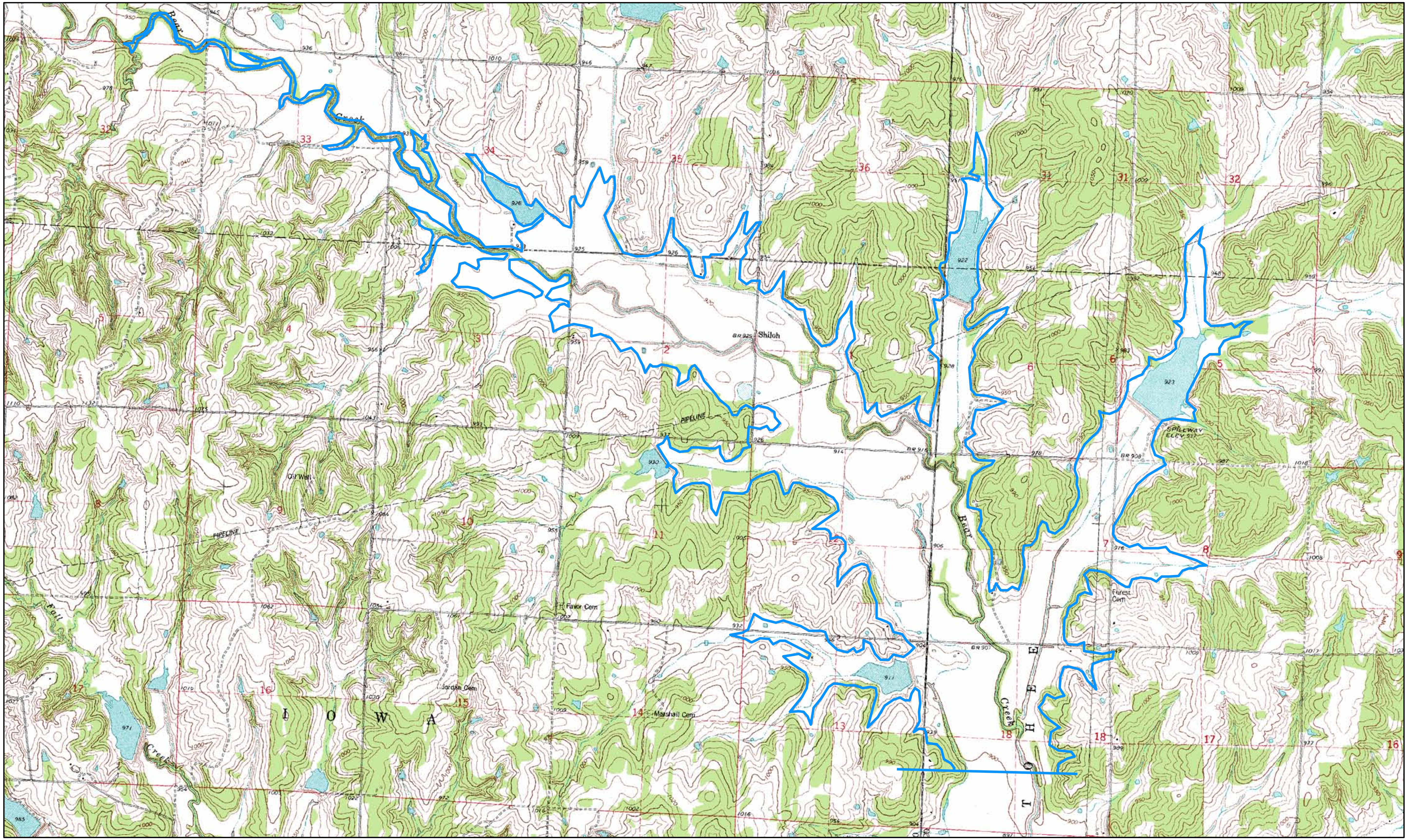
GUERNSEY

Fallis Lake

0 850 1,700 3,400 5,100 6,800 Meters

N



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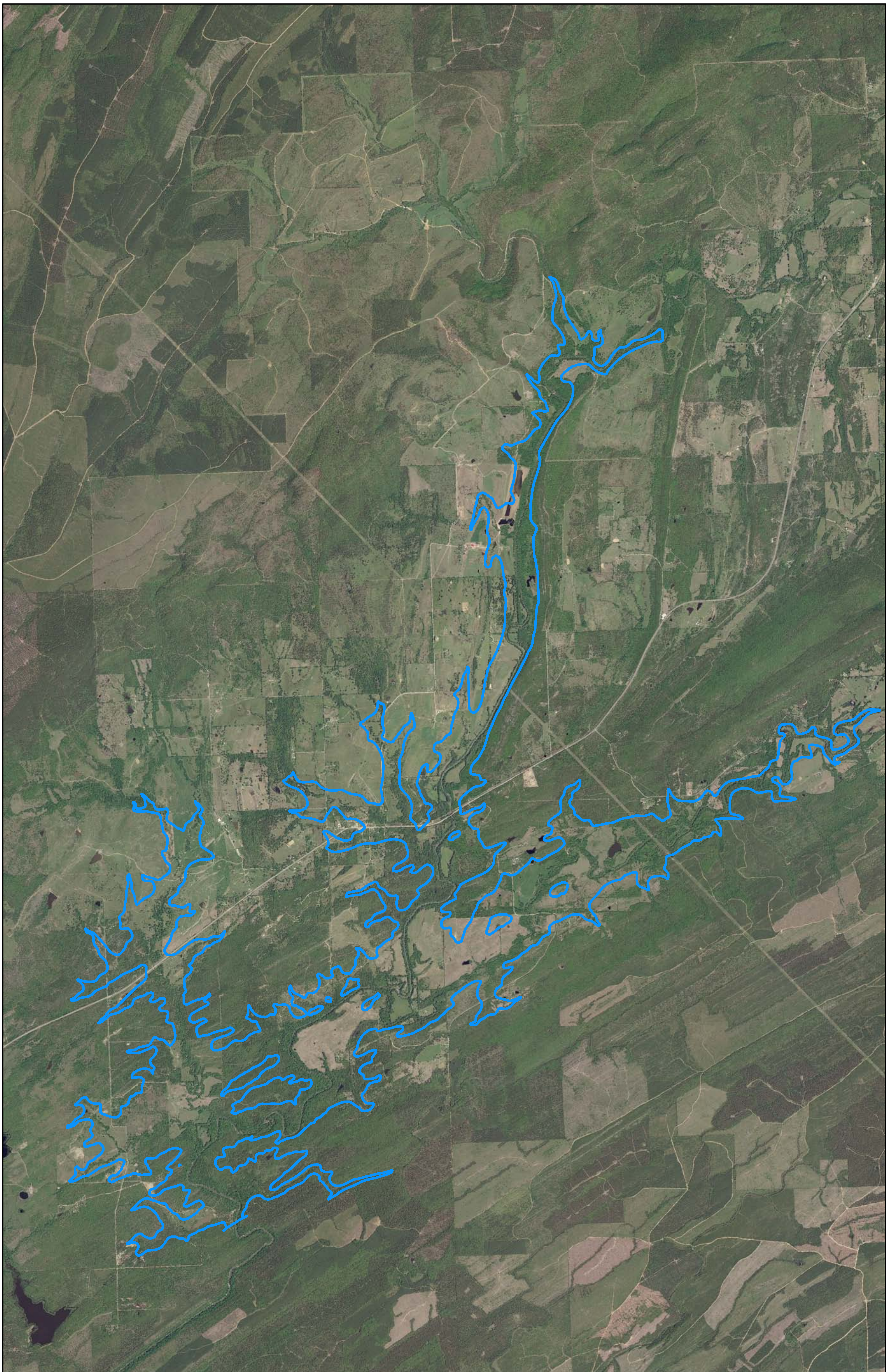
Fallis Lake

0 700 1,400 2,800 4,200 5,600
Meters

N



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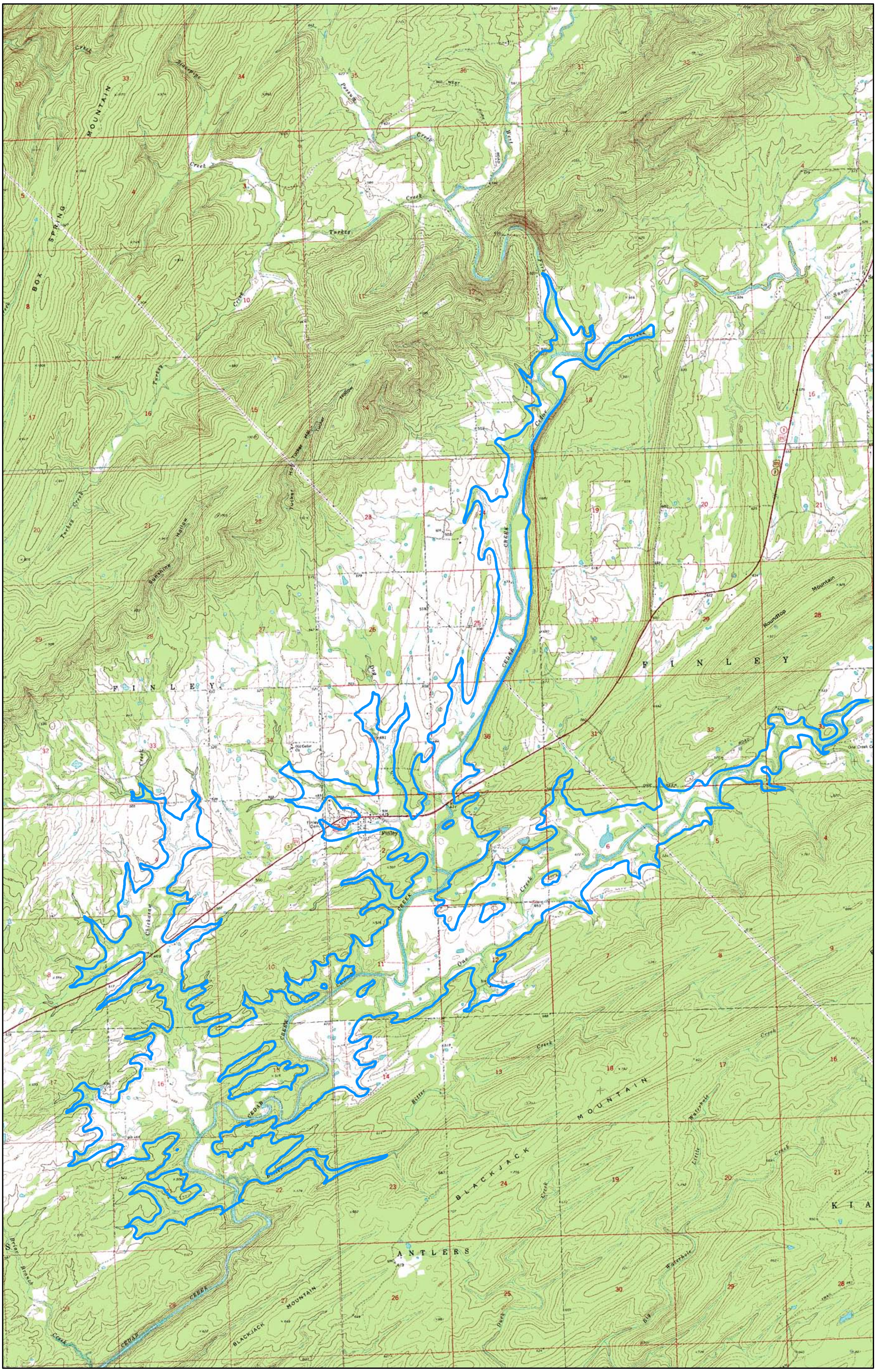
Finley Lake



Finley Lake

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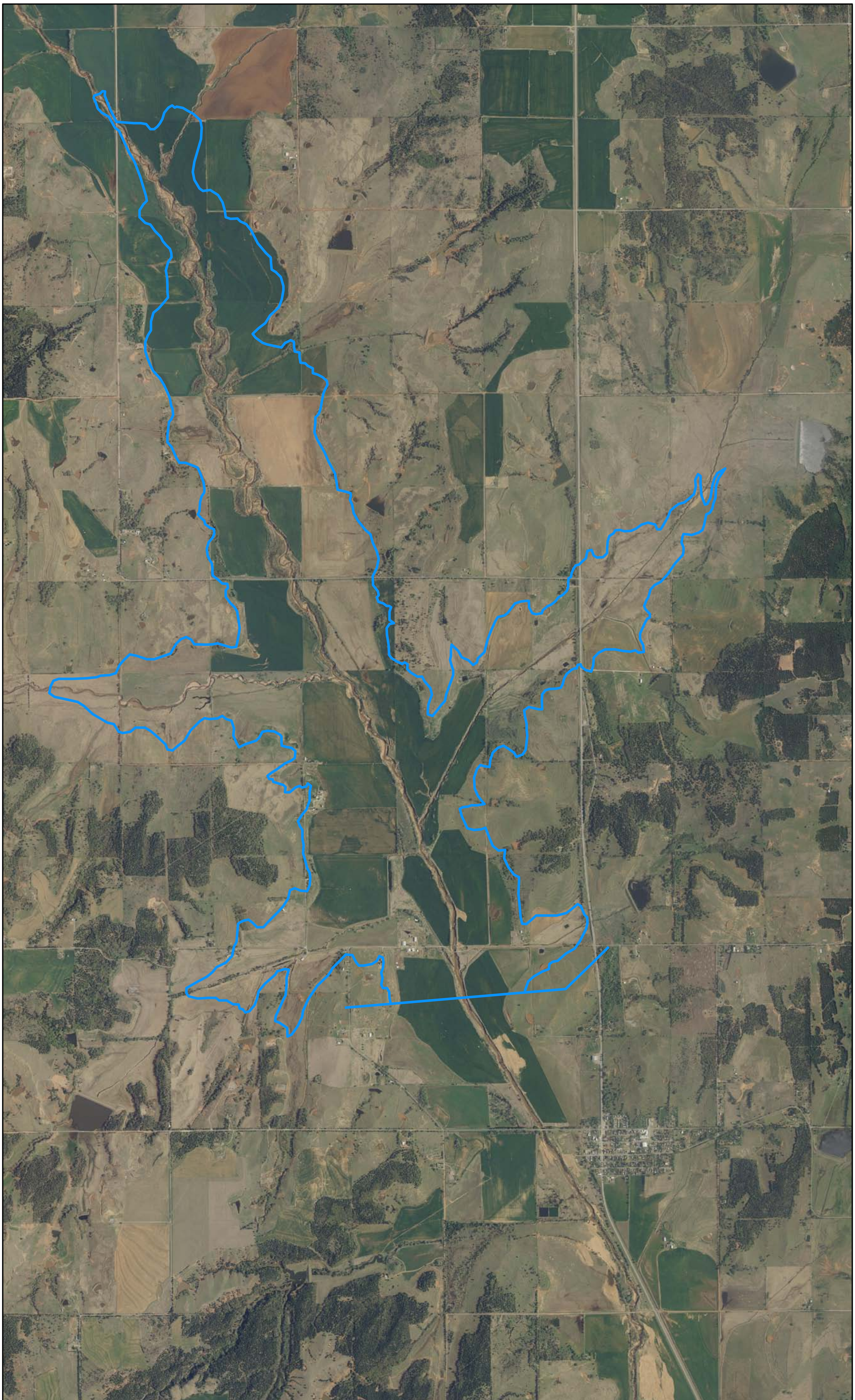

GUERNSEY C.H. Guernsey & Company
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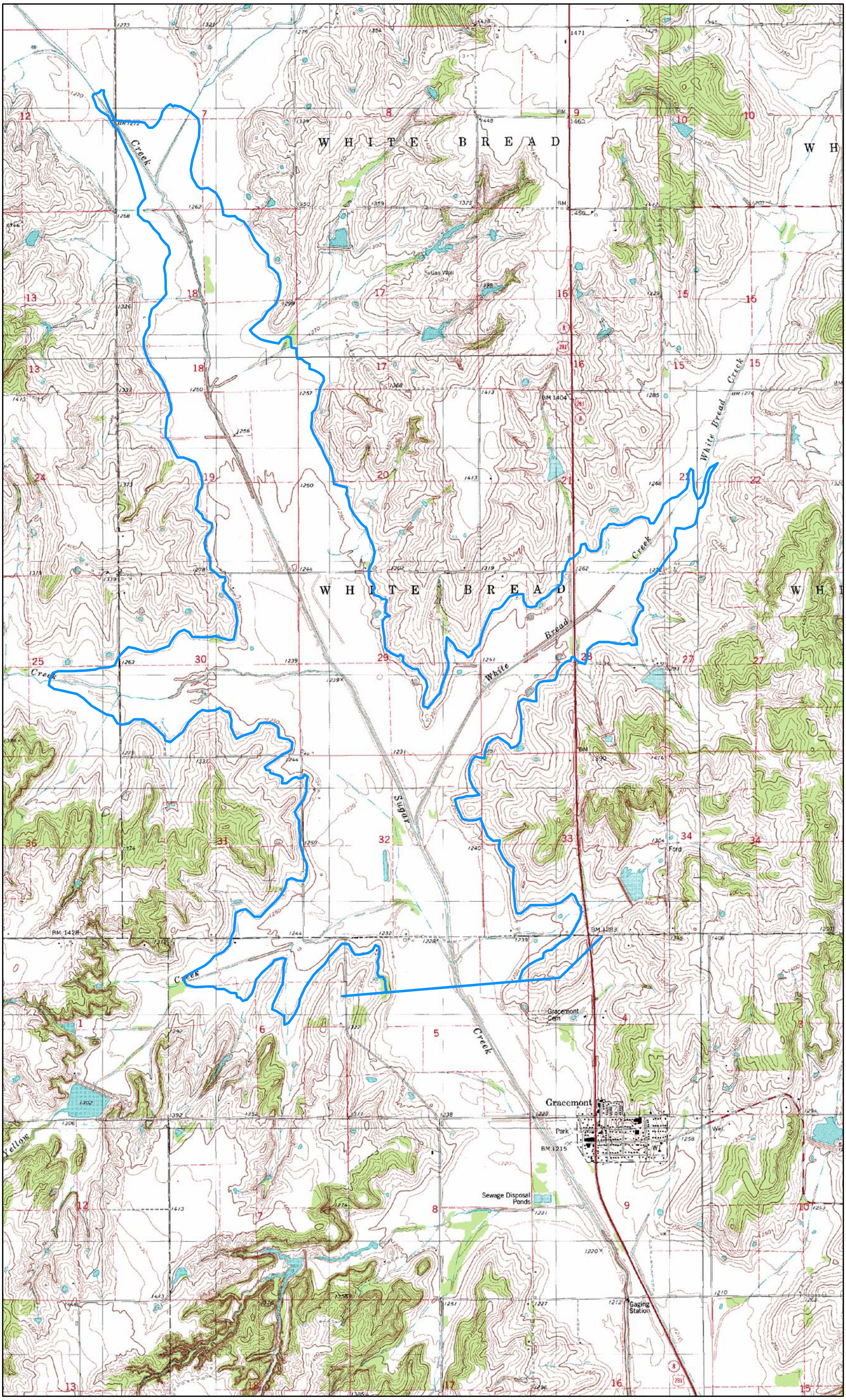
Gracemont Reservoir



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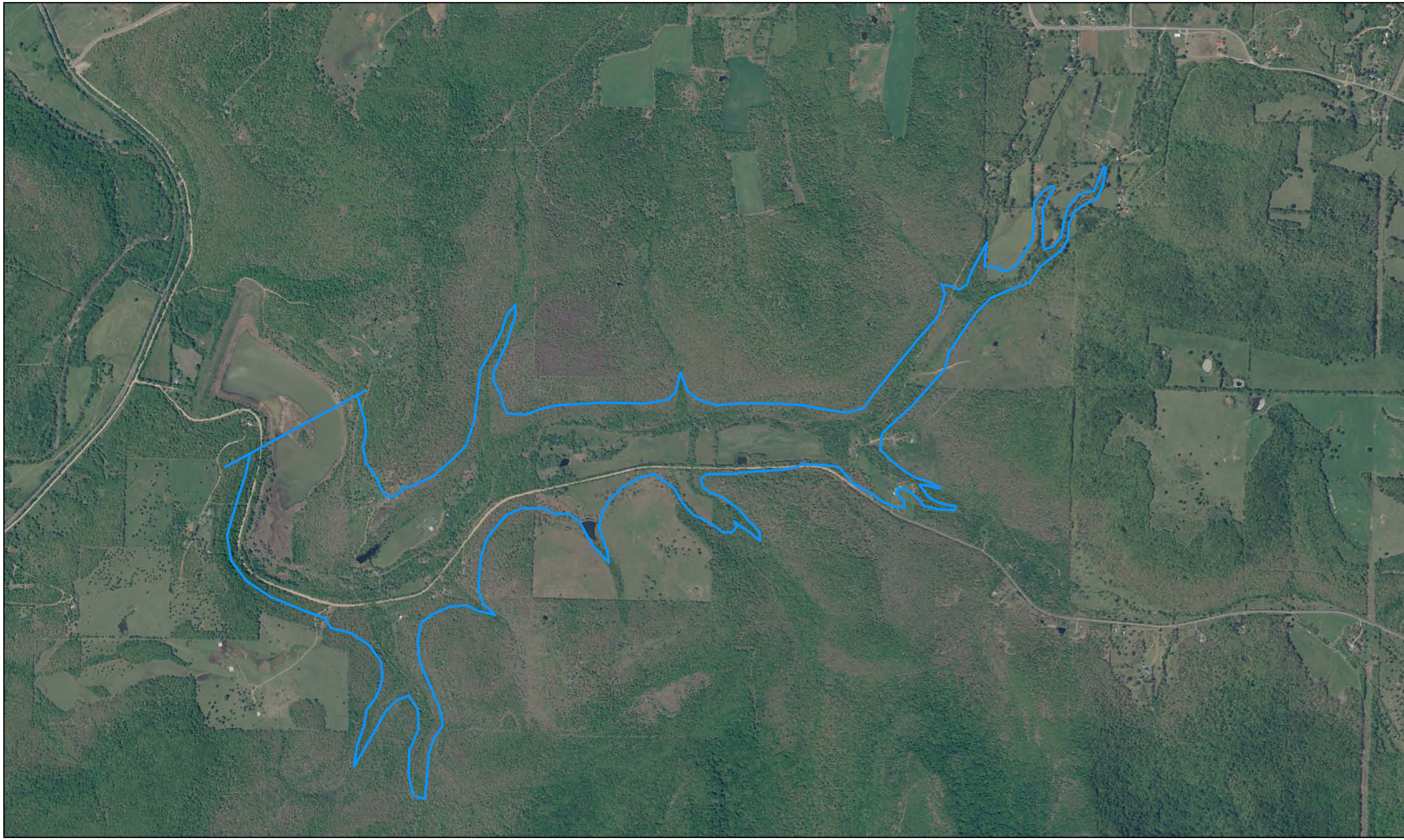
Gracemont Reservoir

N

0 362.5 725 1,450 2,175 2,900 Meters



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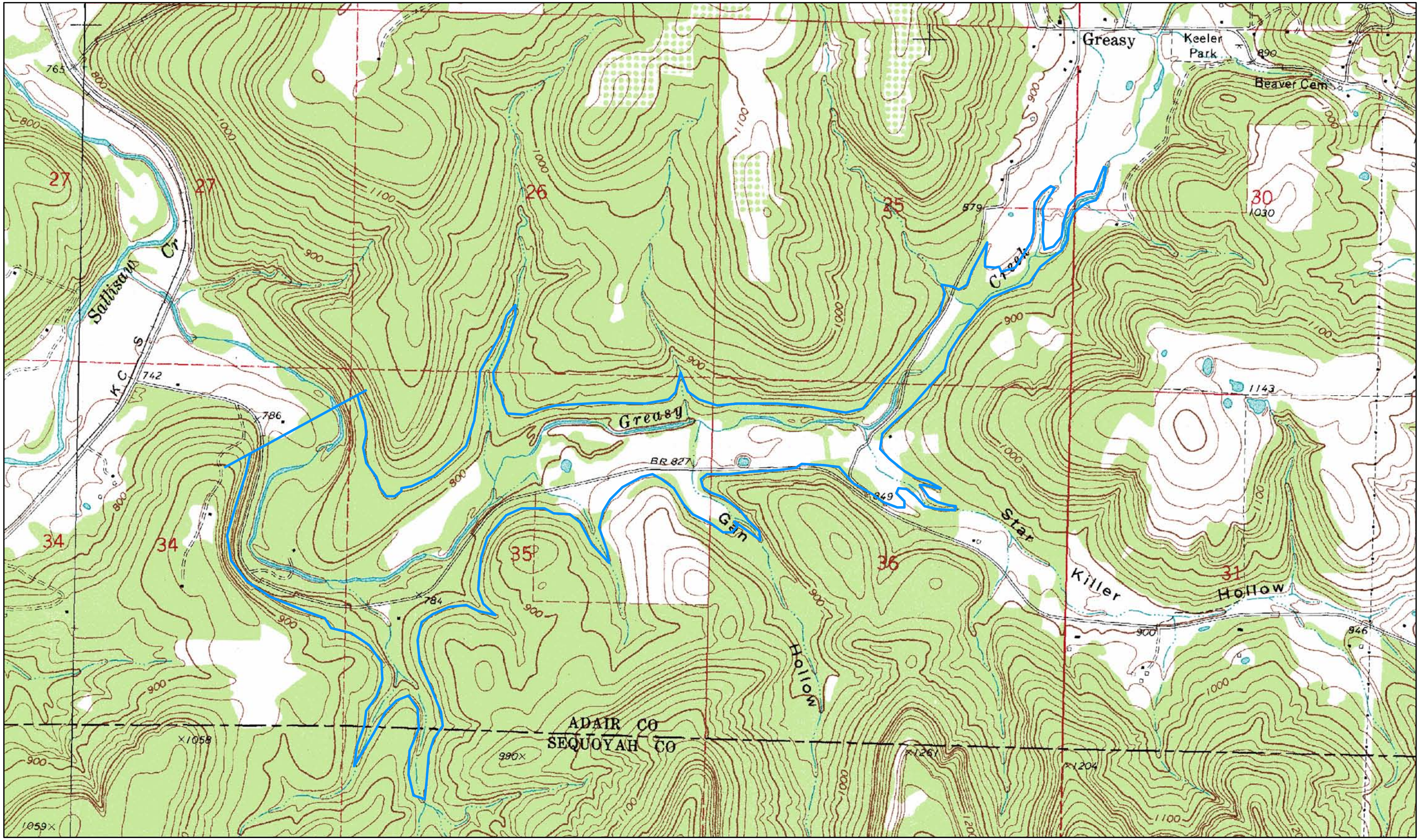
Greasy Lake

0 287.5 575 1,150 1,725 2,300
Meters

N



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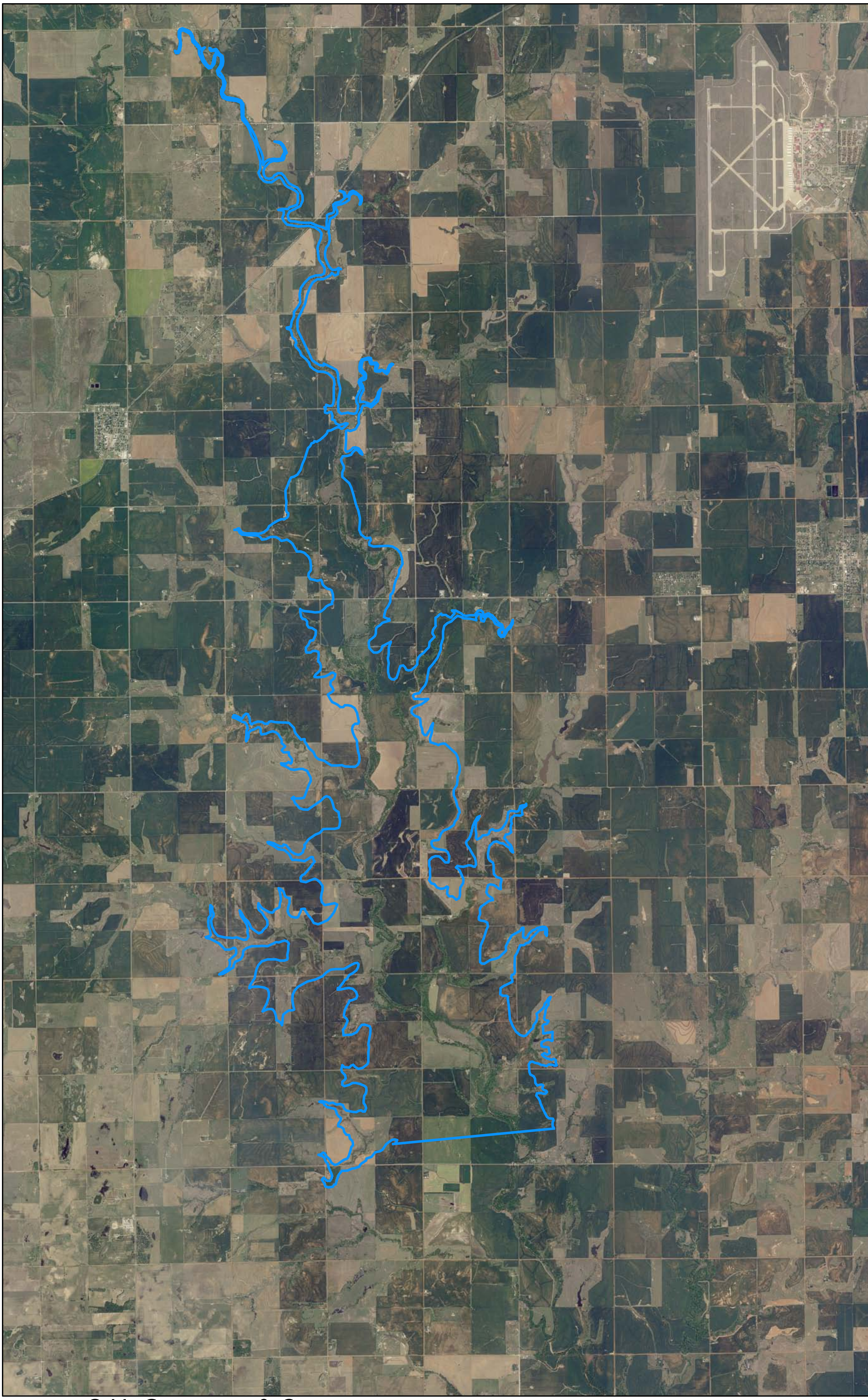
Greasy Lake

0 287.5 575 1,150 1,725 2,300
Meters

N



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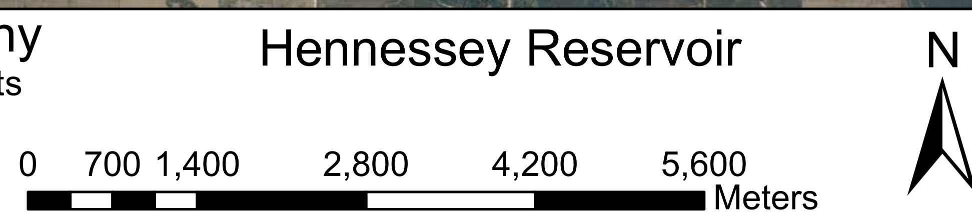
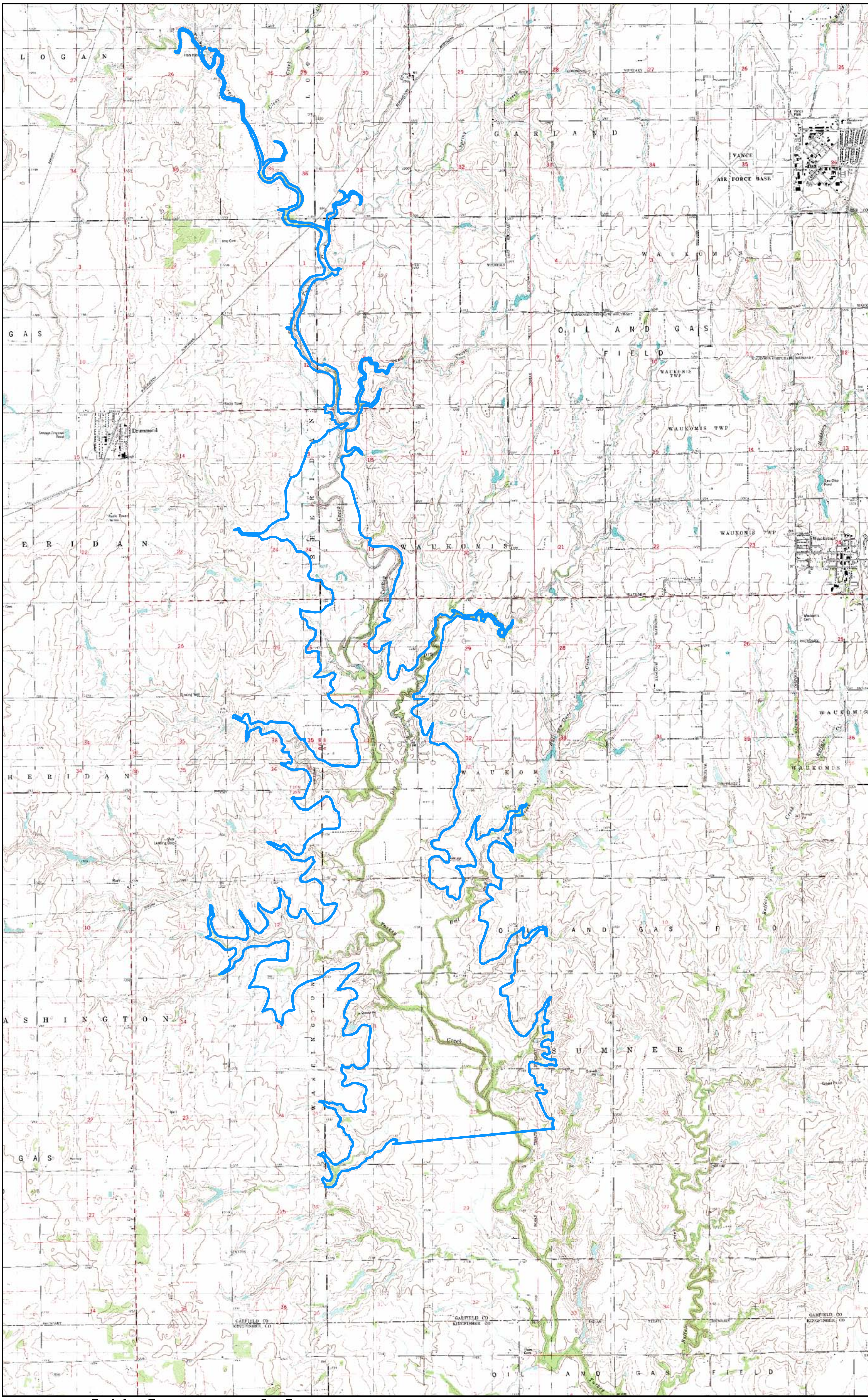
Hennessey Reservoir





C.H. Guernsey & Company
Engineers ● Architects ● Consultants

GUERNSEY

Hennessey Reservoir

0 700 1,400 2,800 4,200 5,600 Meters

N

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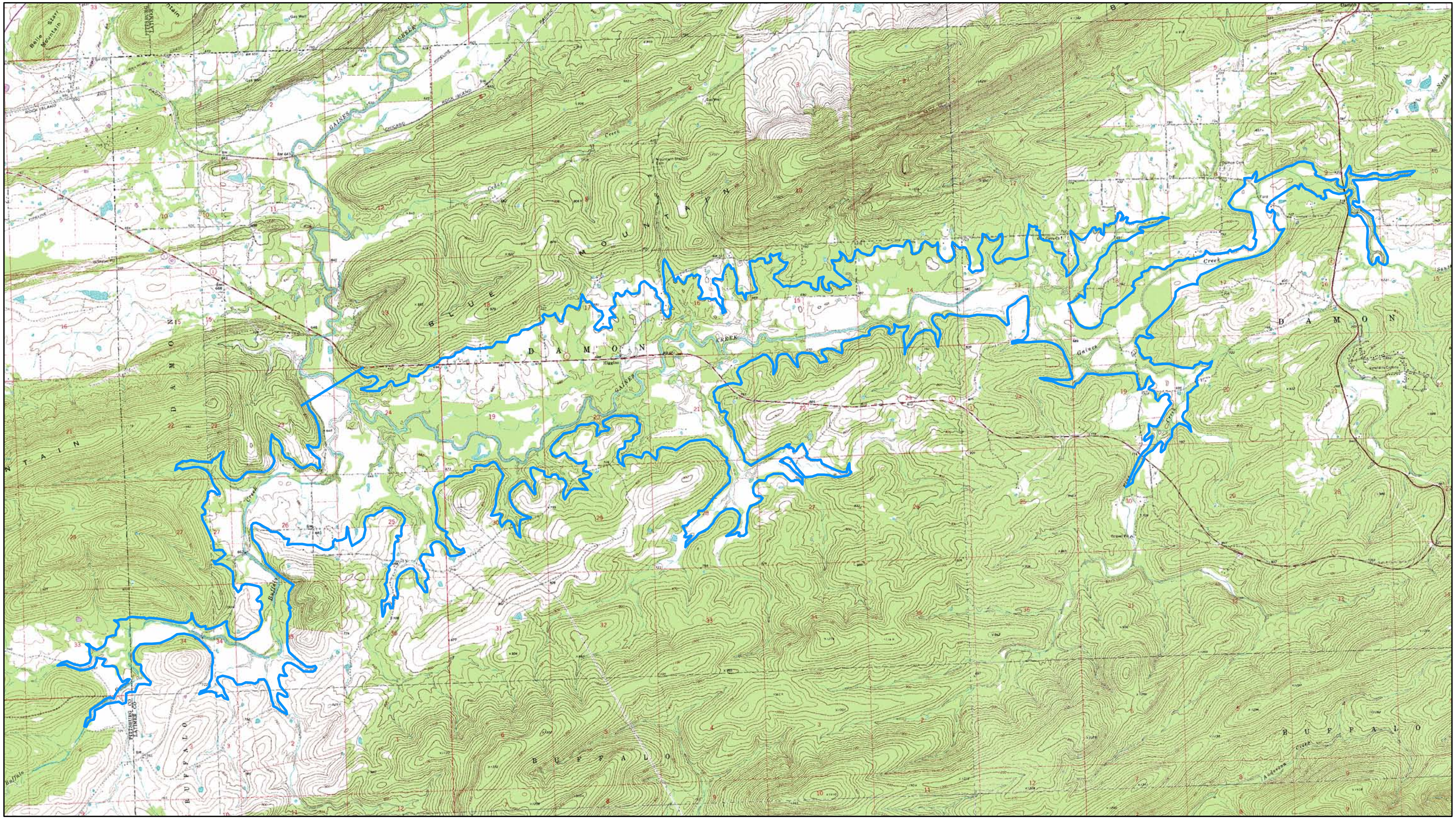
Higgins Reservoir



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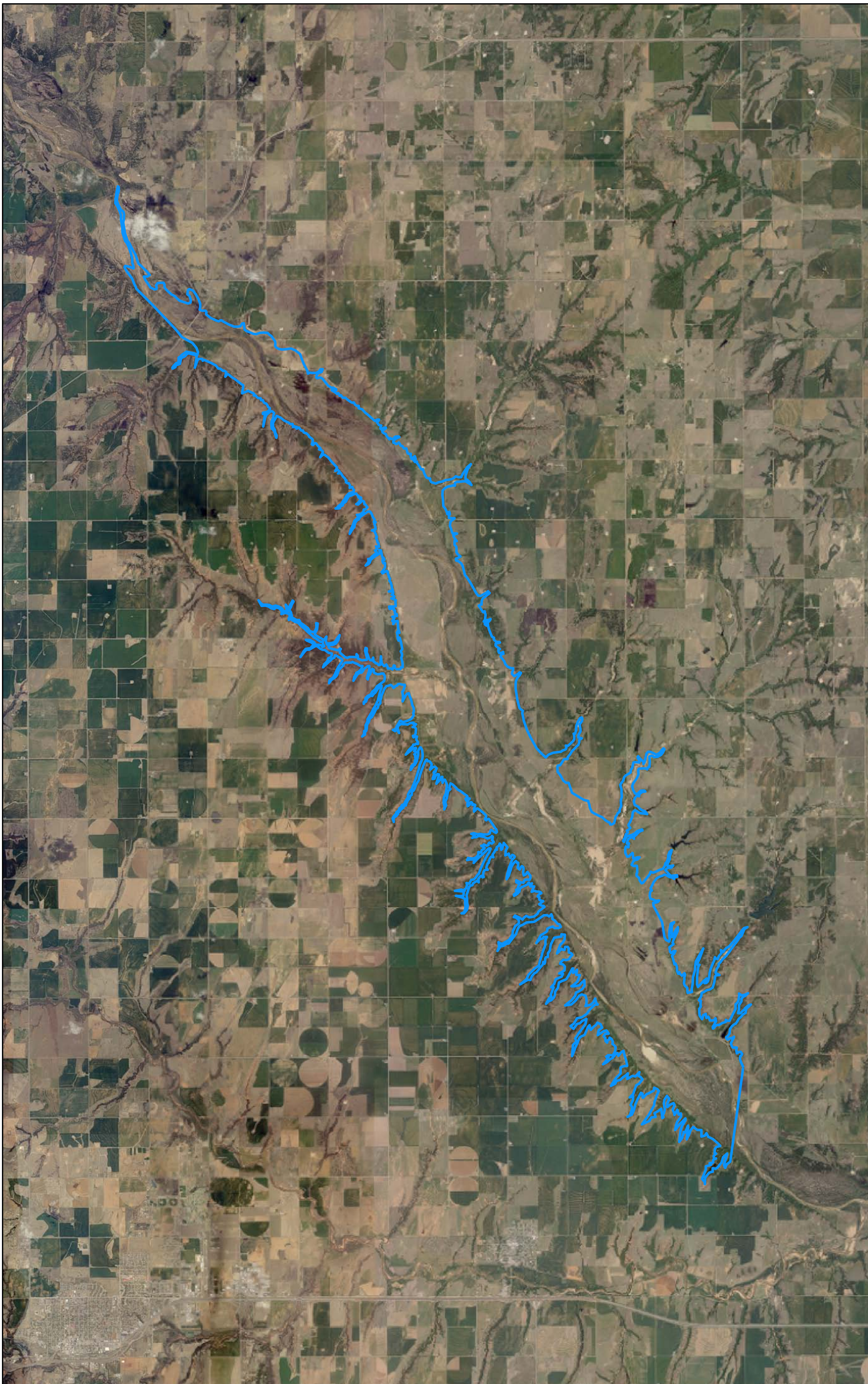
Higgins Reservoir

0 1,000 2,000 4,000 6,000 8,000 Meters

N



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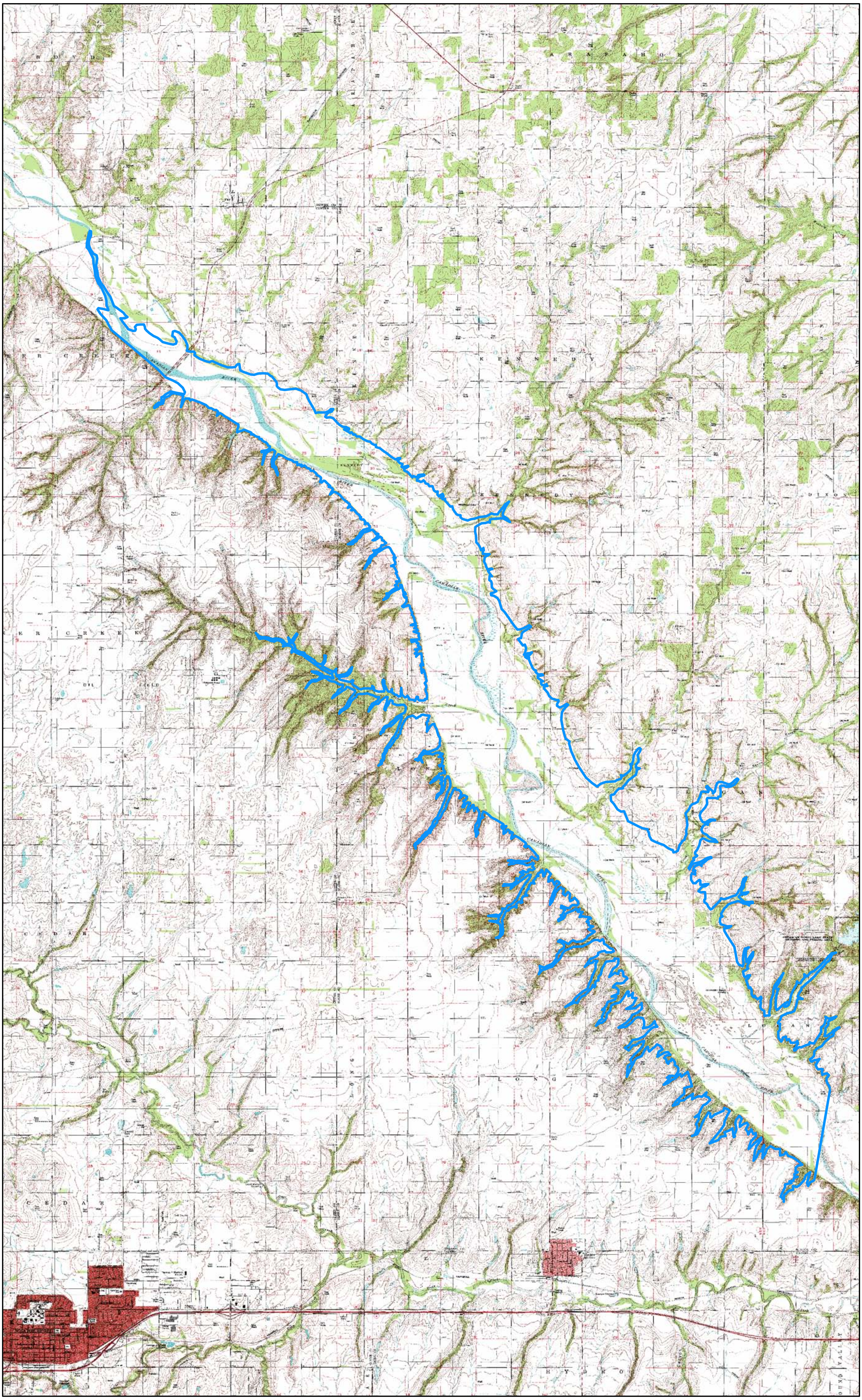
Hydro Reservoir



C.H. Guernsey & Company

Engineers ● Architects ● Consultants

GUERNSEY

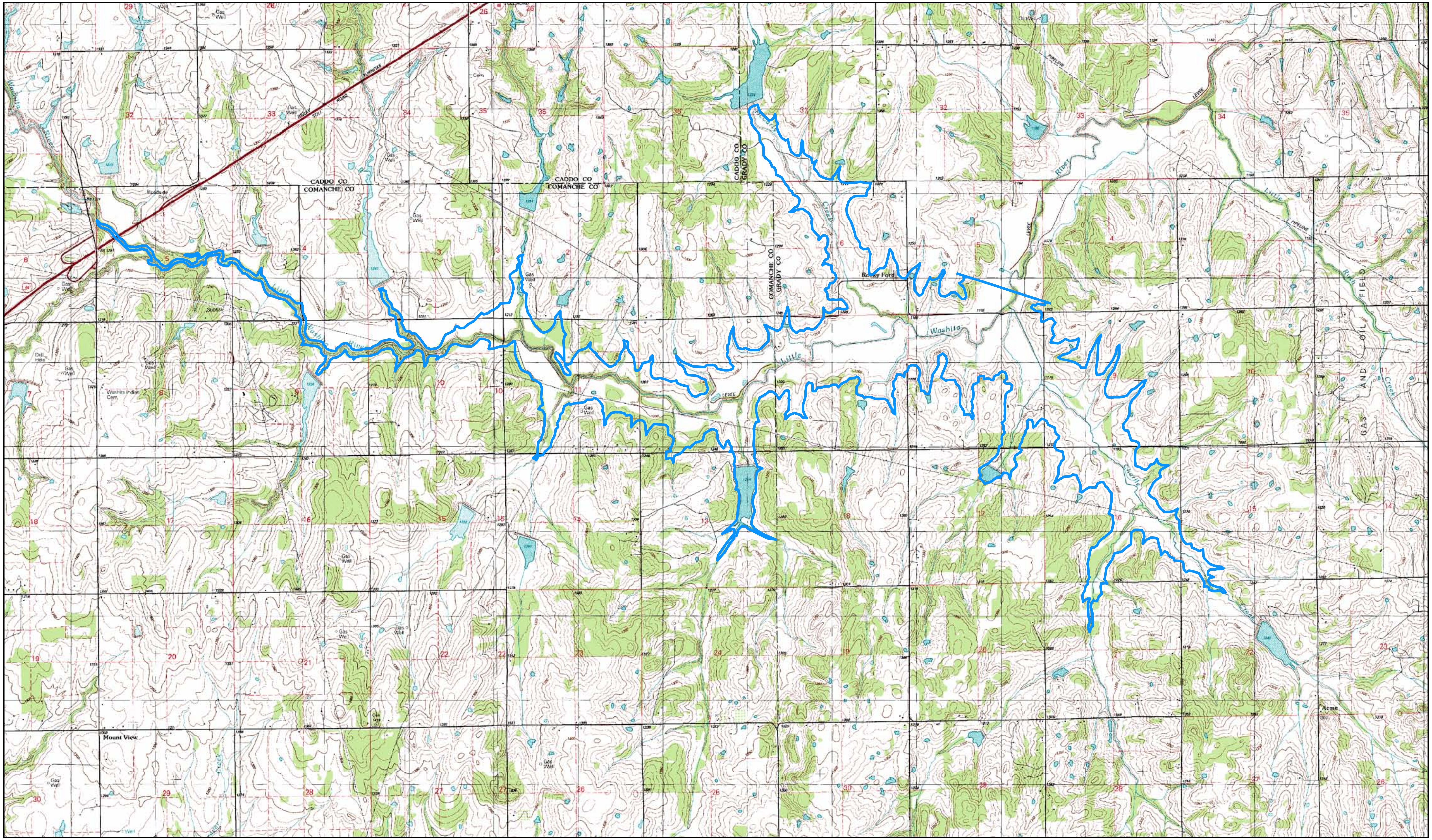
Hydro Reservoir

N

0 9501,900 3,800 5,700 7,600 Meters

C.H. Guernsey & Company
Engineers ● Architects ● Consultants

Kechi Reservoir



GUERNSEY

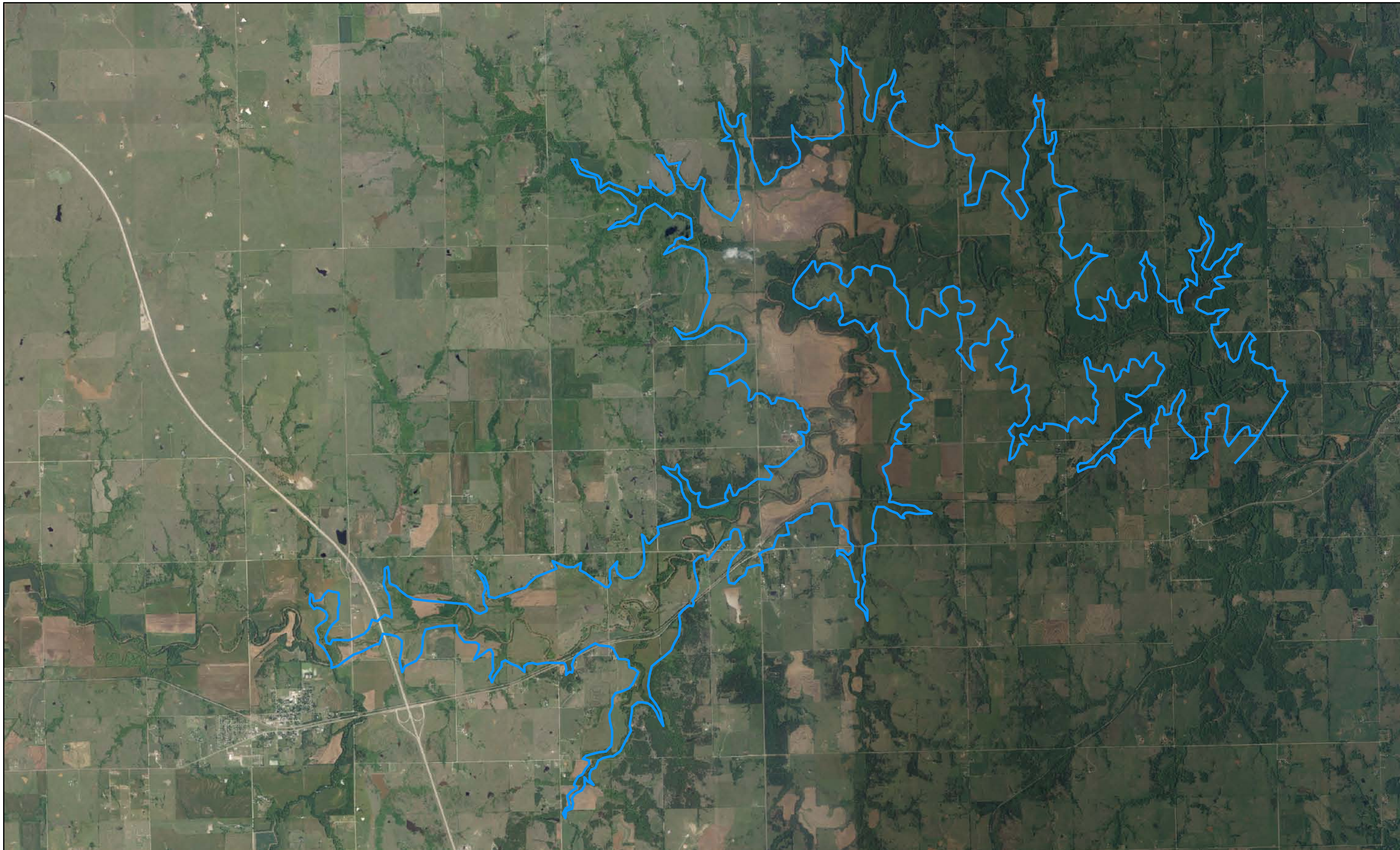
C.H. Guernsey & Company

Engineers ● Architects ● Consultants

Kechi Reservoir

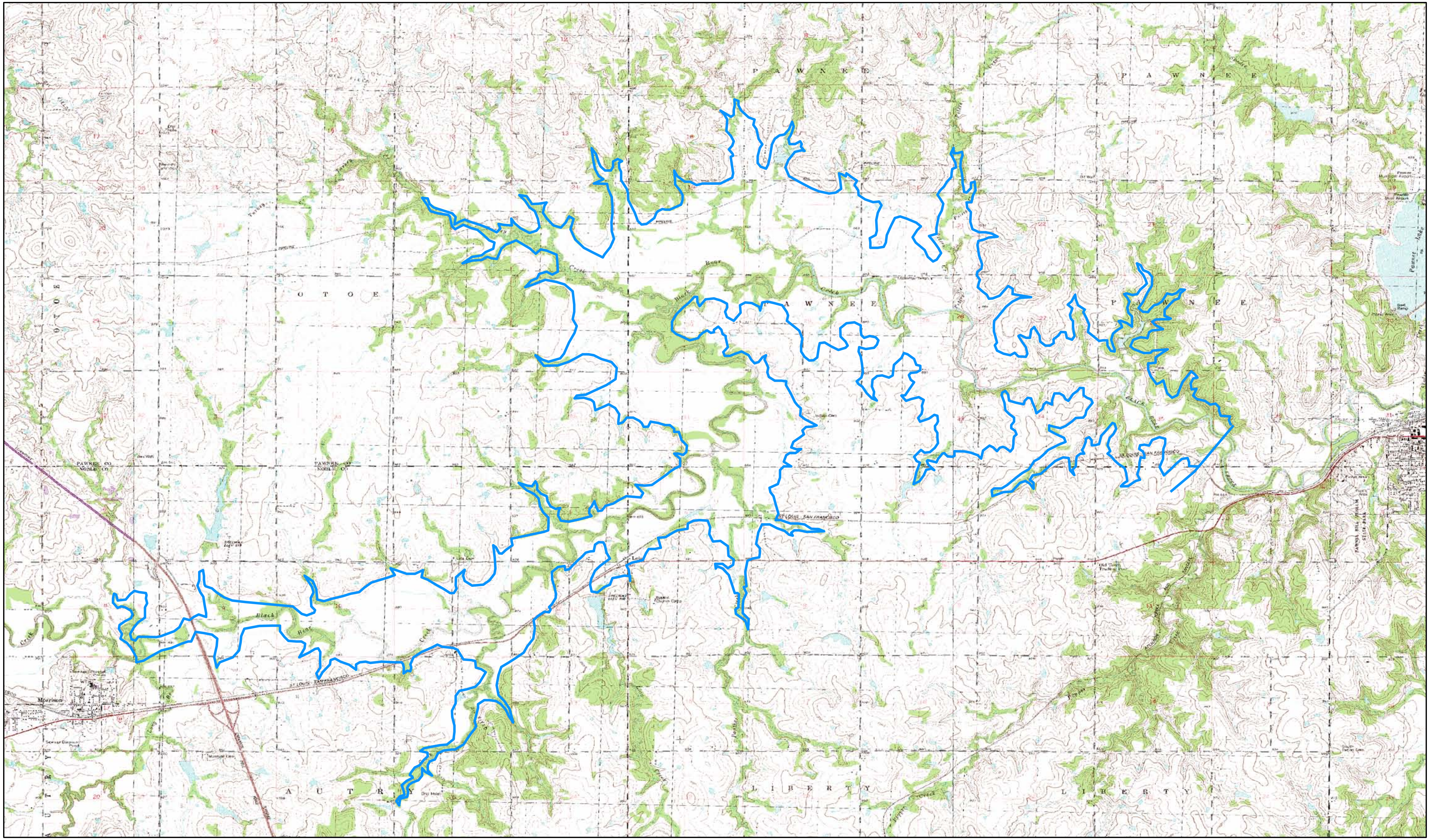
0 750 1,500 3,000 4,500 6,000 Meters

N



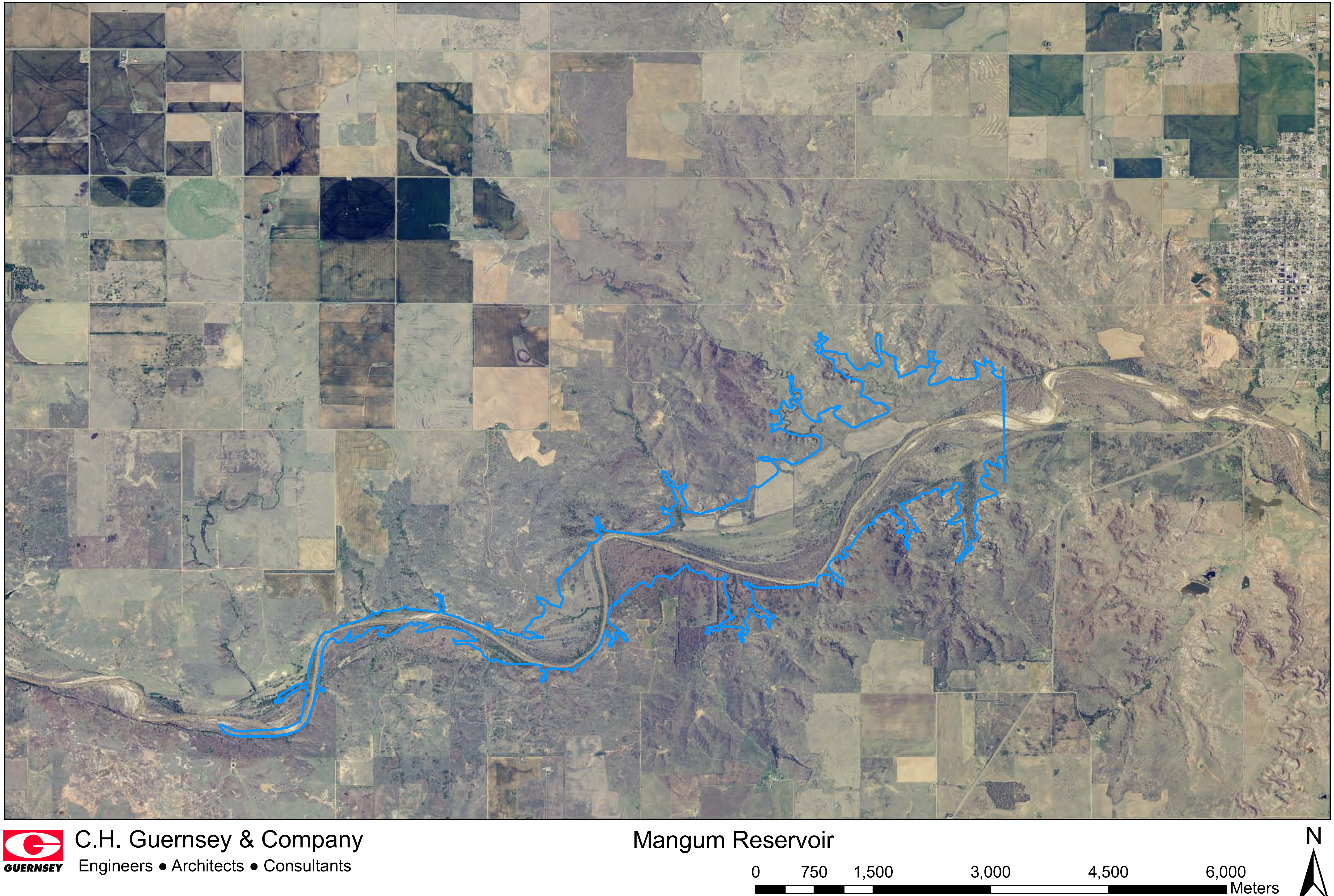
C.H. Guernsey & Company
Engineers ● Architects ● Consultants
GUERNSEY

Lela Reservoir



C.H. Guernsey & Company
Engineers ● Architects ● Consultants

Lela Reservoir



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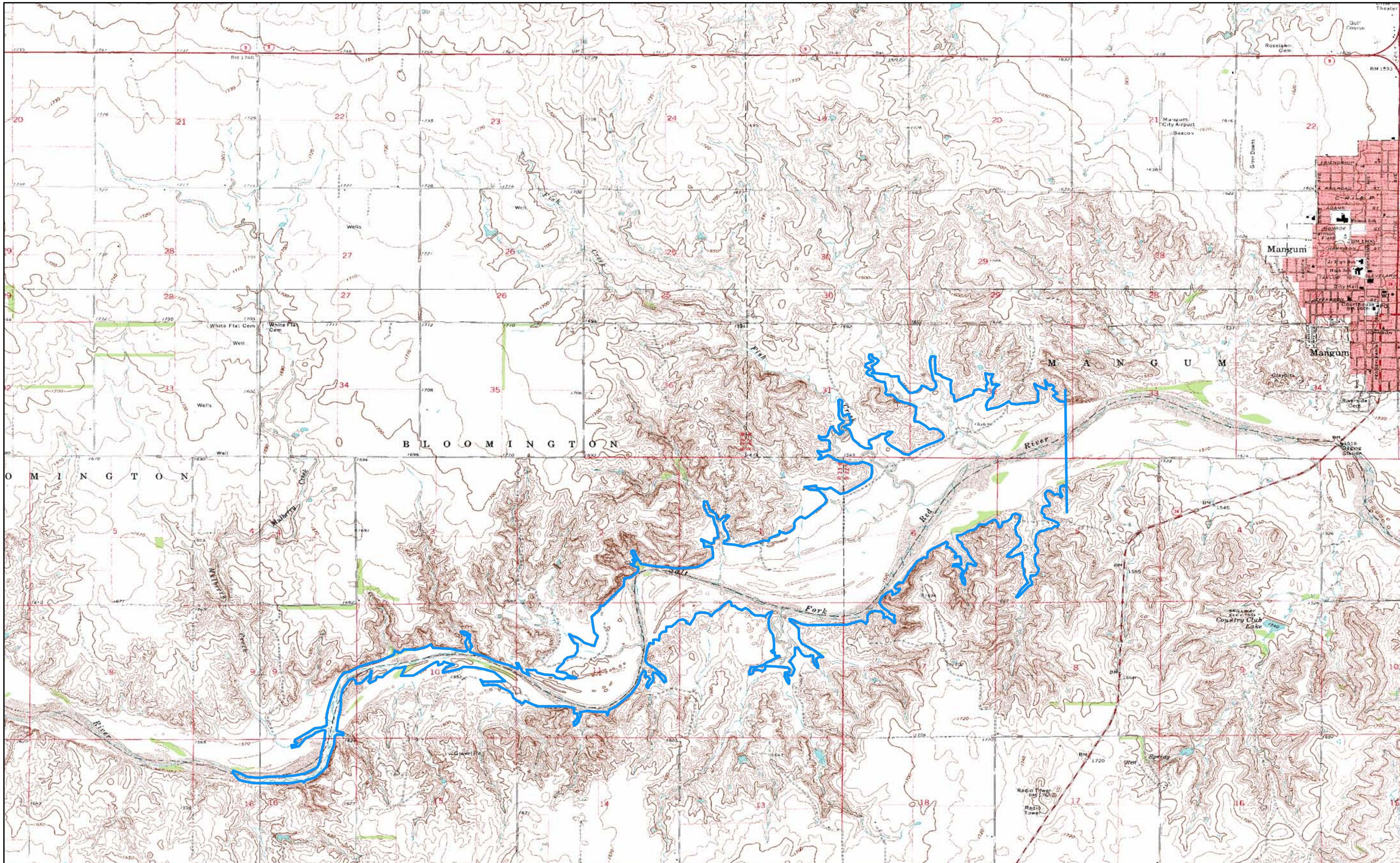
Mangum Reservoir



C.H. Guernsey & Company

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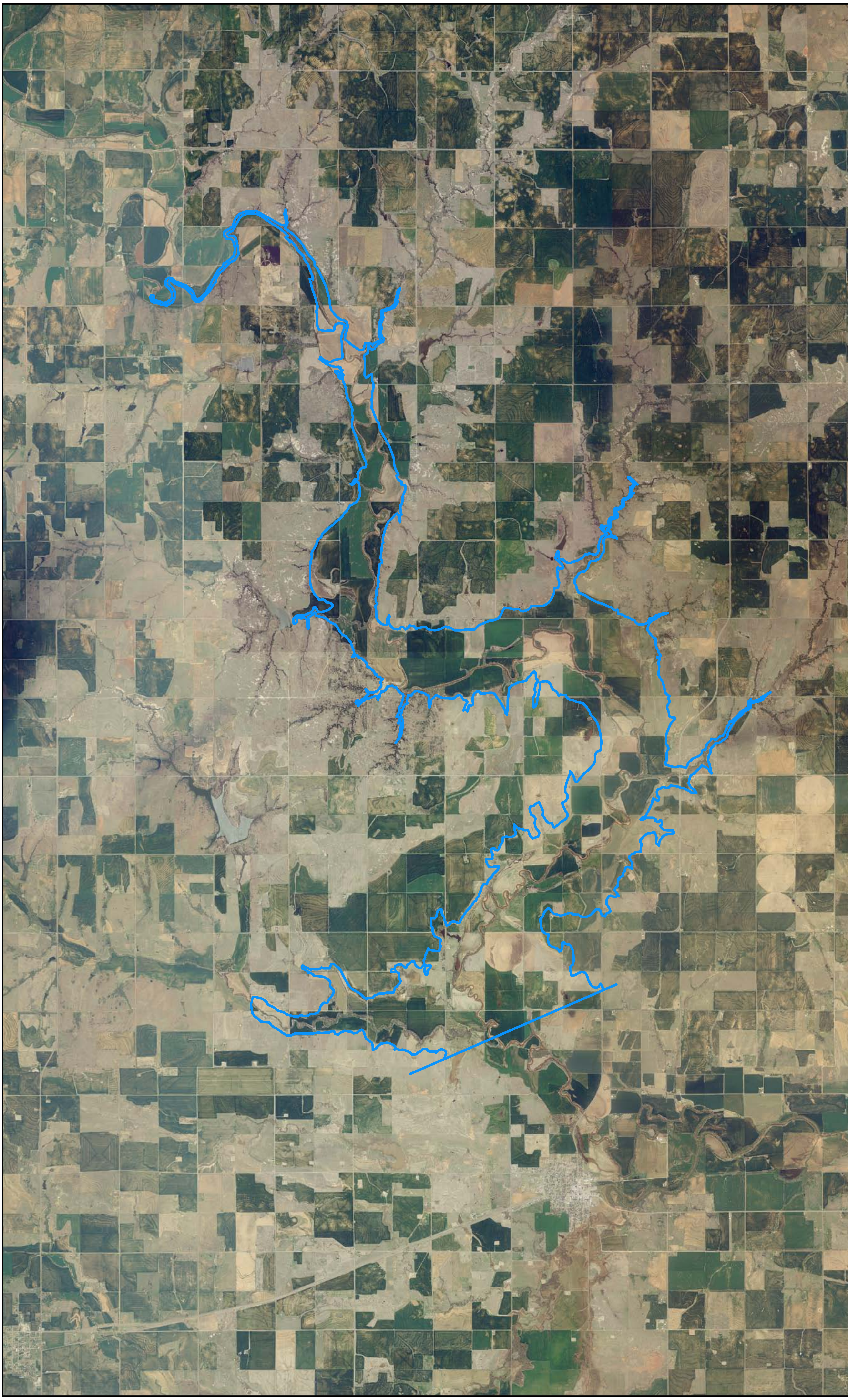
Mangum Reservoir

0 750 1,500 3,000 4,500 6,000 Meters

N



C.H. Guernsey & Company
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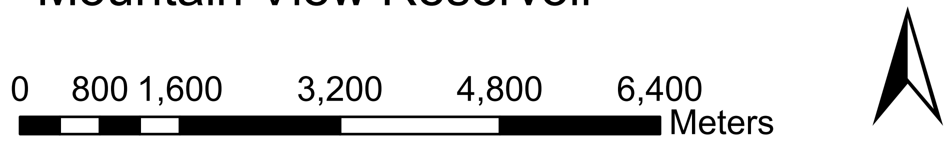
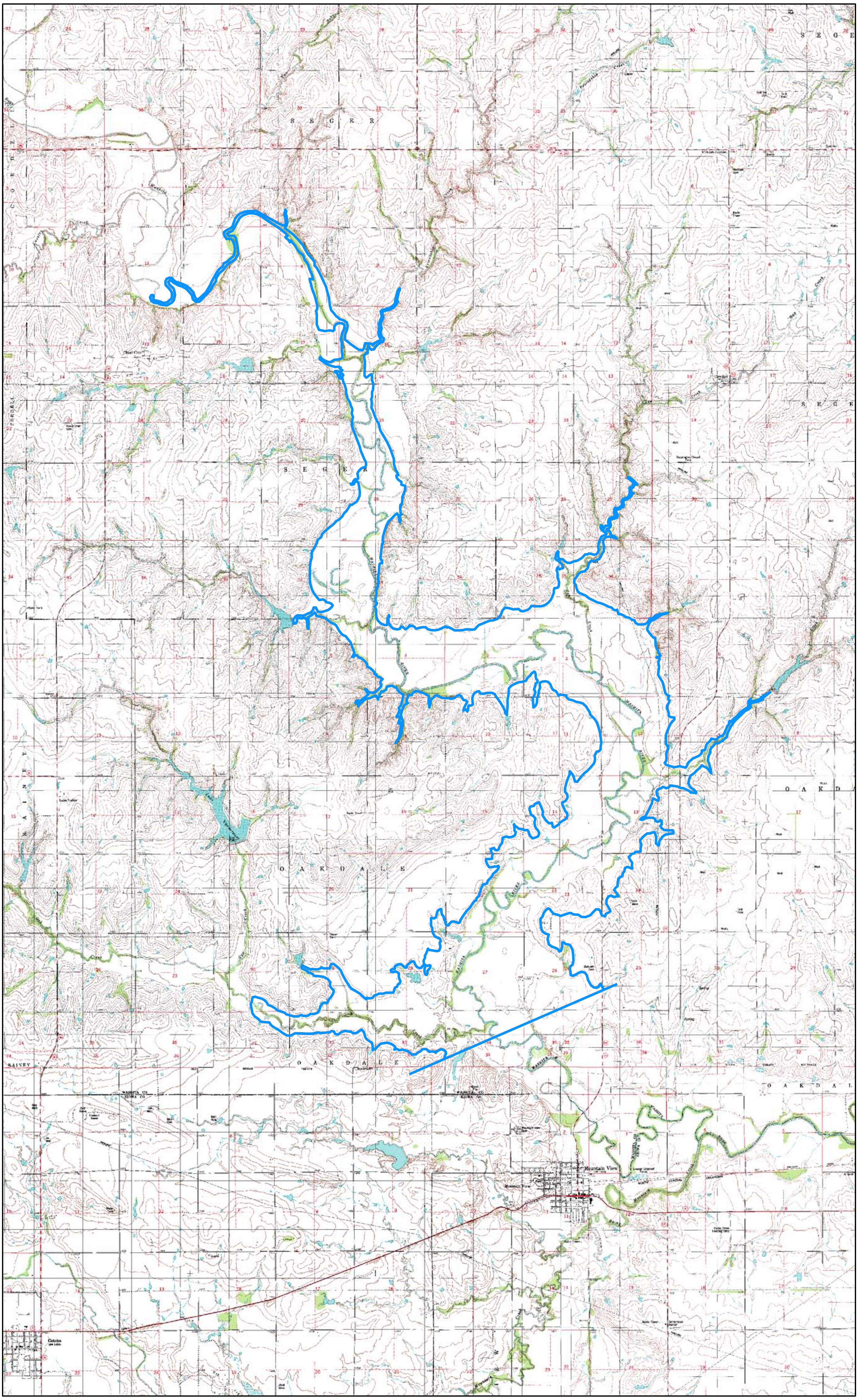
Mountain View Reservoir





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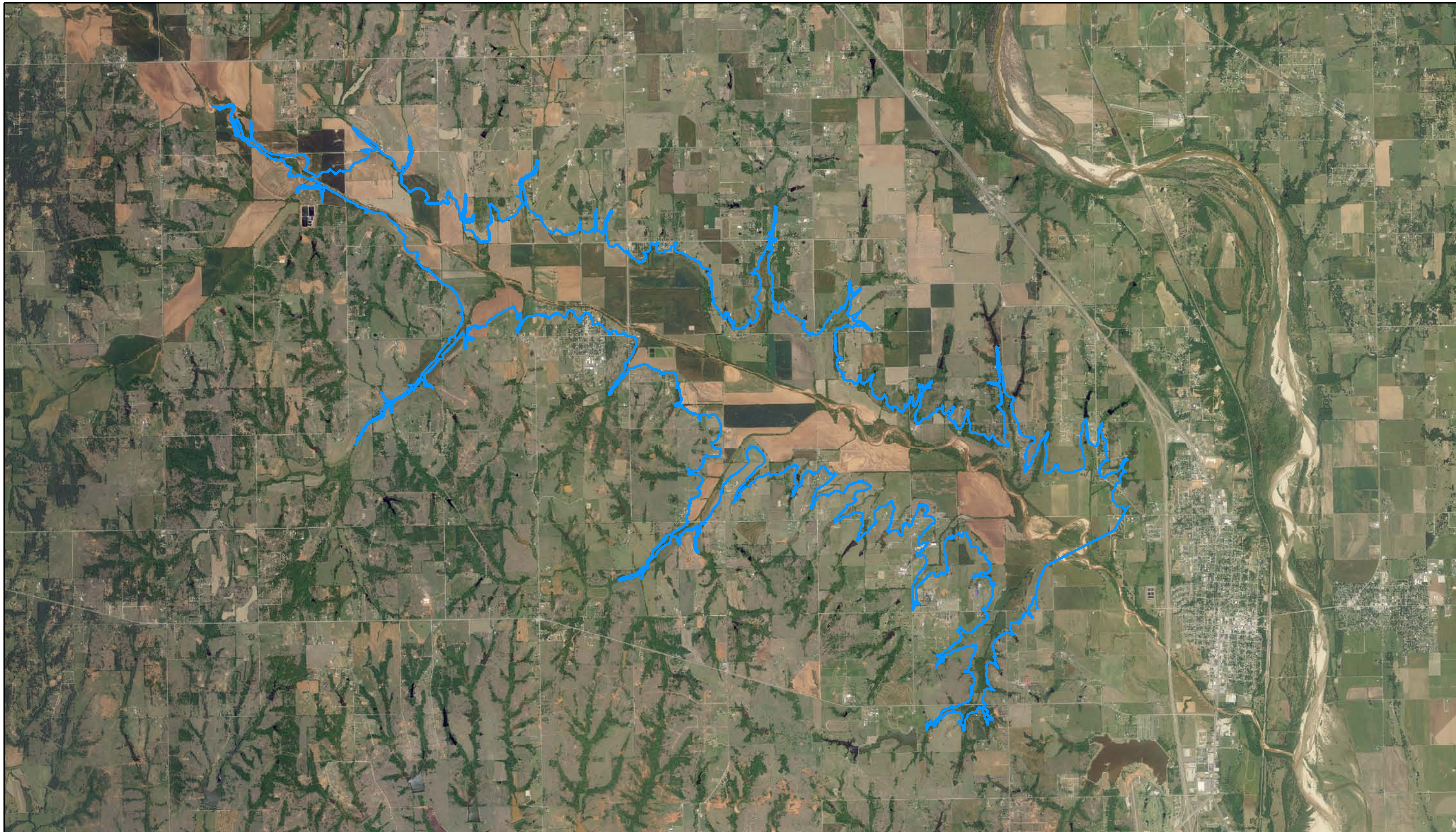
Mountain View Reservoir

0 800 1,600 3,200 4,800 6,400 Meters

N



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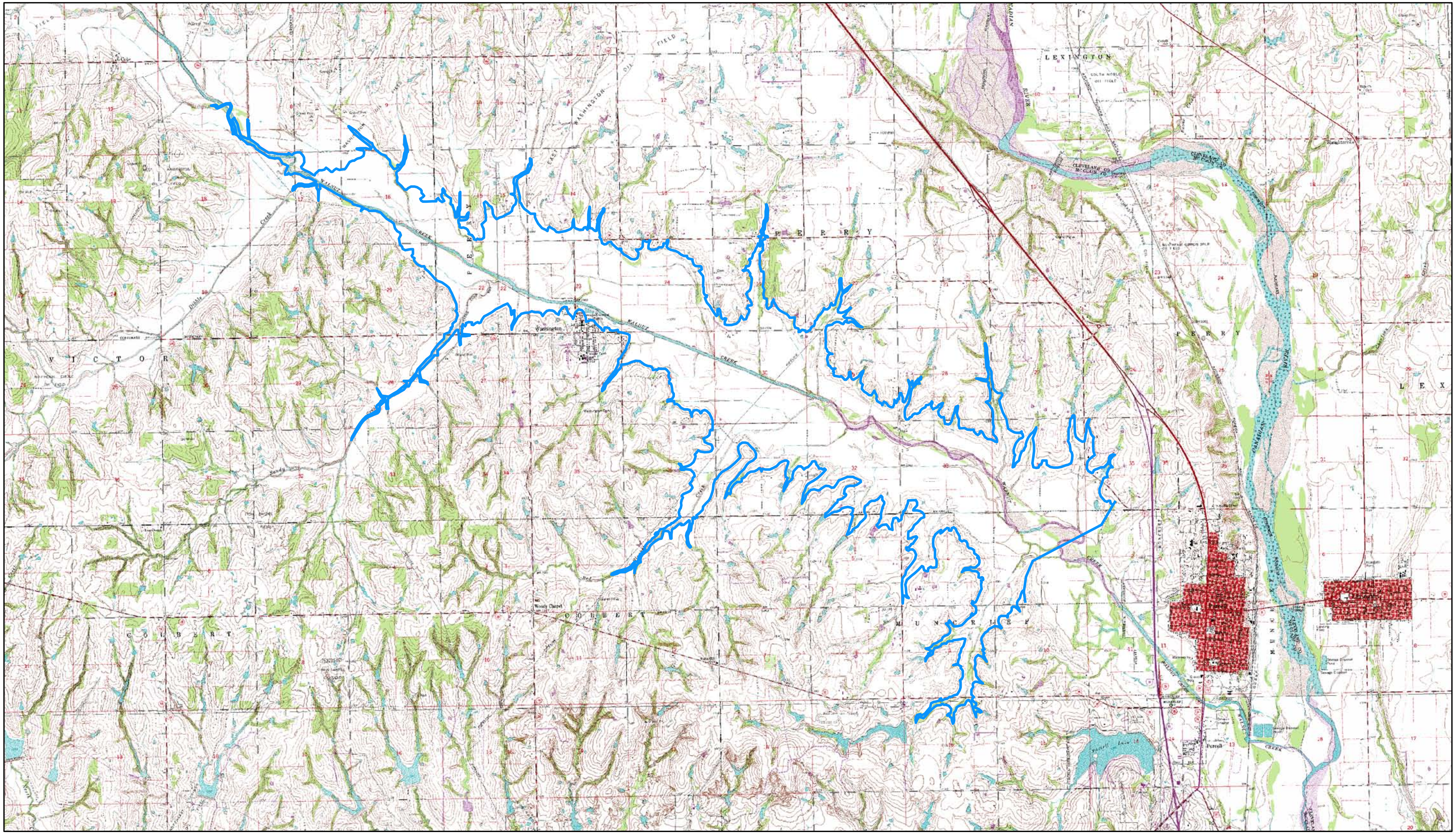
GUERNSEY

Muncrief Lake (Lower Purcell Site)

0 1,125 2,250 4,500 6,750 9,000 Meters

N



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GUERNSEY

Muncrief Lake (Lower Purcell Site)

0 1,125 2,250 4,500 6,750 9,000 Meters

N

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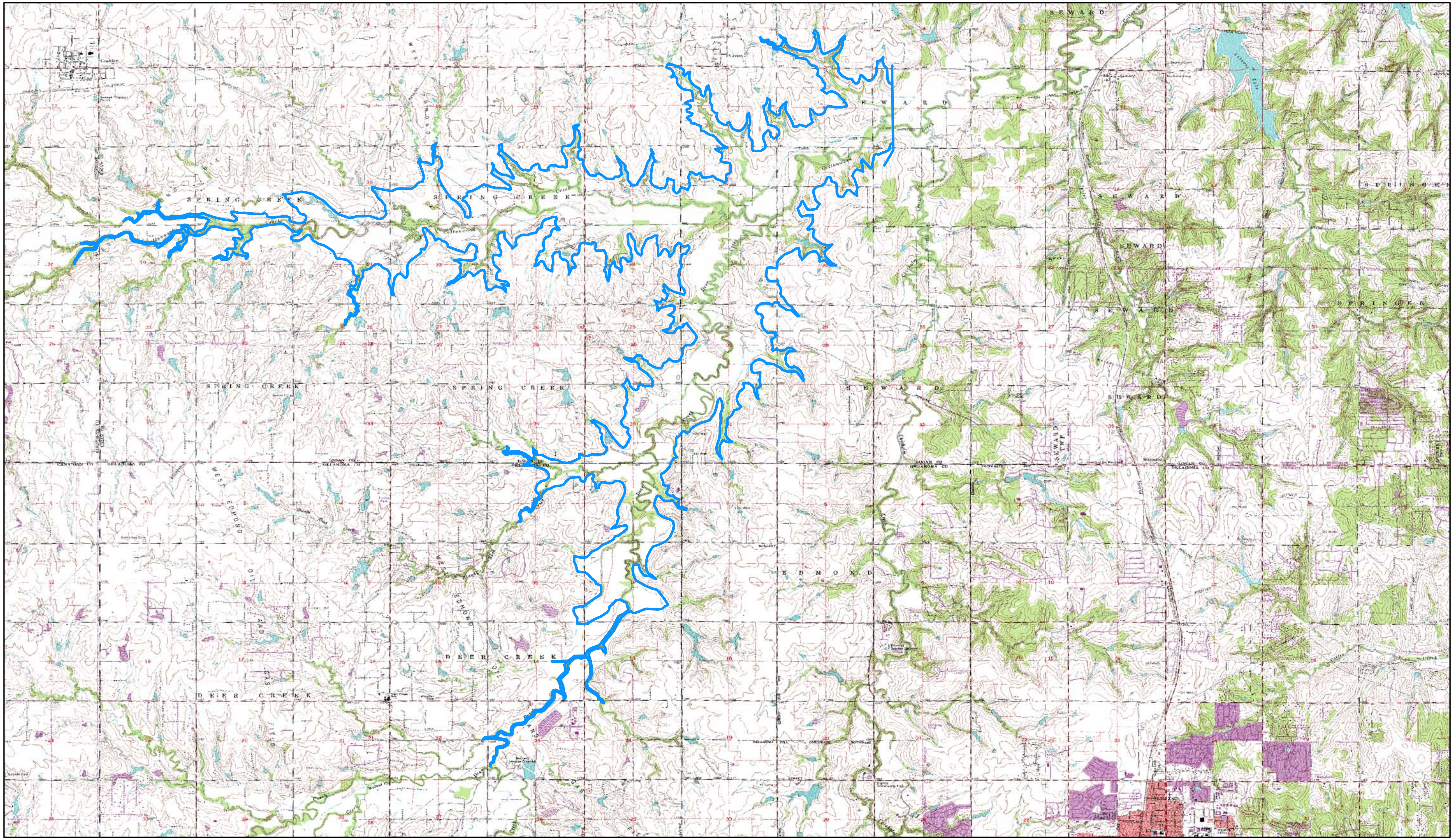
Navina Reservoir



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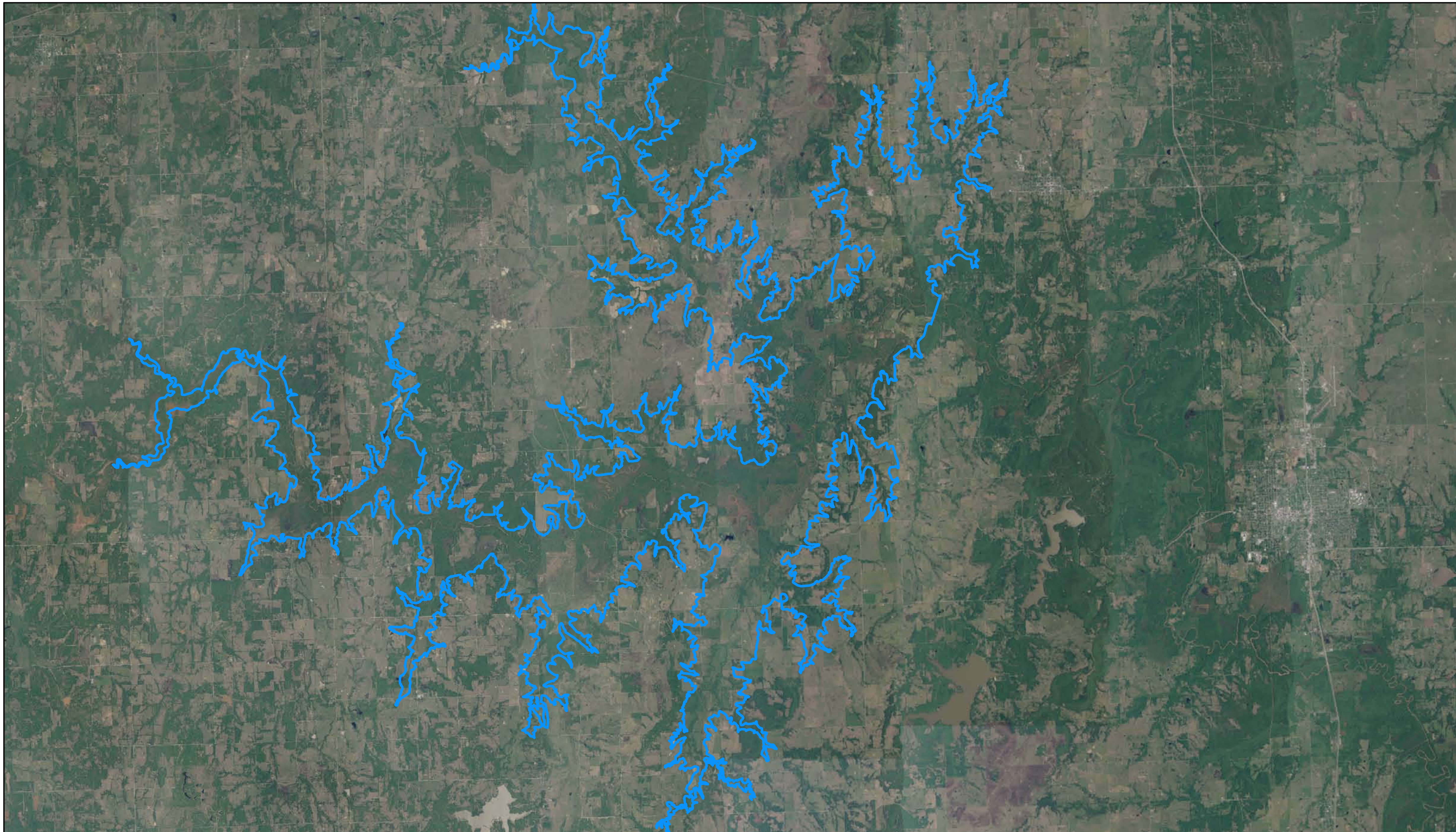
GUERNSEY

Navina Reservoir

0 1,400 2,800 5,600 8,400 11,200 Meters

N



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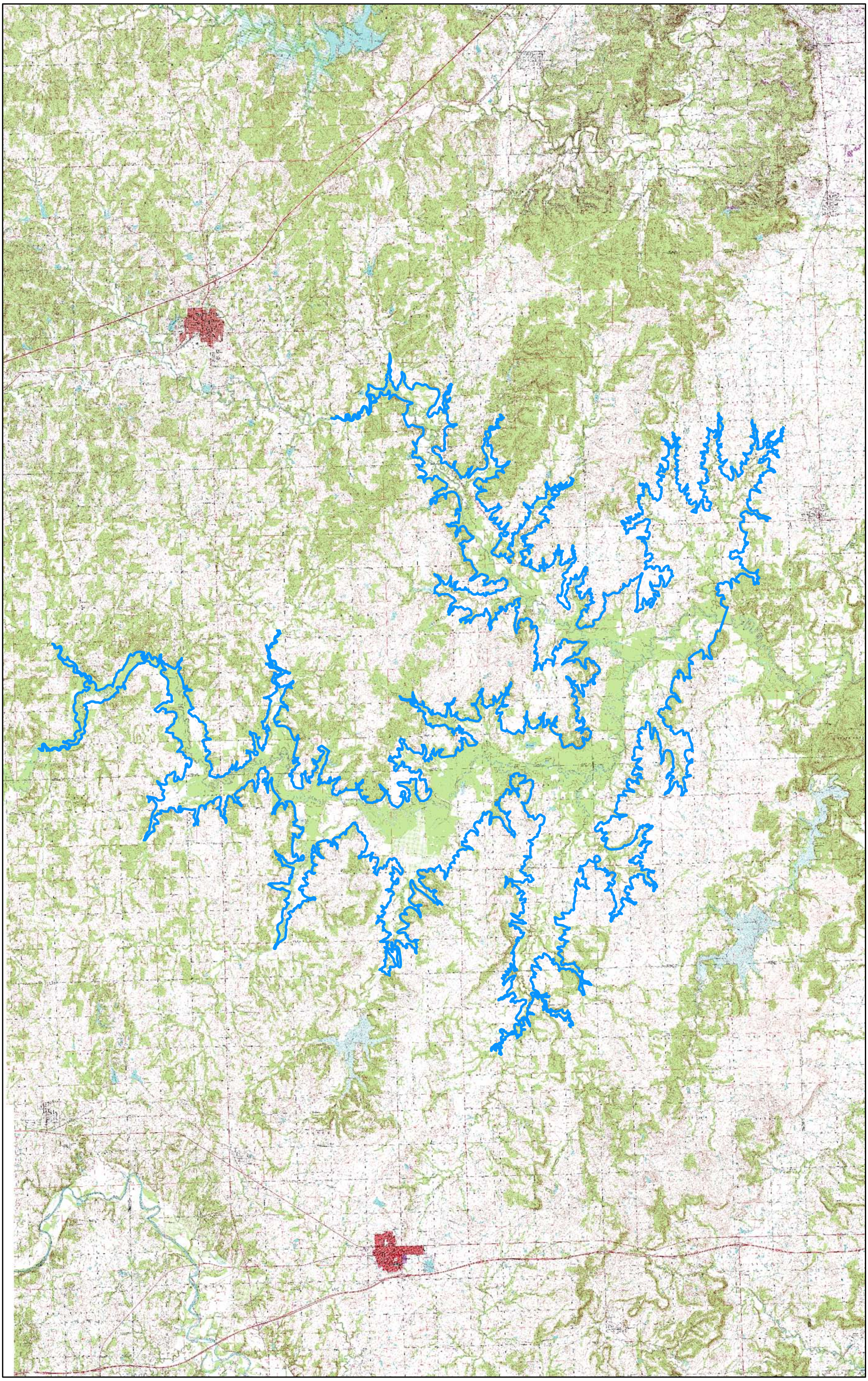
GUERNSEY

Nuyaka Reservoir

0 2,050 4,100 8,200 12,300 16,400 Meters

N



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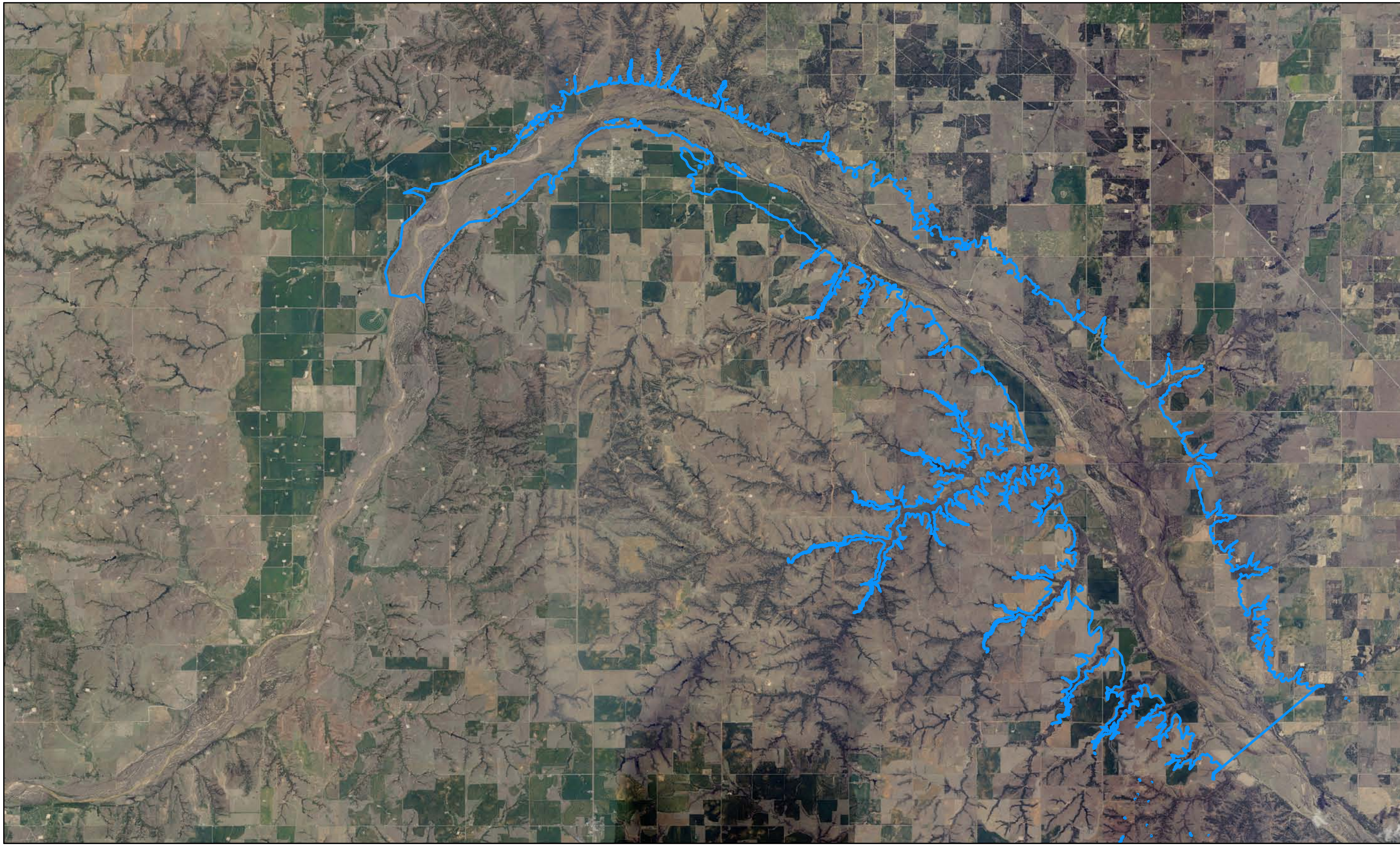

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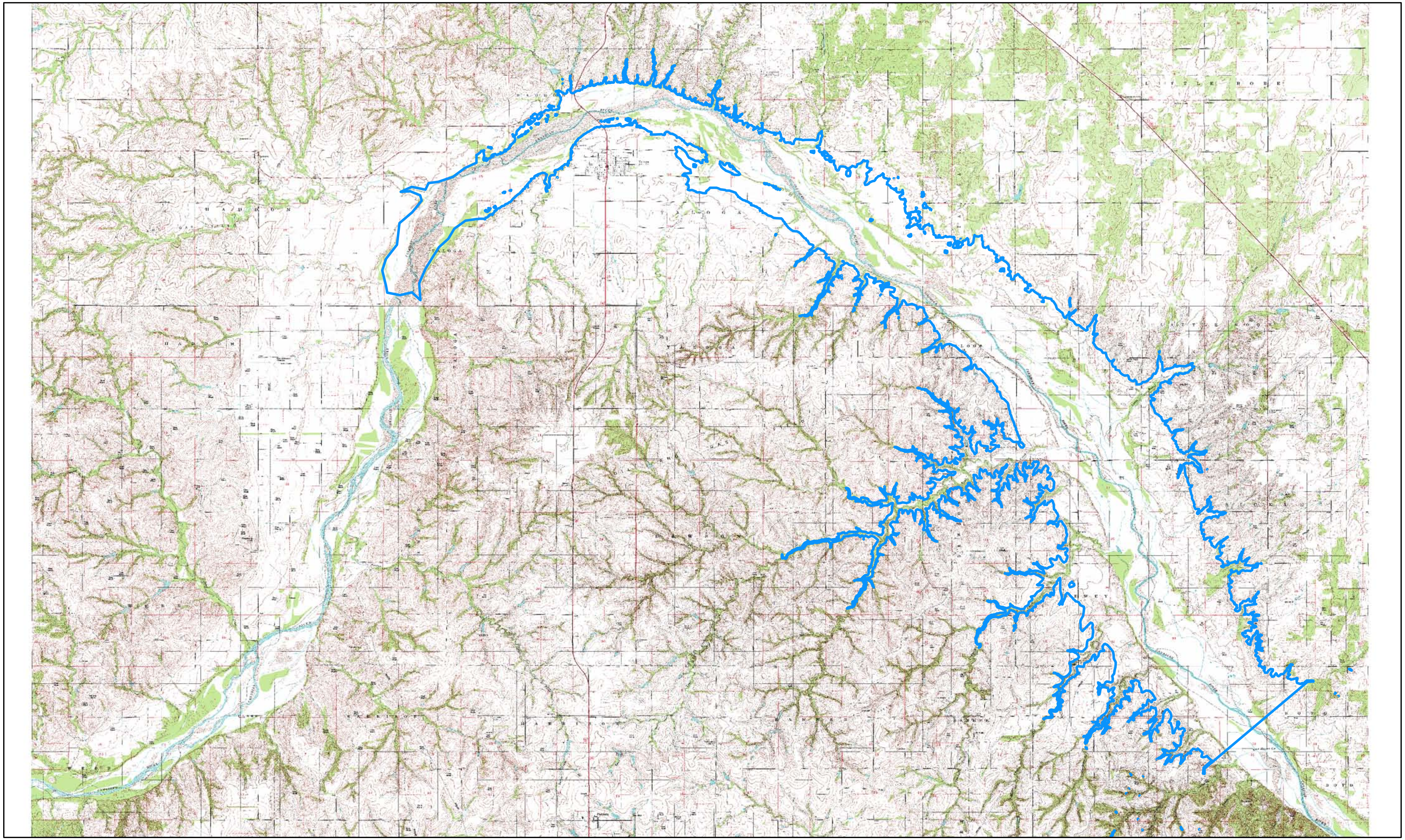
Oakwood Reservoir



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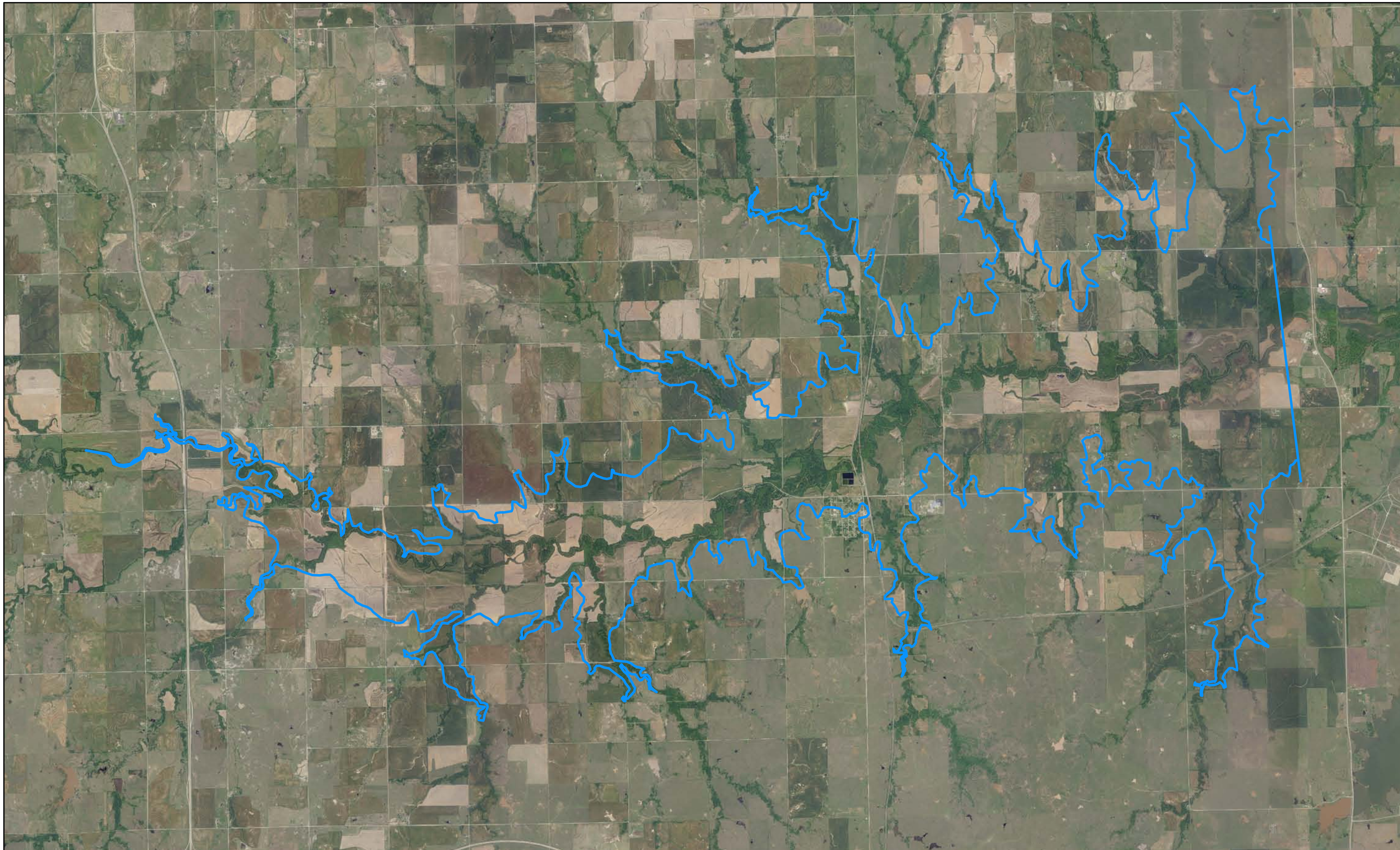
Oakwood Reservoir

0 2,000 4,000 8,000 12,000 16,000 Meters

N



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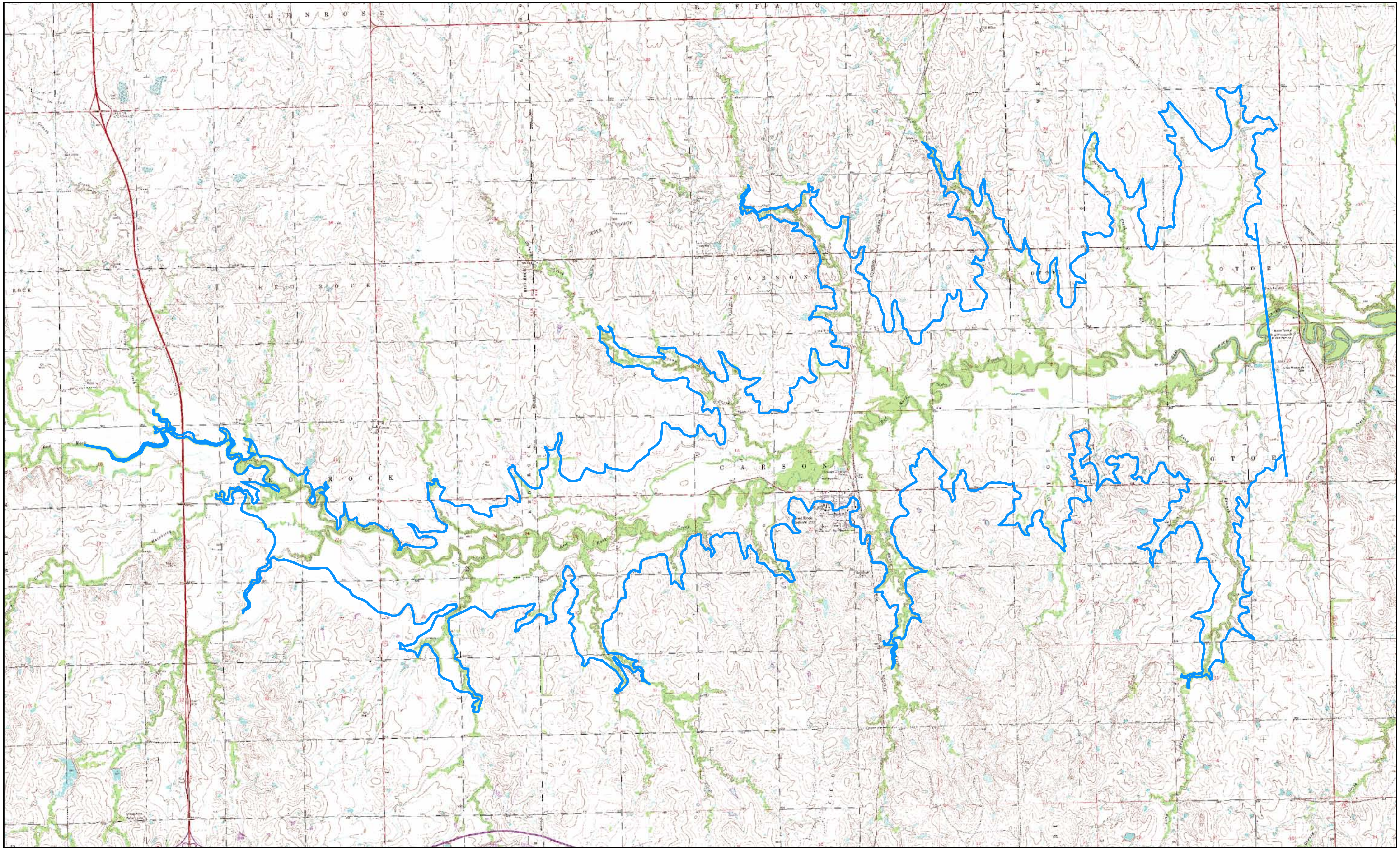
Otoe Lake

0 1,250 2,500 5,000 7,500 10,000
Meters

N



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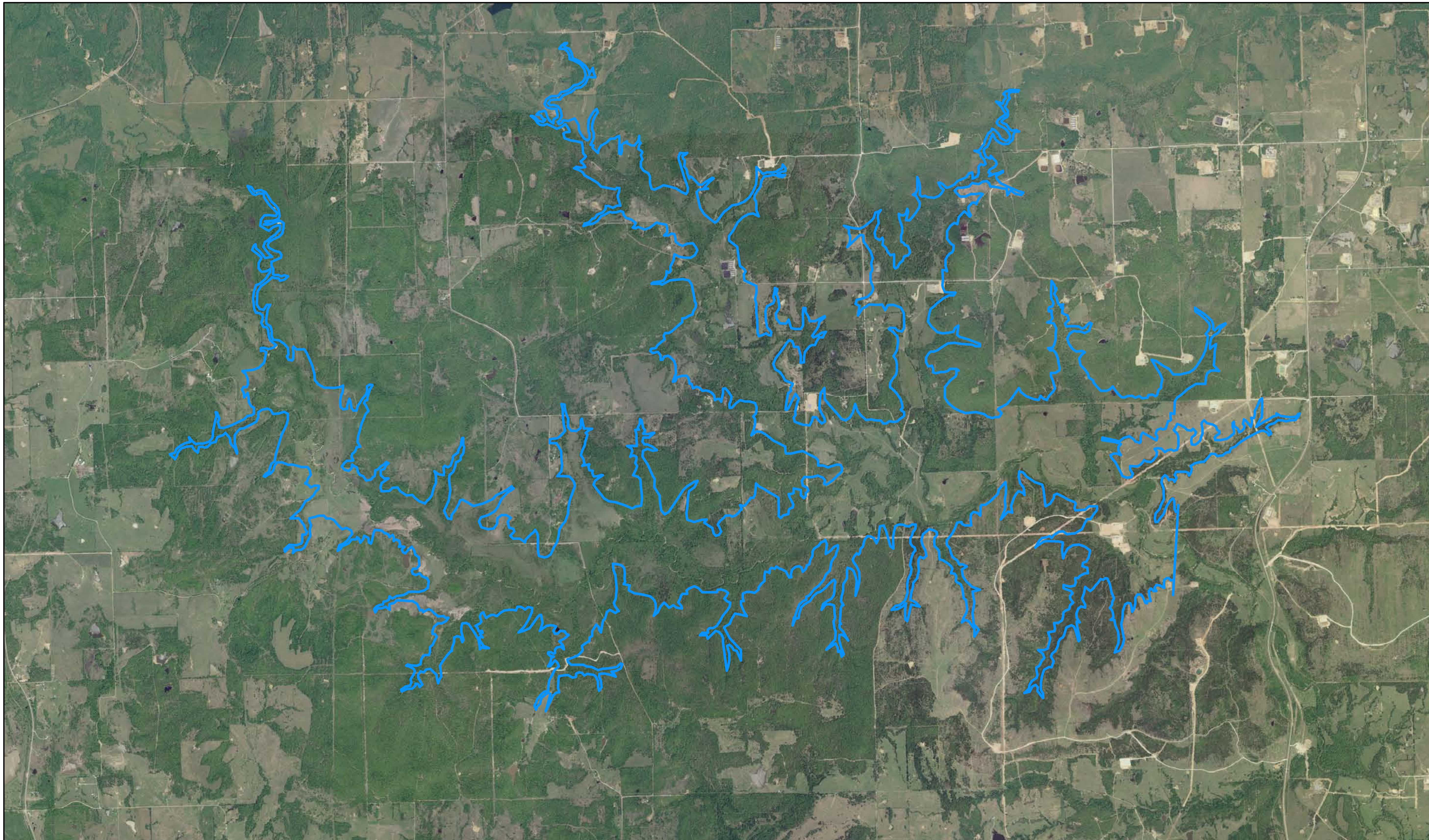
Otoe Lake

0 1,250 2,500 5,000 7,500 10,000 Meters

N



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GUERNSEY
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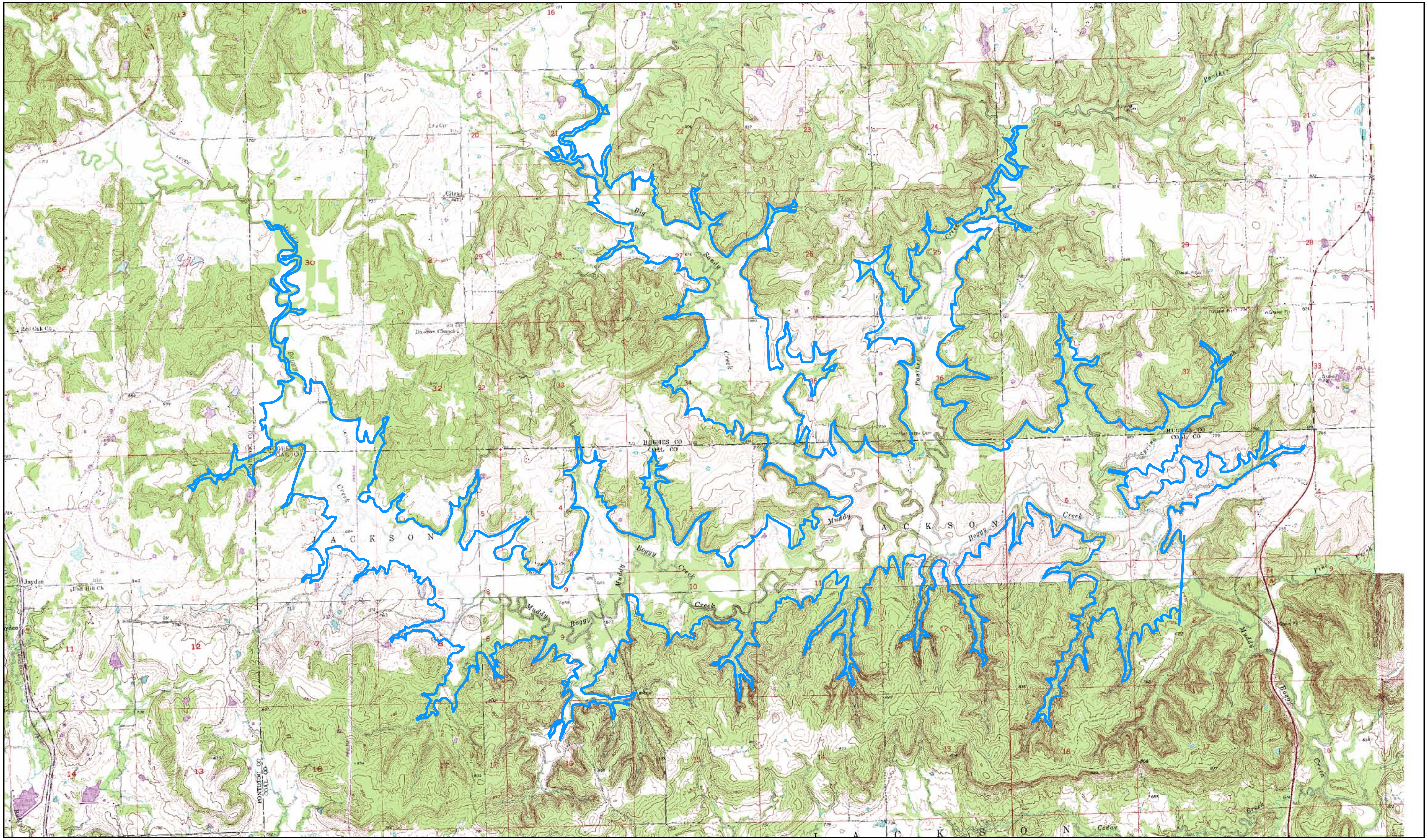
Parker Lake

0 800 1,600 3,200 4,800 6,400
Meters

N

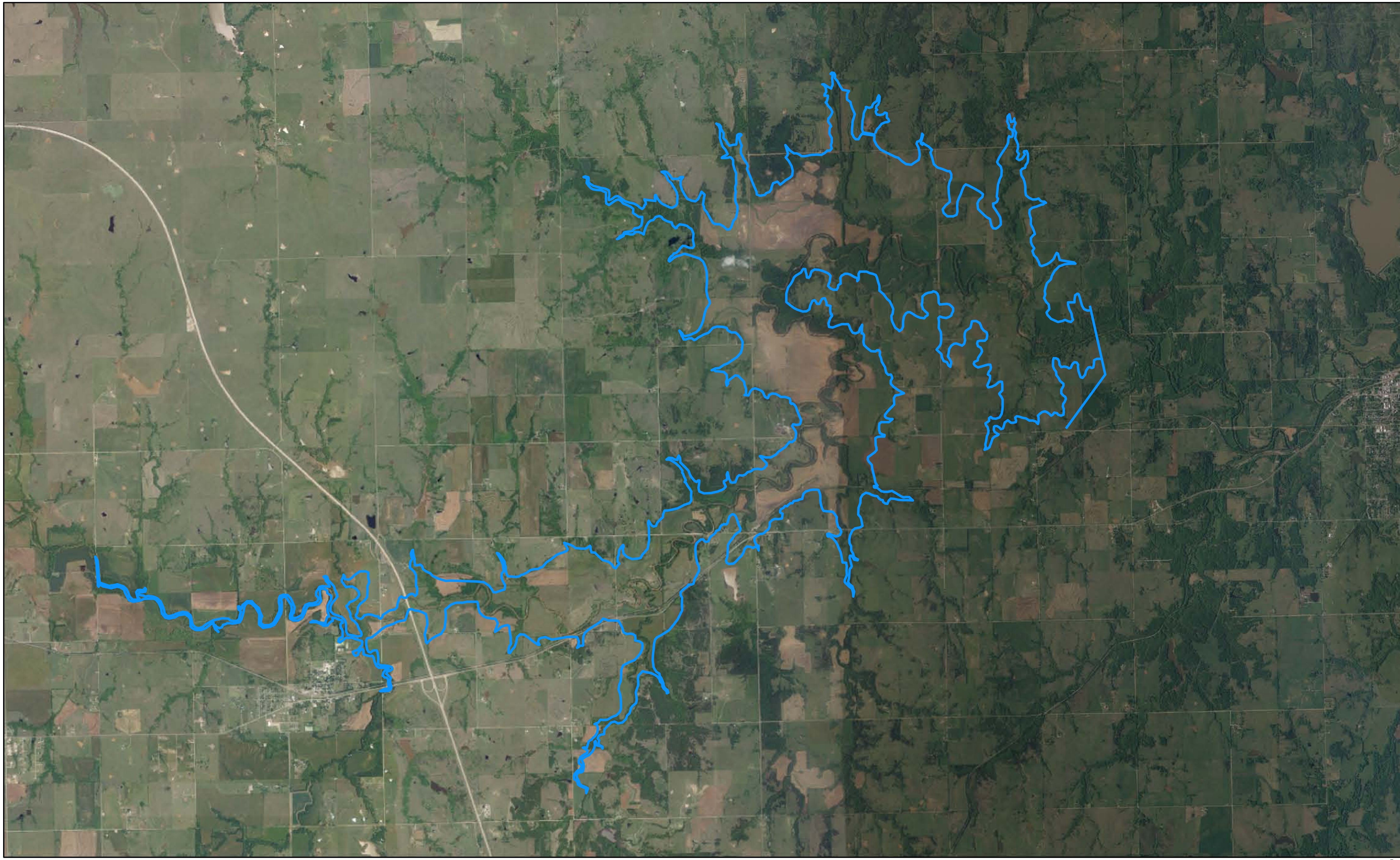


C.H. Guernsey & Company
GUERNSEY Engineers ● Architects ● Consultants

Parker Lake

N

0 800 1,600 3,200 4,800 6,400 Meters



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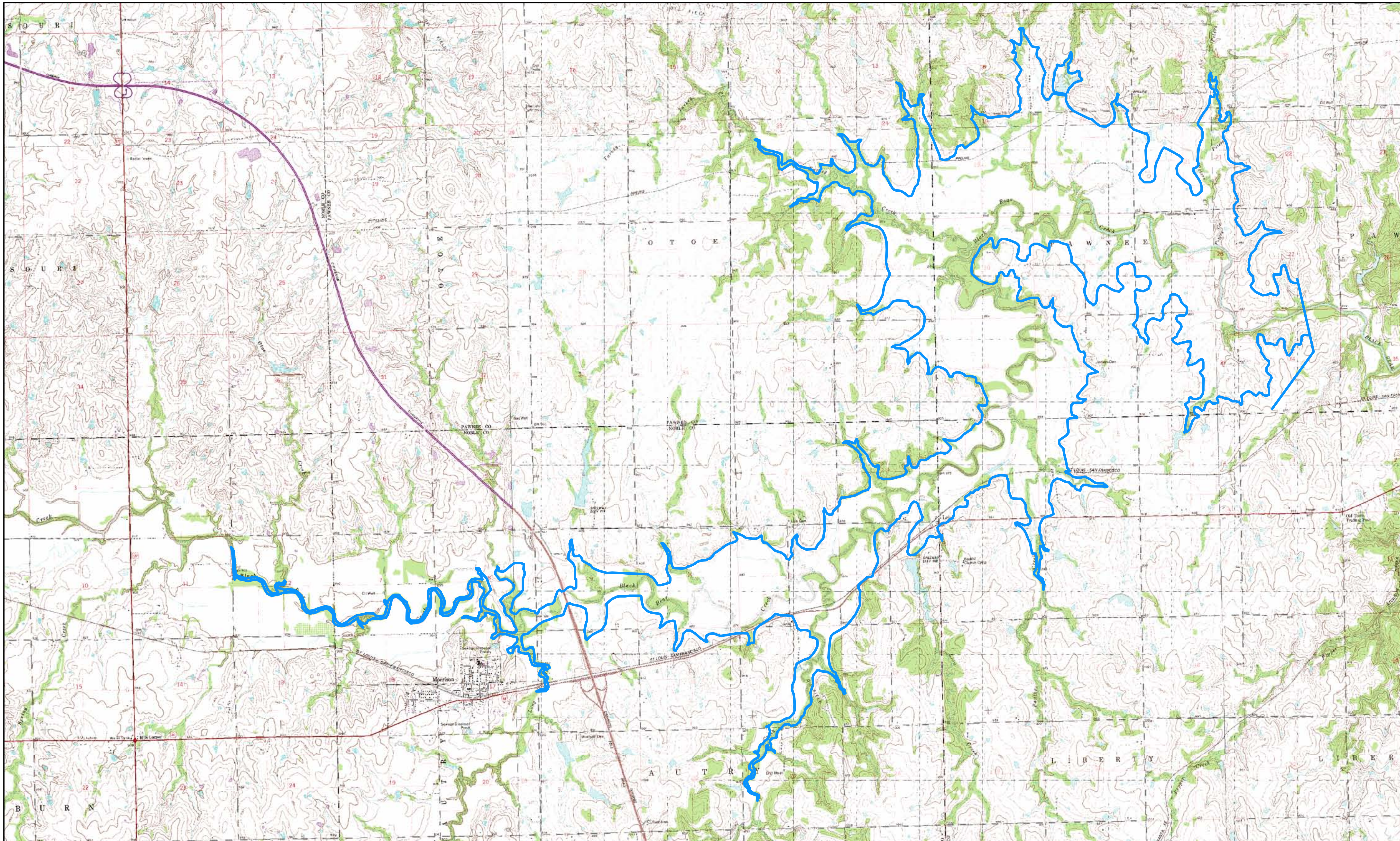
Pawnee Reservoir

0 1,050 2,100 4,200 6,300 8,400 Meters

N



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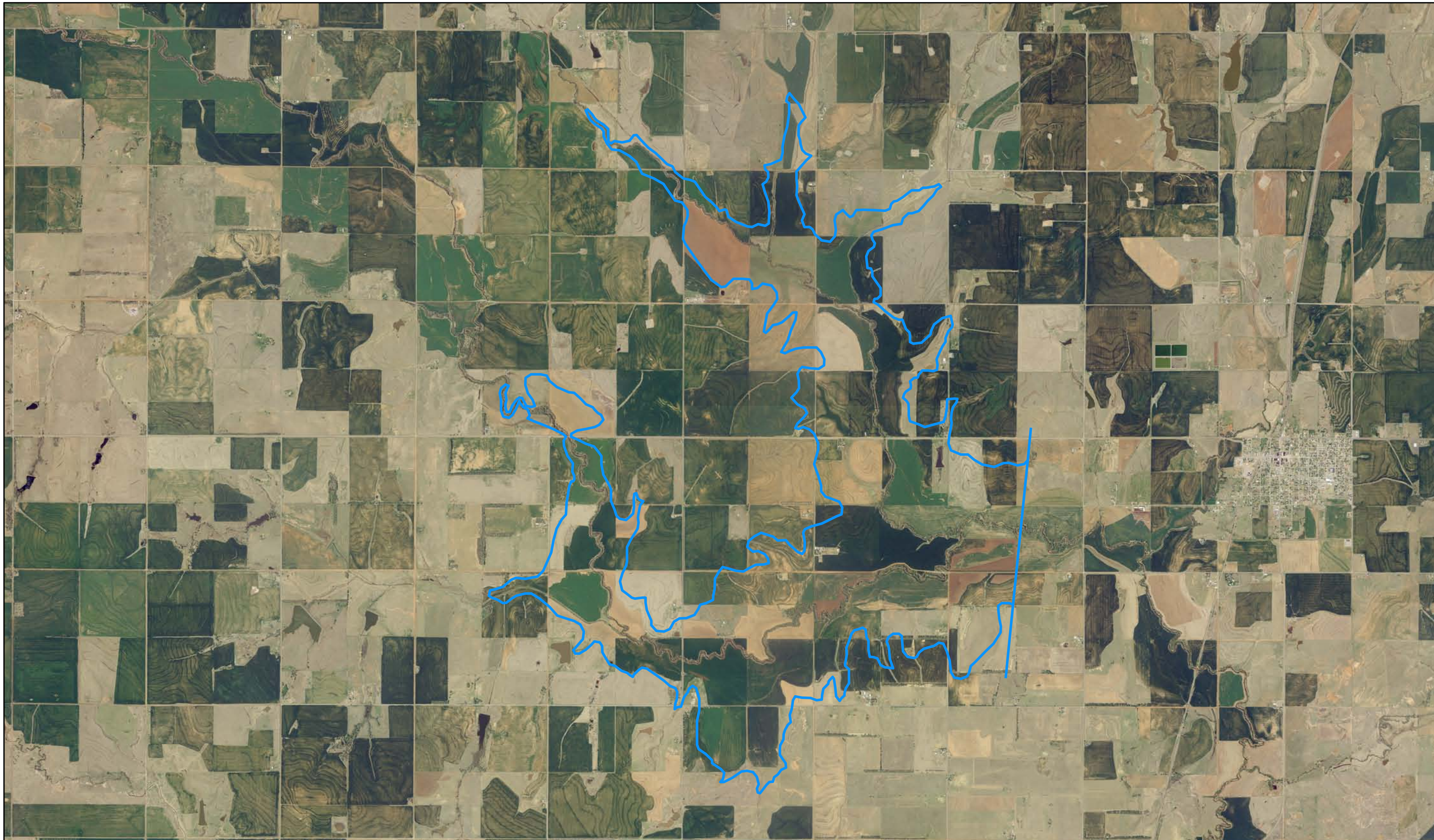
Pawnee Reservoir

0 1,000 2,000 4,000 6,000 8,000 Meters

N



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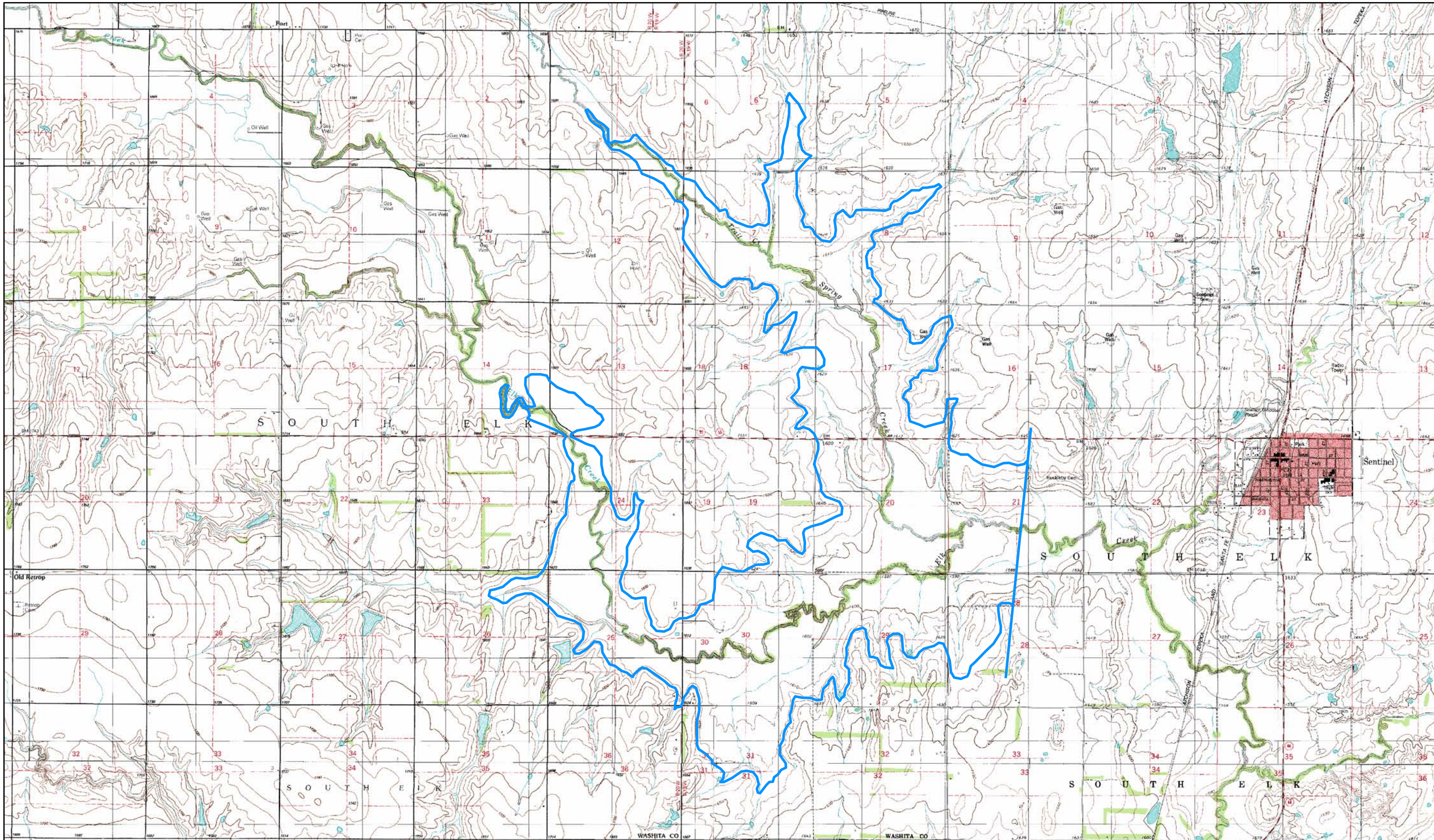
Port Lake

0 800 1,600 3,200 4,800 6,400 Meters

N



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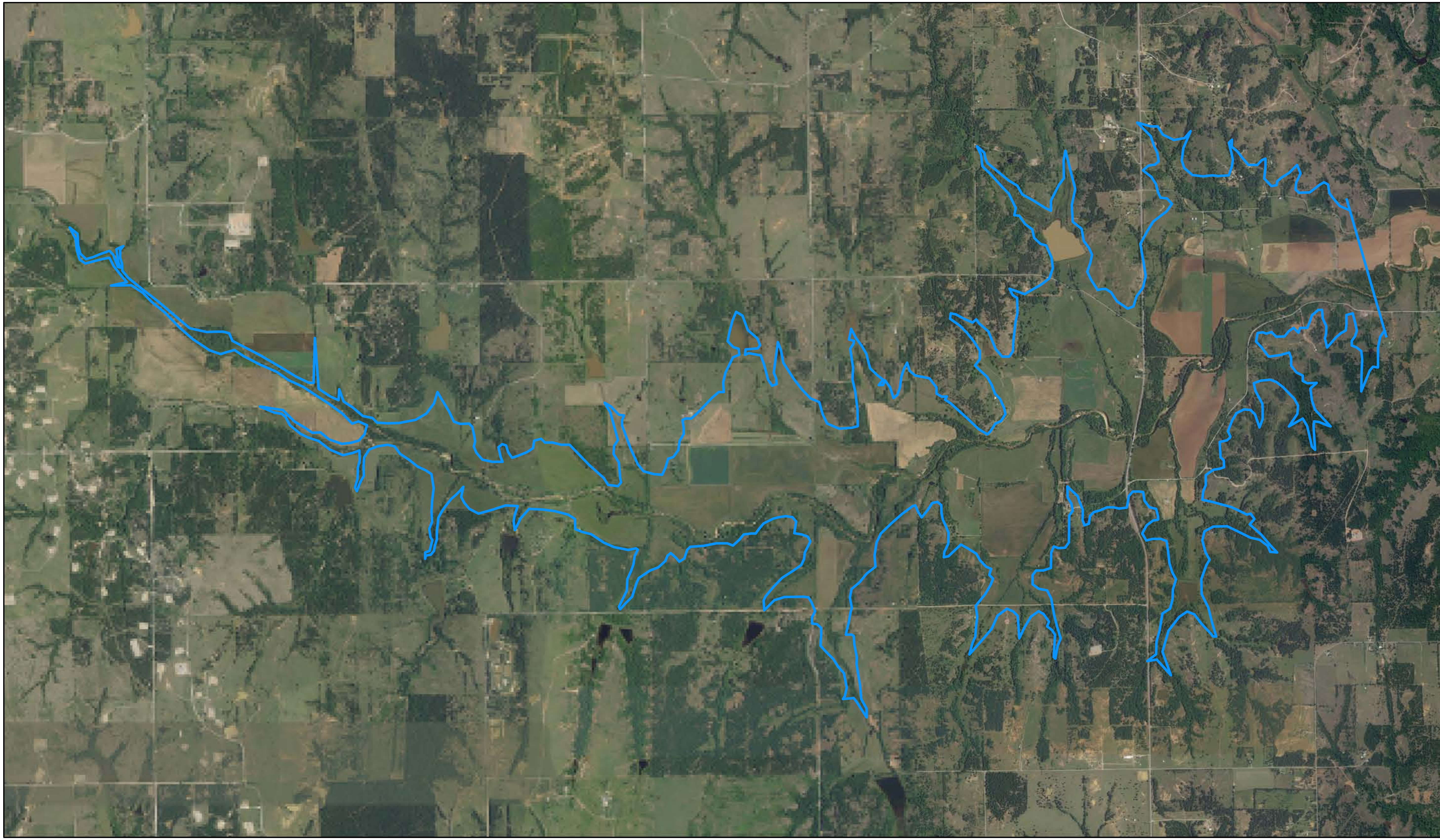
Port Lake

0 800 1,600 3,200 4,800 6,400 Meters

N



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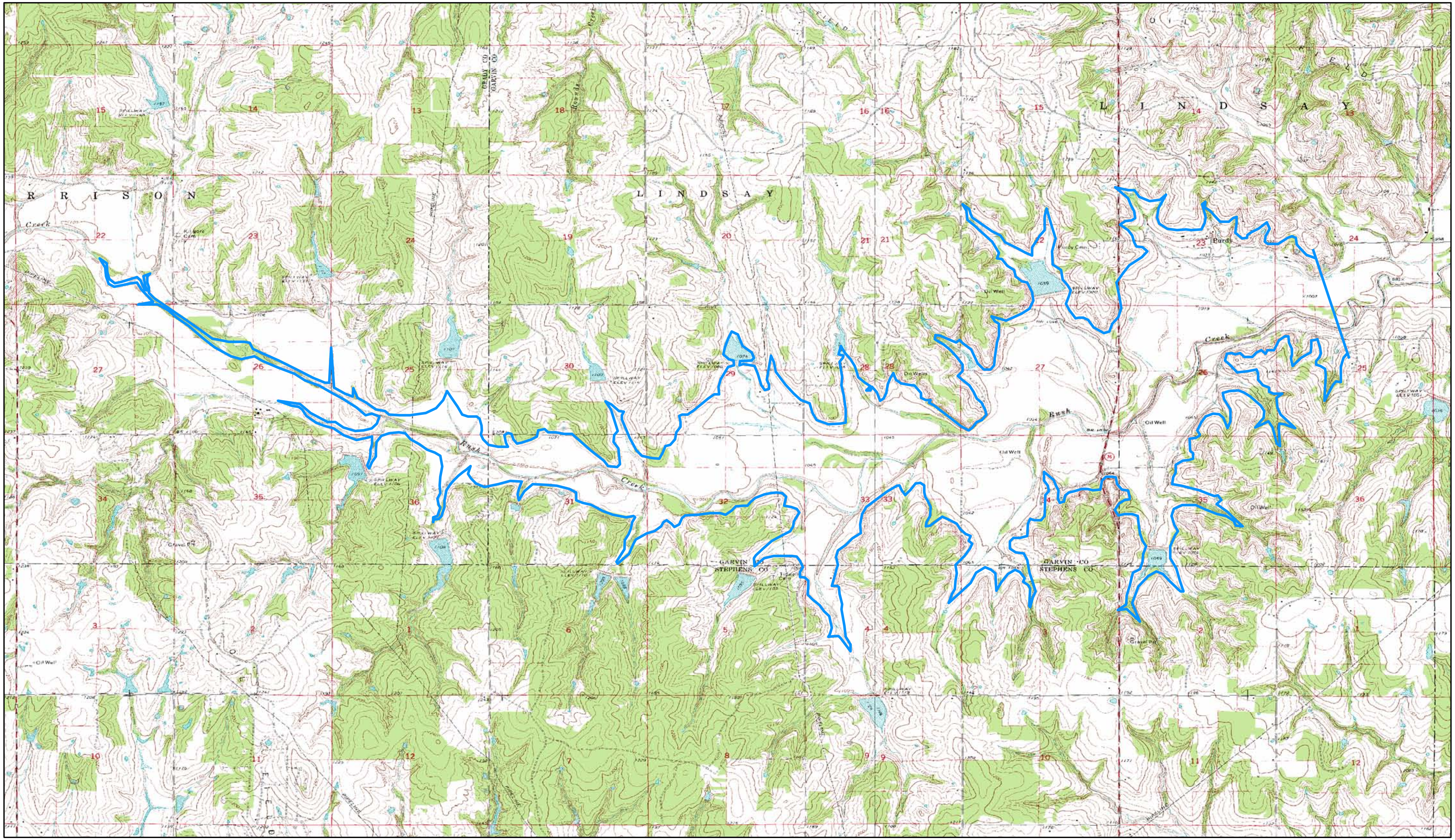
Purdy Reservoir

0 550 1,100 2,200 3,300 4,400 Meters

N



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Purdy Reservoir

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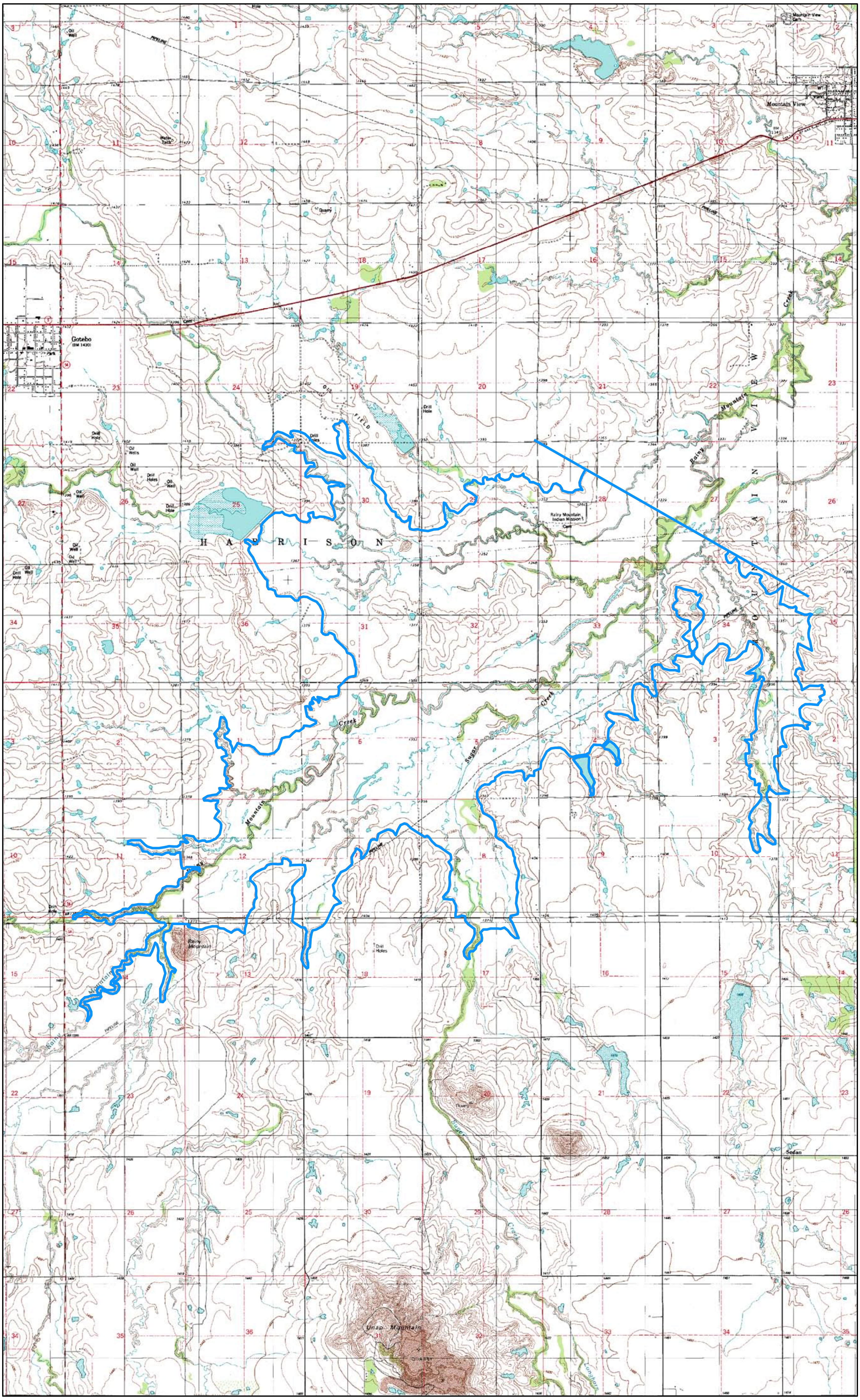
Rainy Mountain Creek Reservoir



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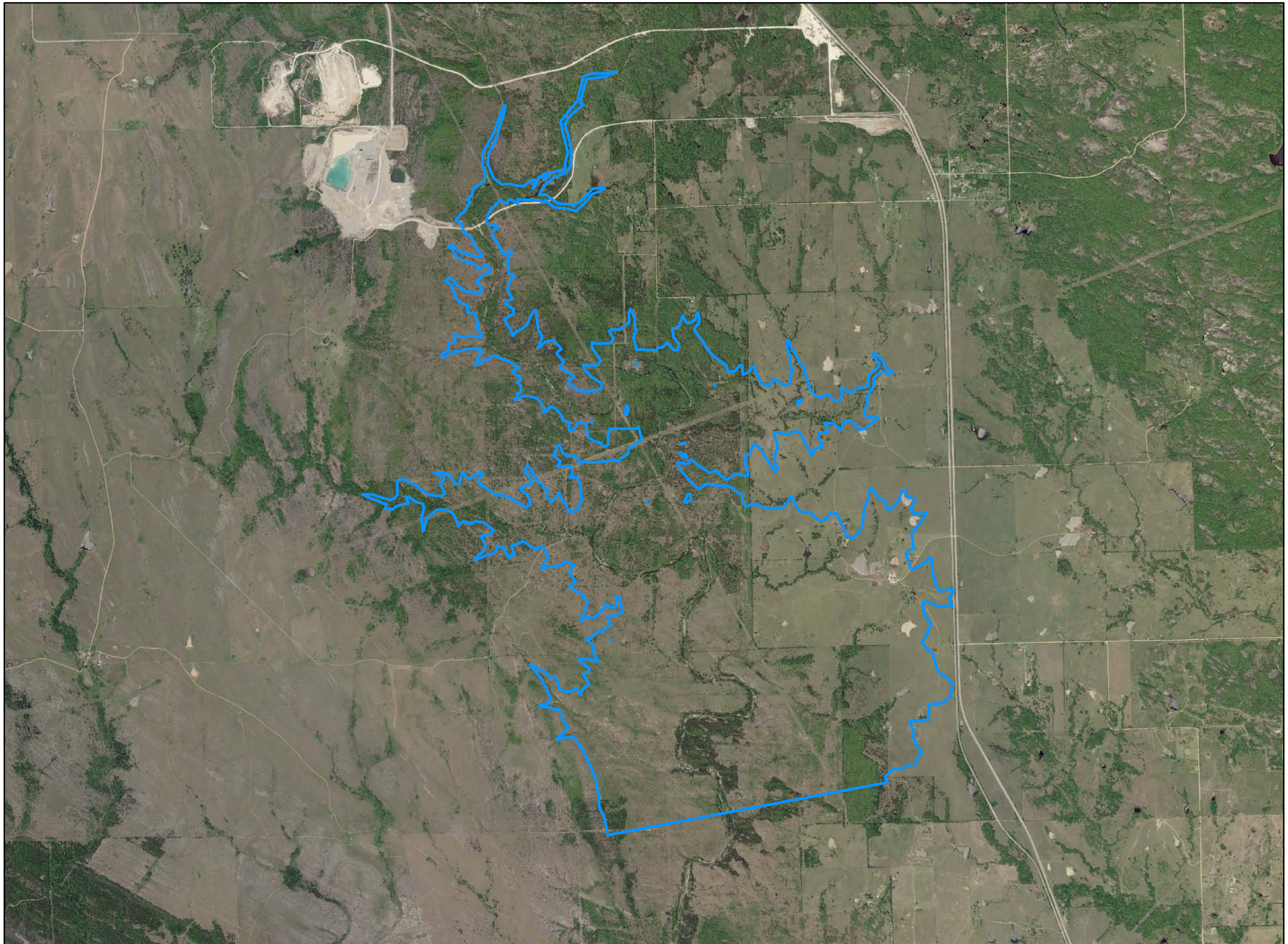
Rainy Mountain Creek Reservoir

0 550 1,100 2,200 3,300 4,400 Meters

N



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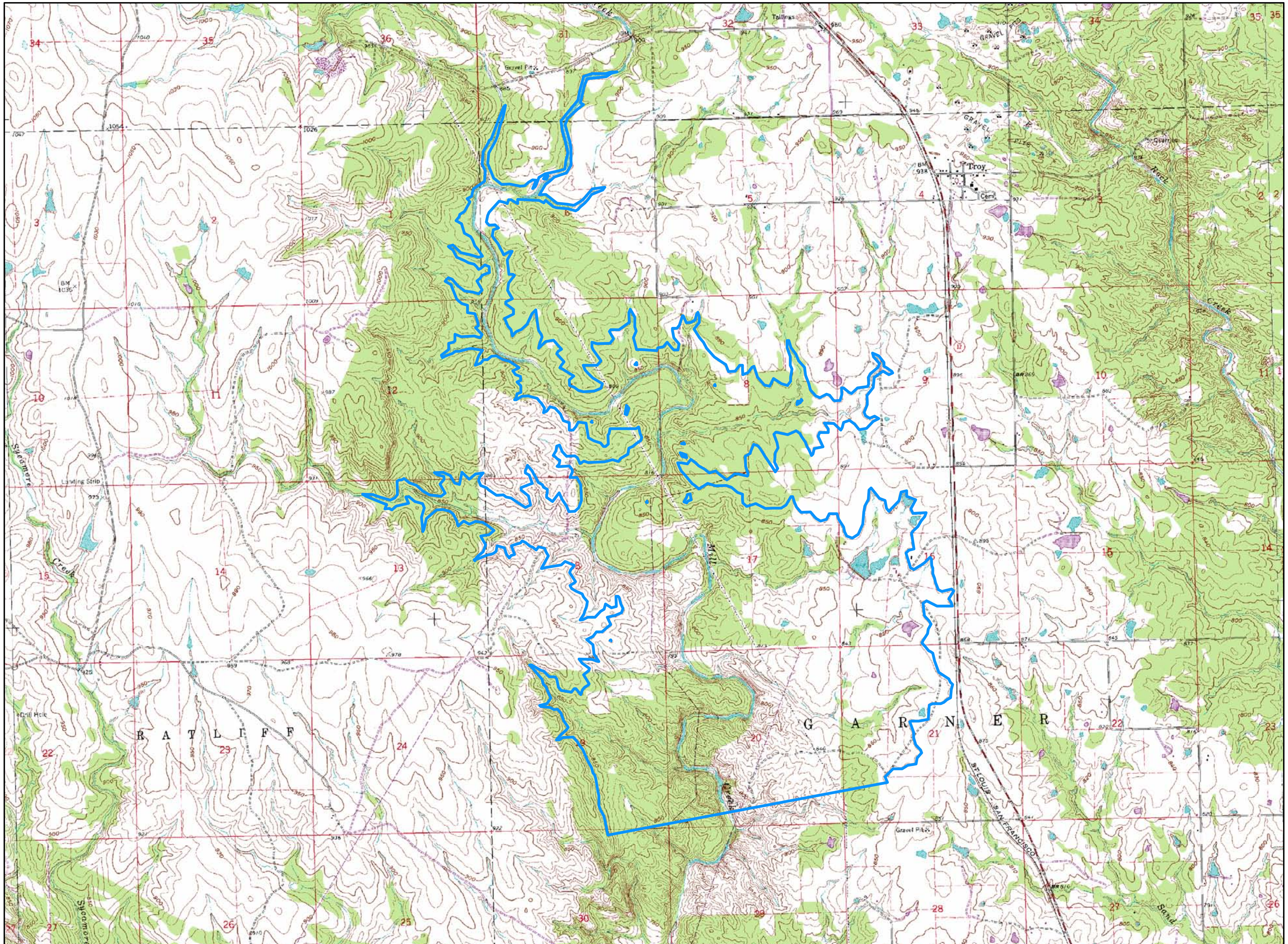
Ravia Reservoir

0 500 1,000 2,000 3,000 4,000
Meters

N



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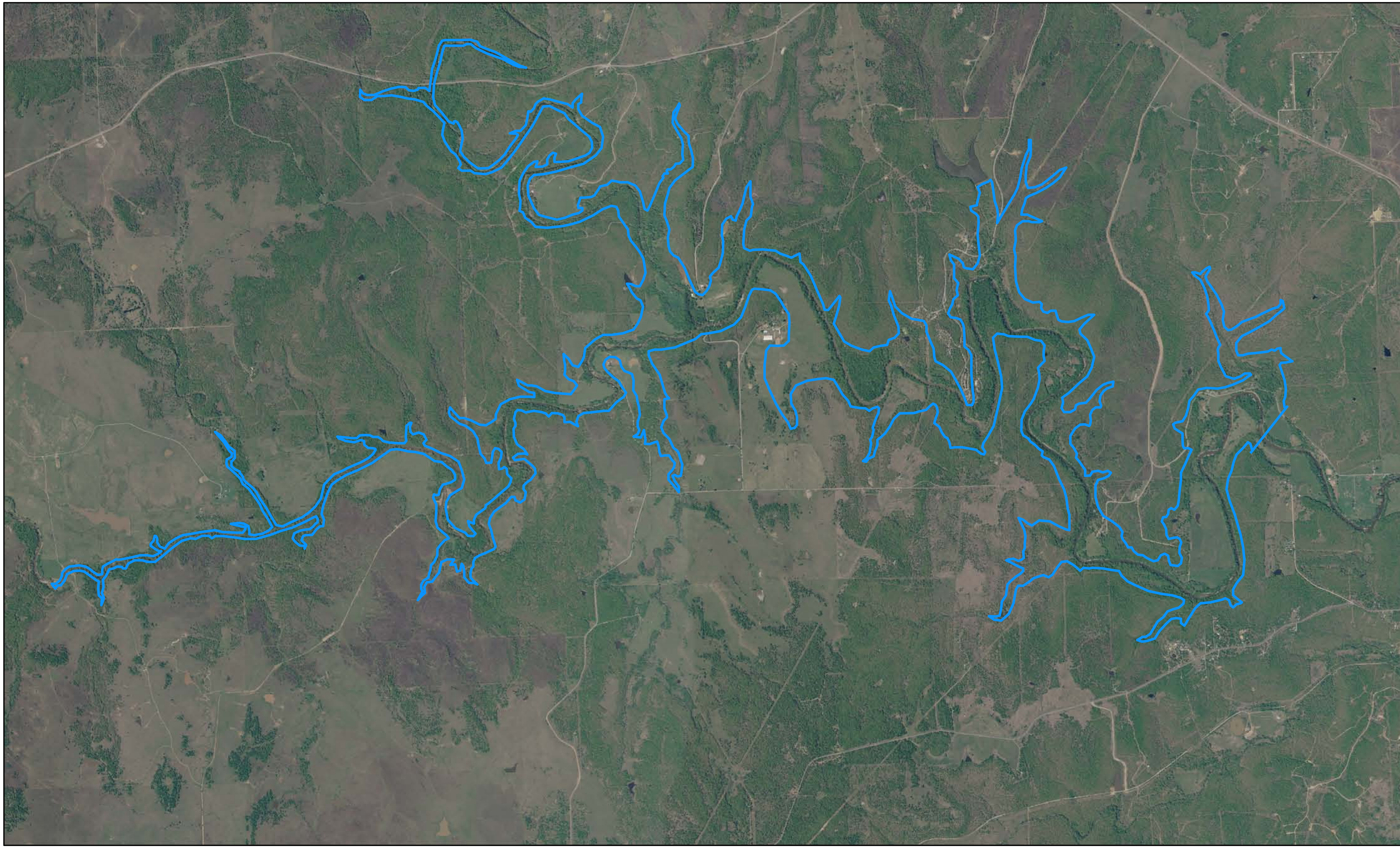
Ravia Reservoir

0 500 1,000 2,000 3,000 4,000 Meters

N



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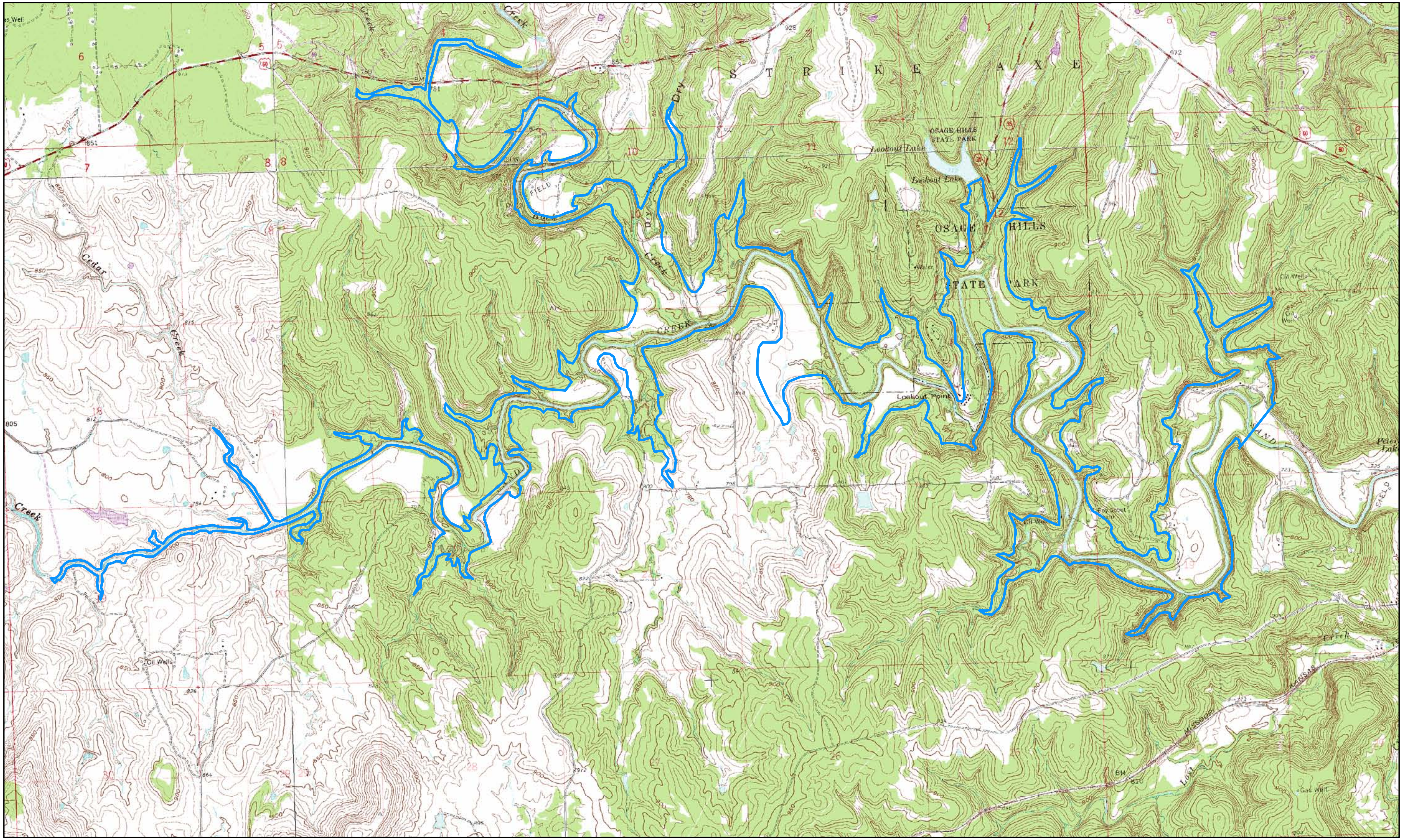
Sand Reservoir

0 550 1,100 2,200 3,300 4,400
Meters

N



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Sand Reservoir

0 550 1,100 2,200 3,300 4,400 Meters

N

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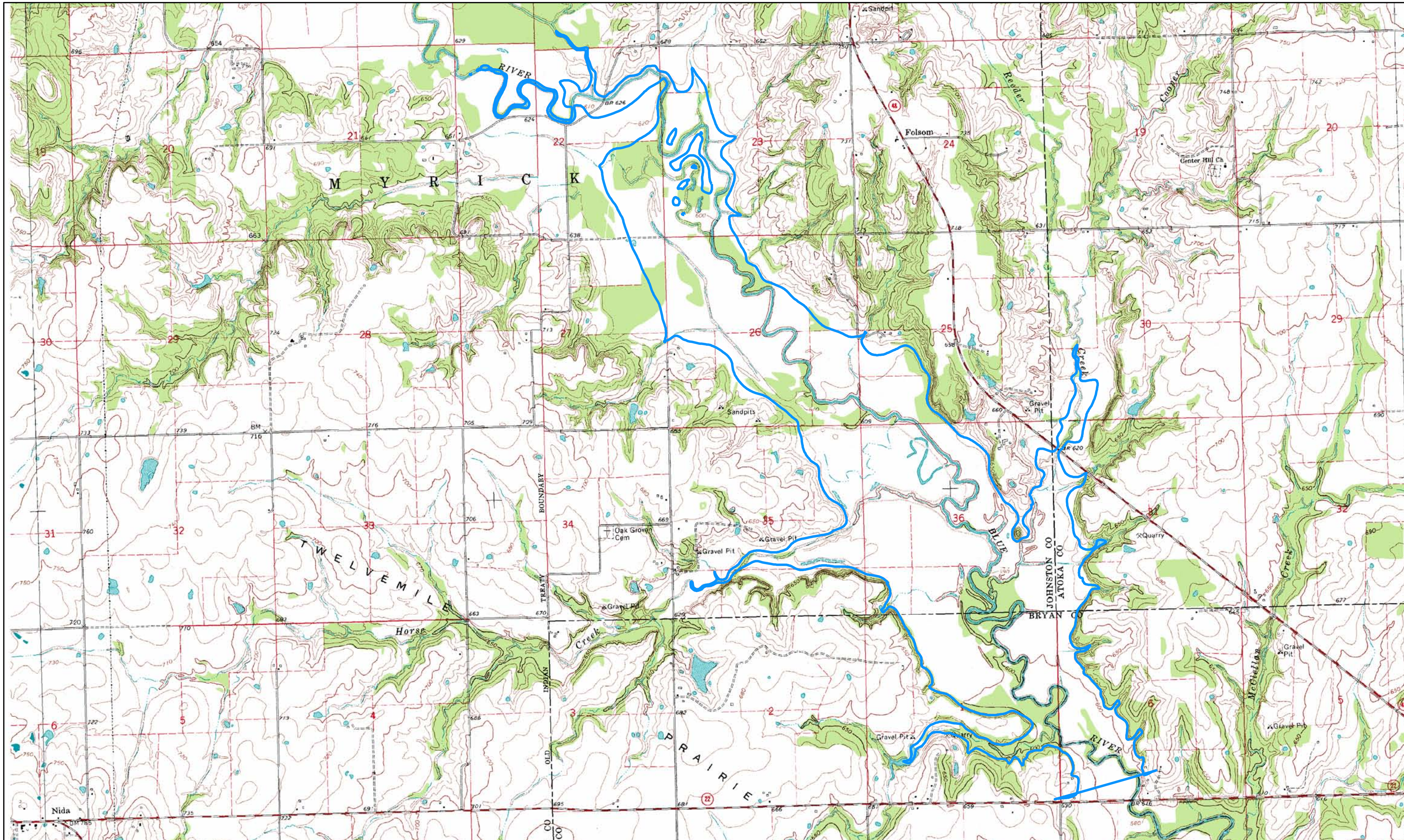
Sandy Creek Reservoir



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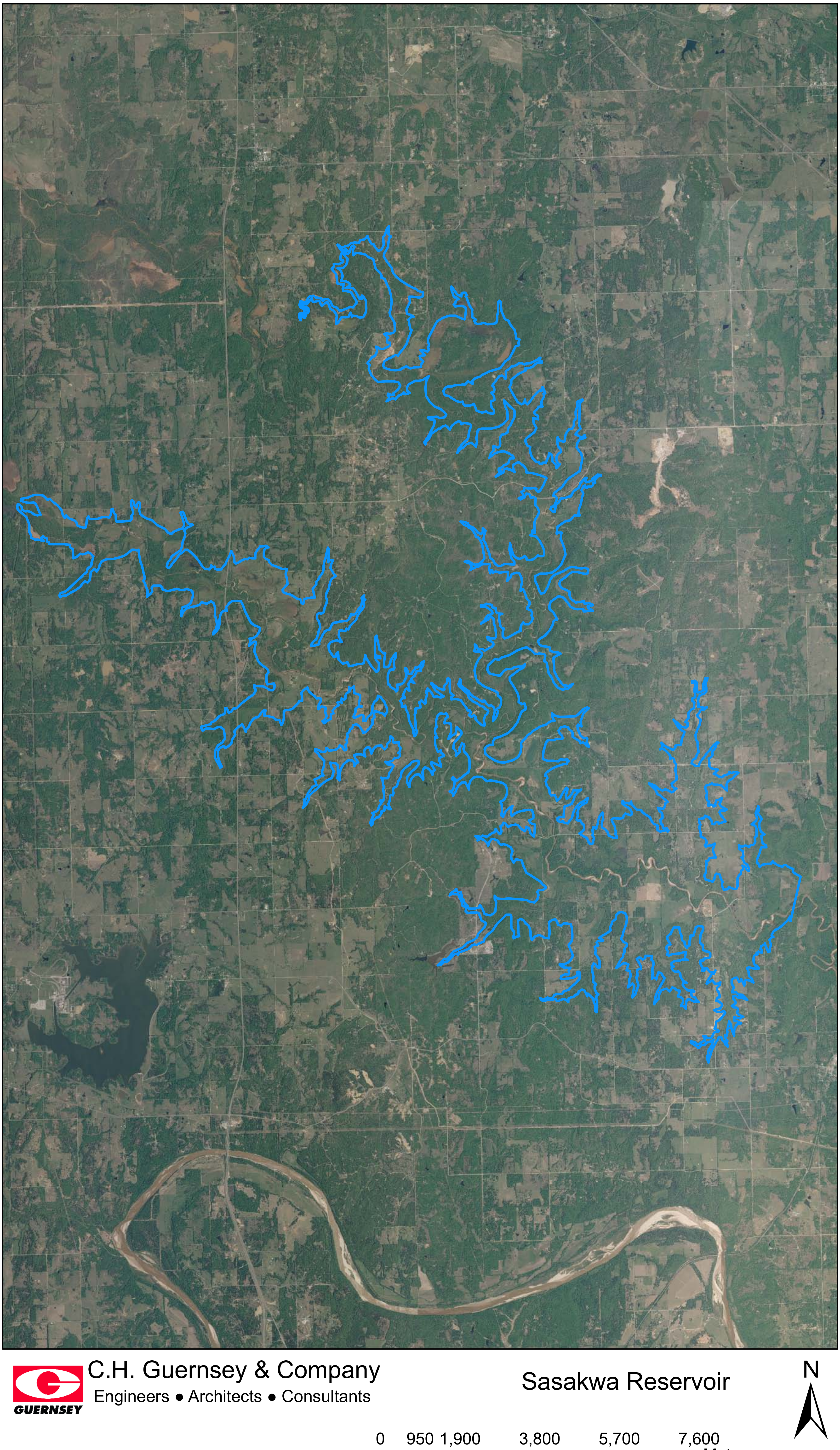
Sandy Creek Reservoir

0 625 1,250 2,500 3,750 5,000 Meters

N



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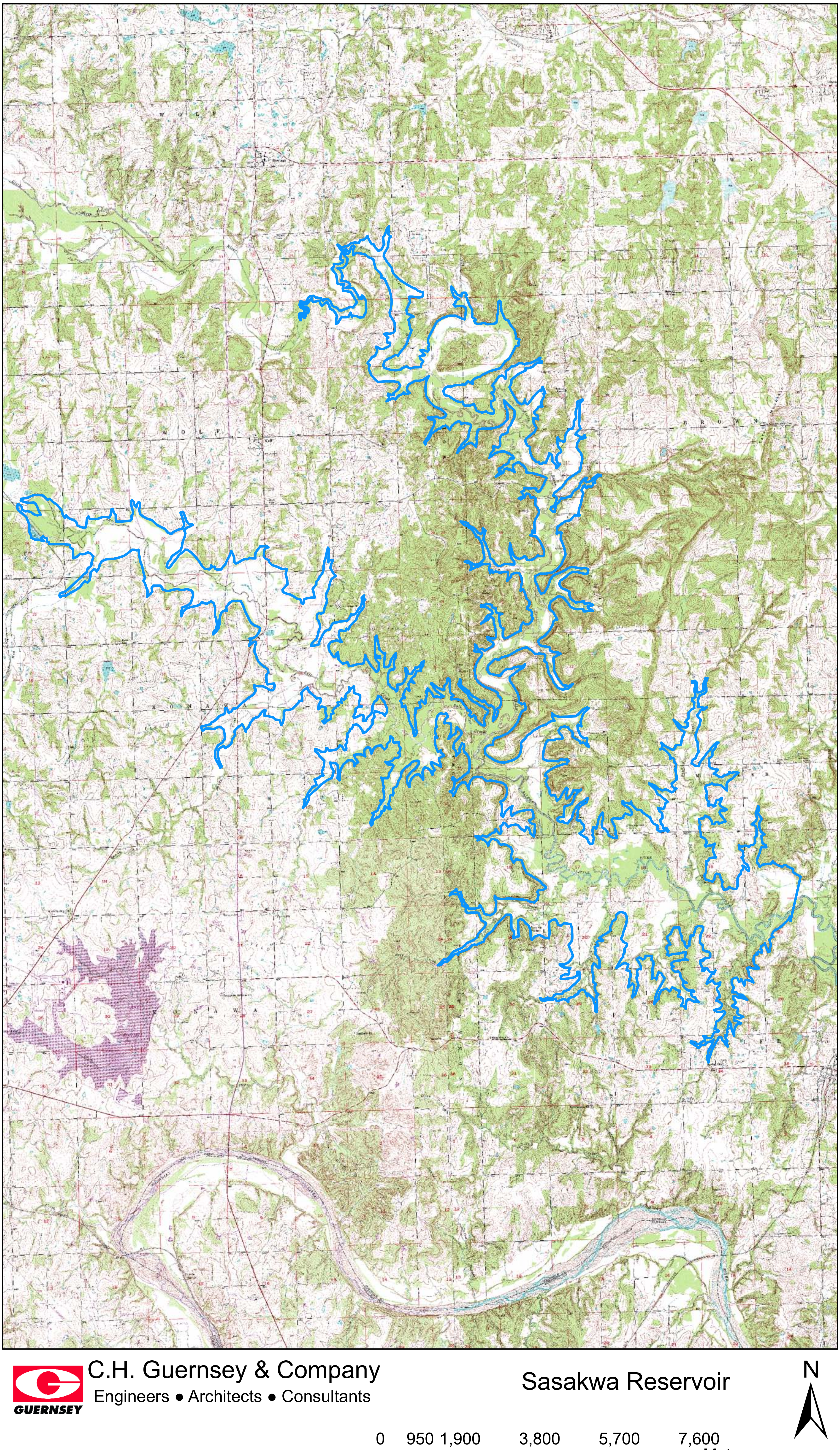
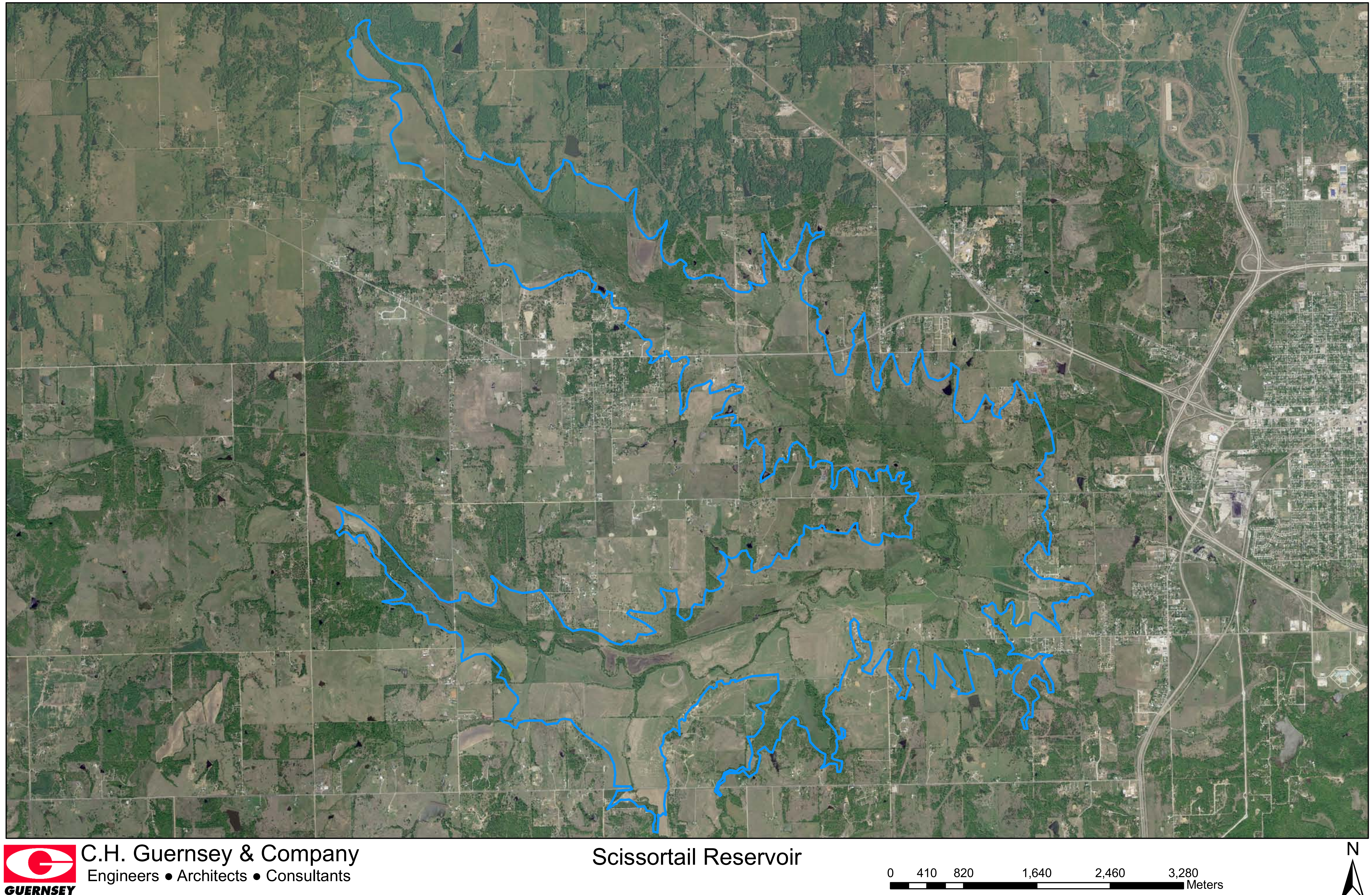
Engineers ● Architects ● Consultants
GUERNSEY
Sasakwa Reservoir
N
0 950 1,900 3,800 5,700 7,600
Meters


C.H. Guernsey & Company
Engineers ● Architects ● Consultants
GUERNSEY
Sasakwa Reservoir
N
0 950 1,900 3,800 5,700 7,600
Meters



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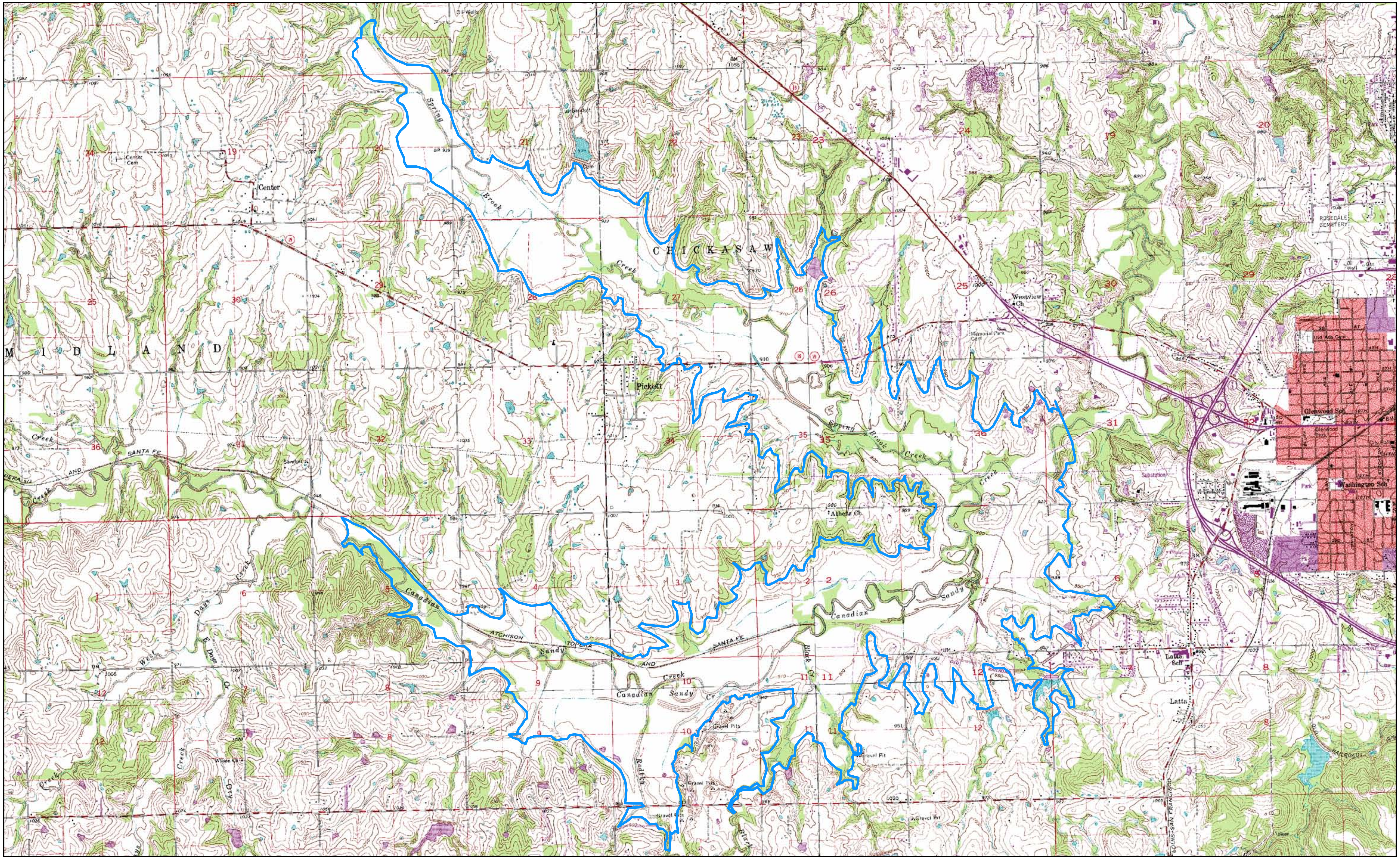
Engineers • Architects • Consultants
GUERNSEY
Scissortail Reservoir
0
410
820
1,640
2,460
3,280
Meters
N



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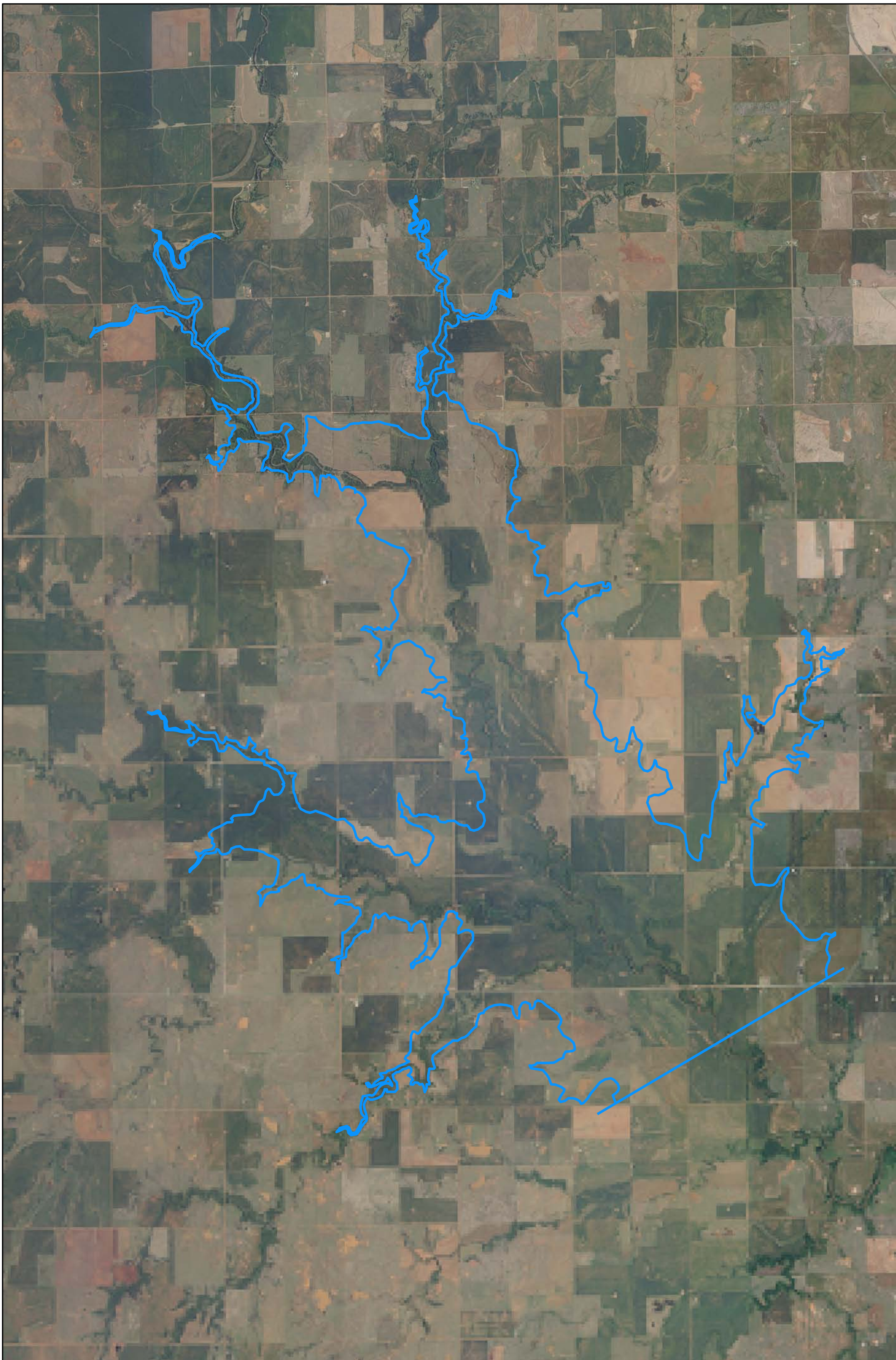
GUERNSEY

Scissortail Reservoir

0 410 820 1,640 2,460 3,280 Meters

N



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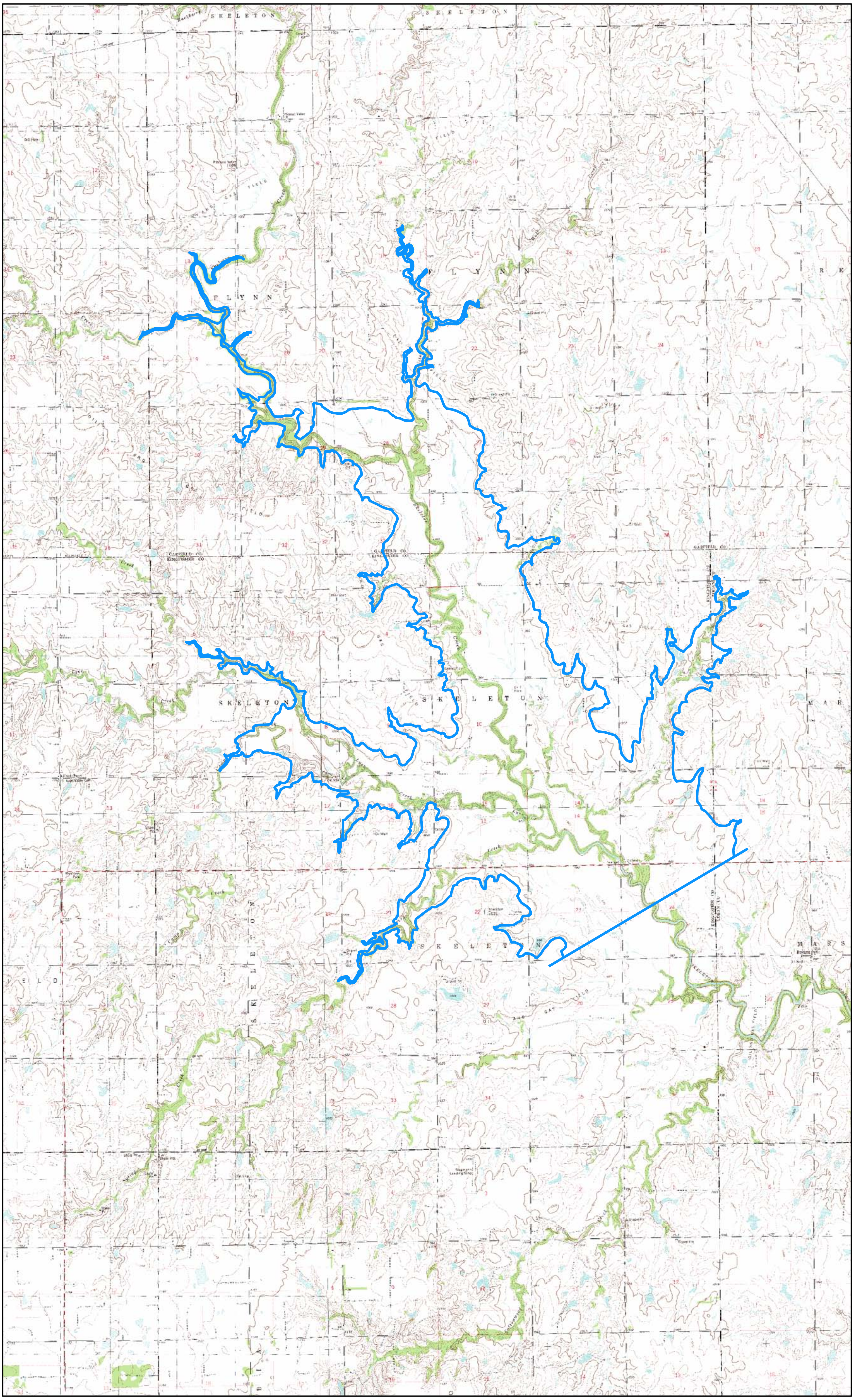
GUERNSEY

Sheridan Reservoir

N

0 800 1,600 3,200 4,800 6,400 Meters



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GUERNSEY

Sheridan Reservoir

Shidler Lake

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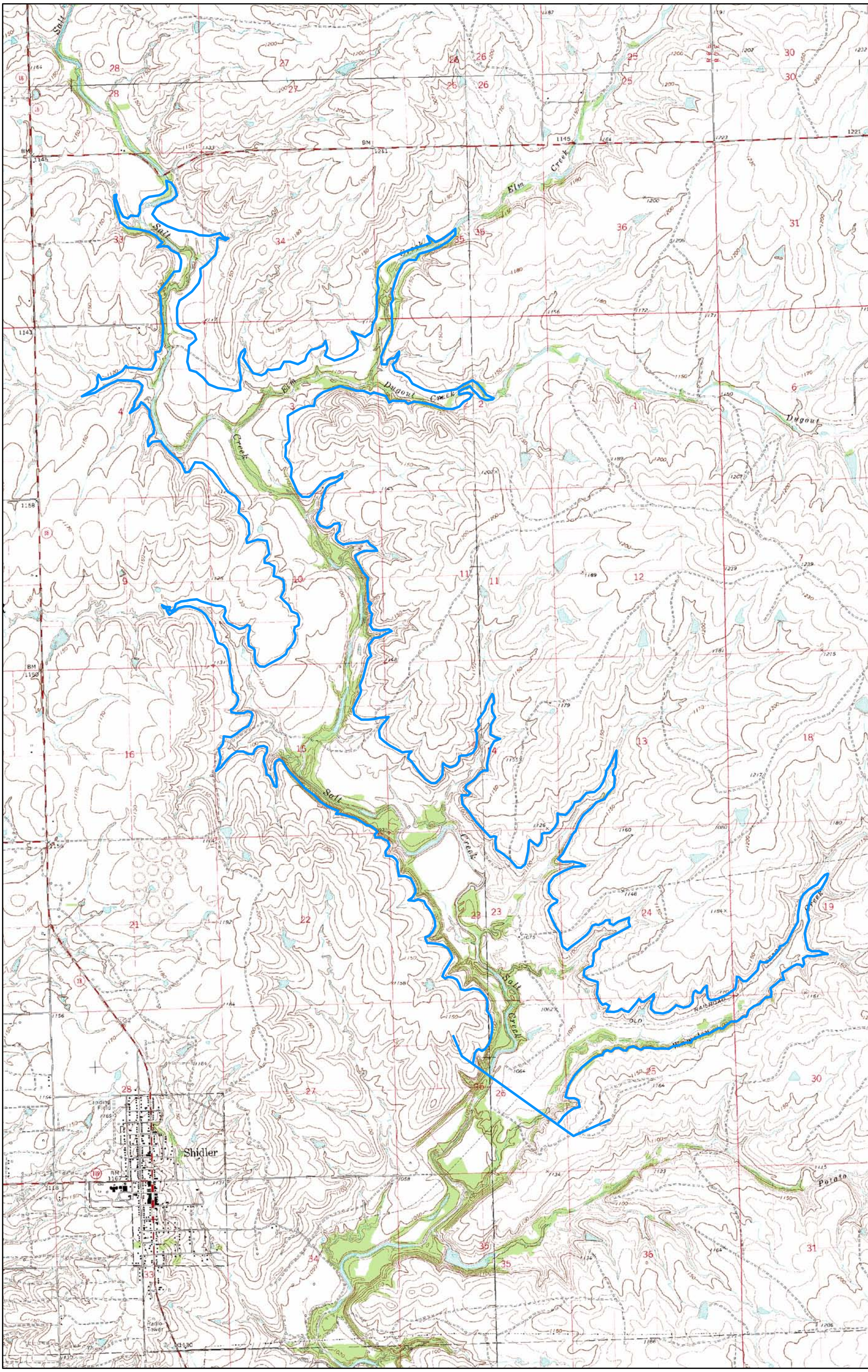

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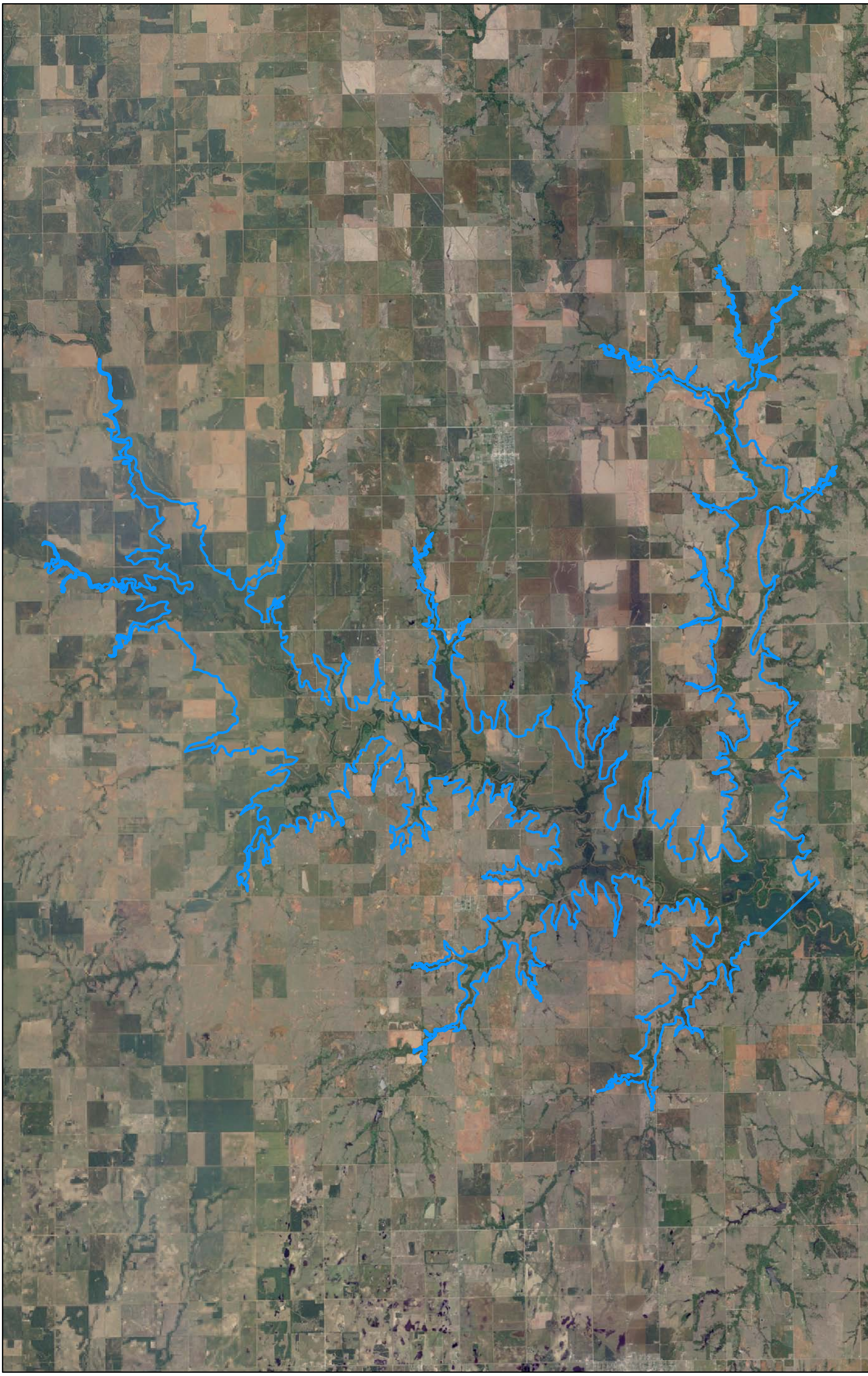
GUERNSEY

Shidler Lake

N

0 380 760 1,520 2,280 3,040 Meters



Skeleton Reservoir

C.H. Guernsey & Company
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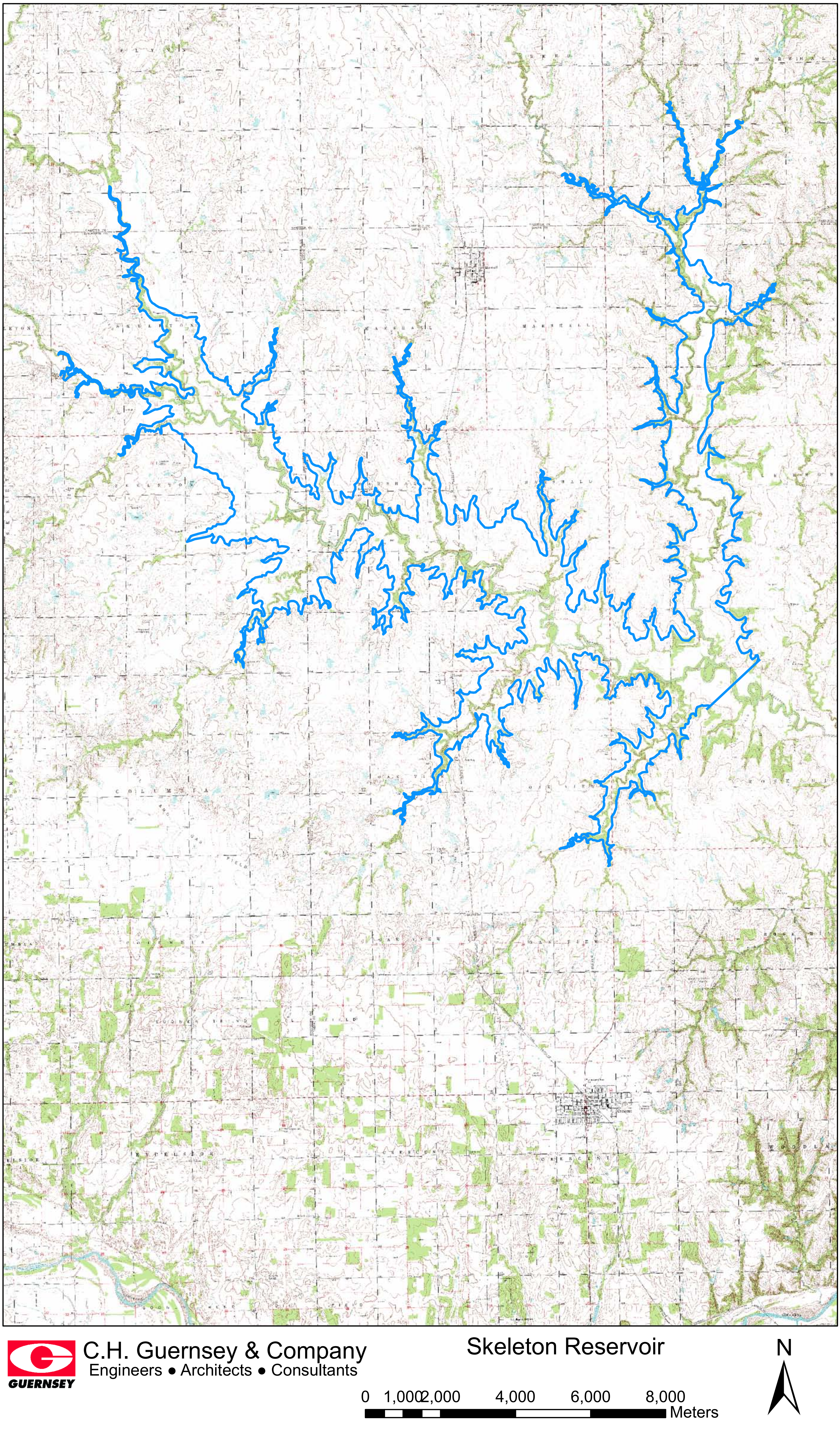

Skeleton Reservoir
C.H. Guernsey & Company
Engineers ● Architects ● Consultants
GUERNSEY
N
0
1,000
2,000
4,000
6,000
8,000
Meters

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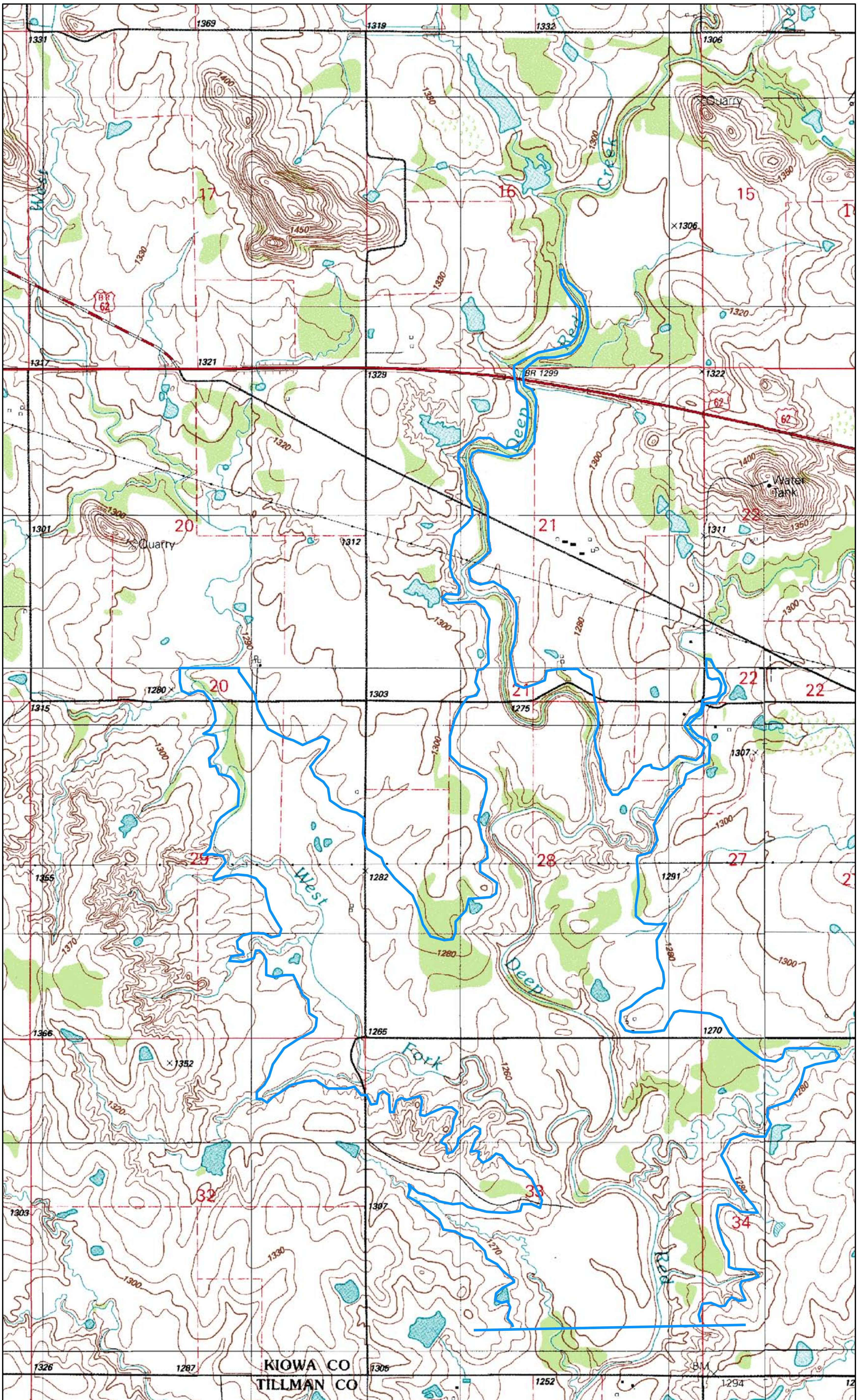
Snyder Lake



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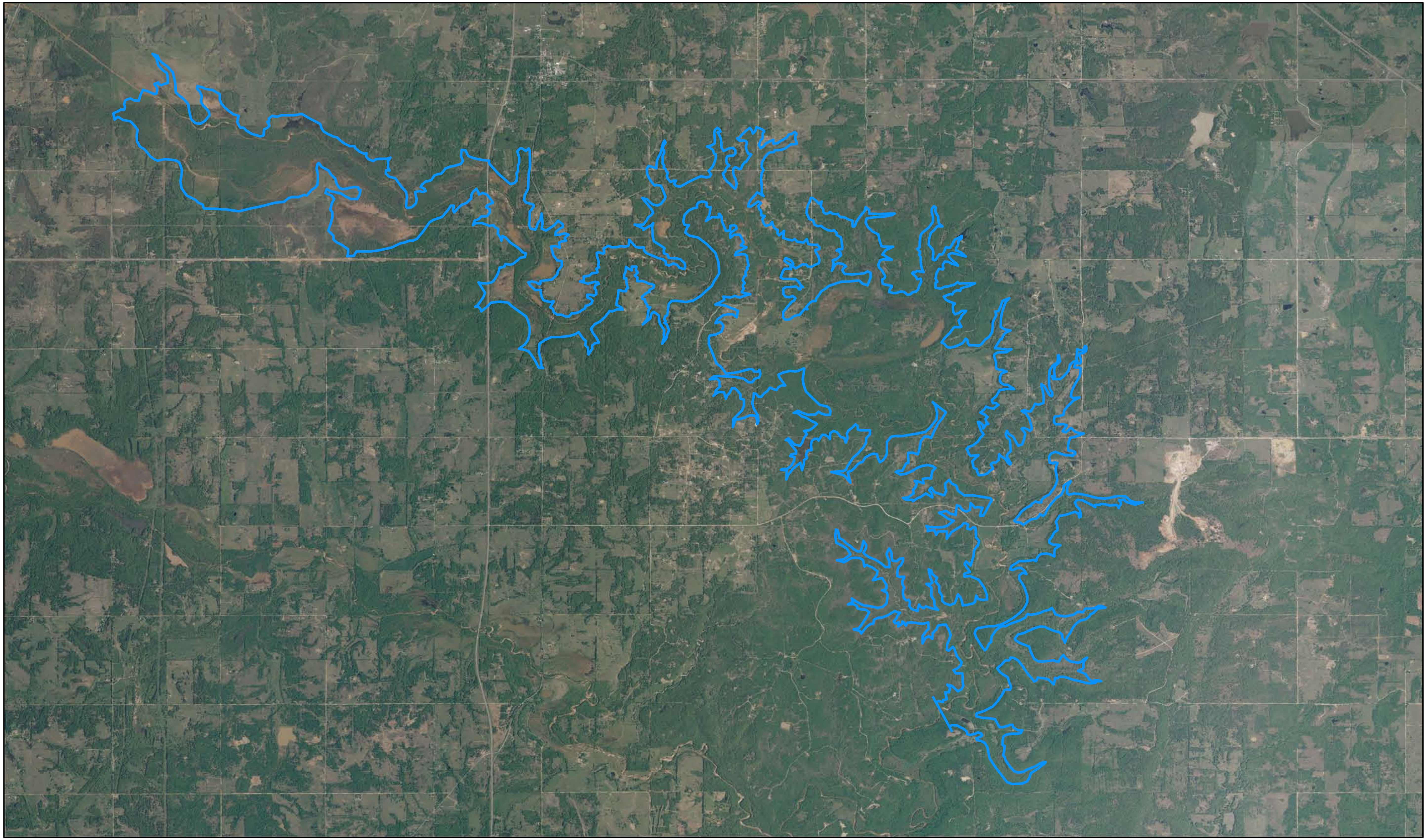
GUERNSEY

Snyder Lake

0 200 400 800 1,200 1,600 Meters

N



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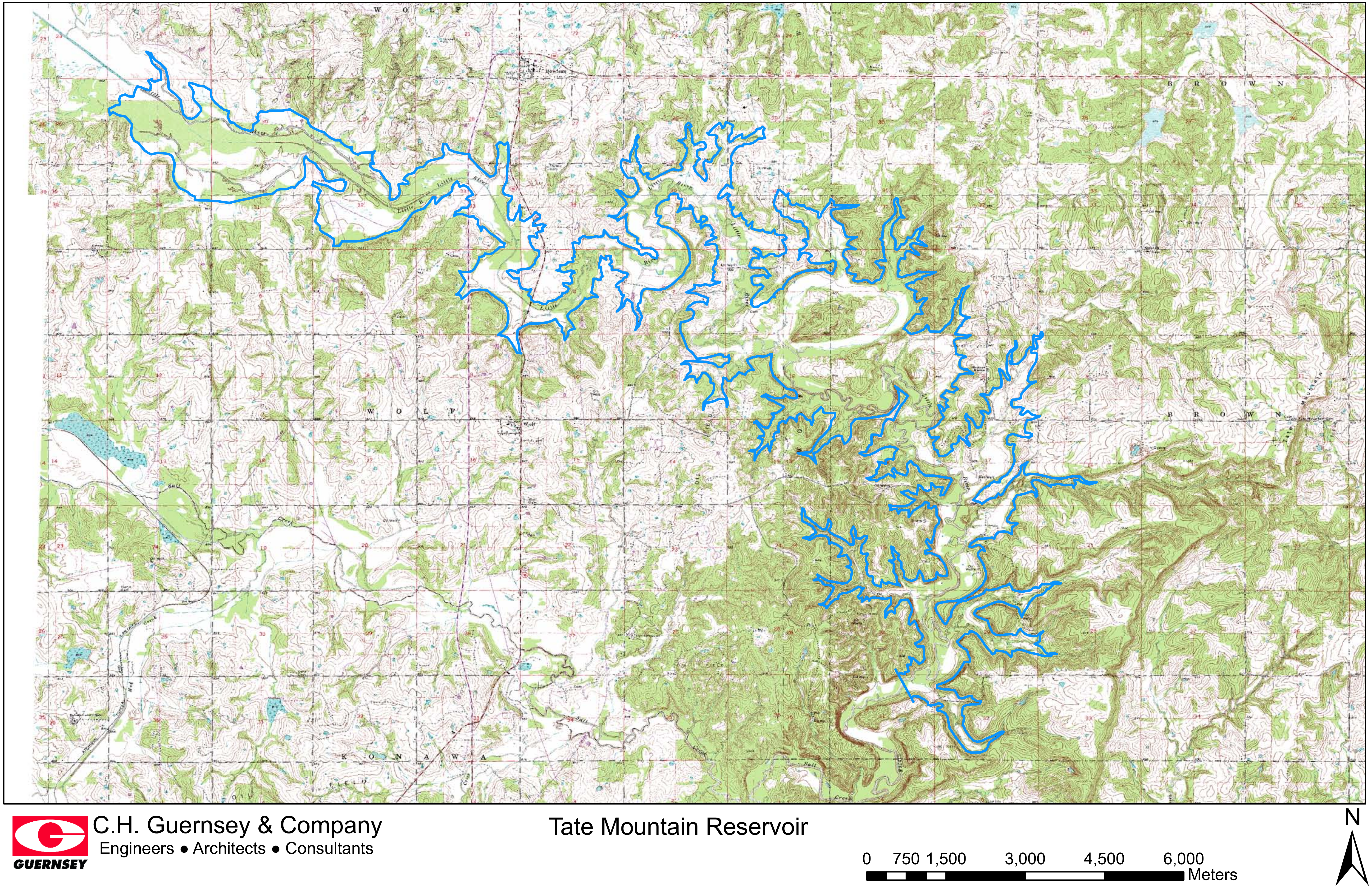
GUERNSEY

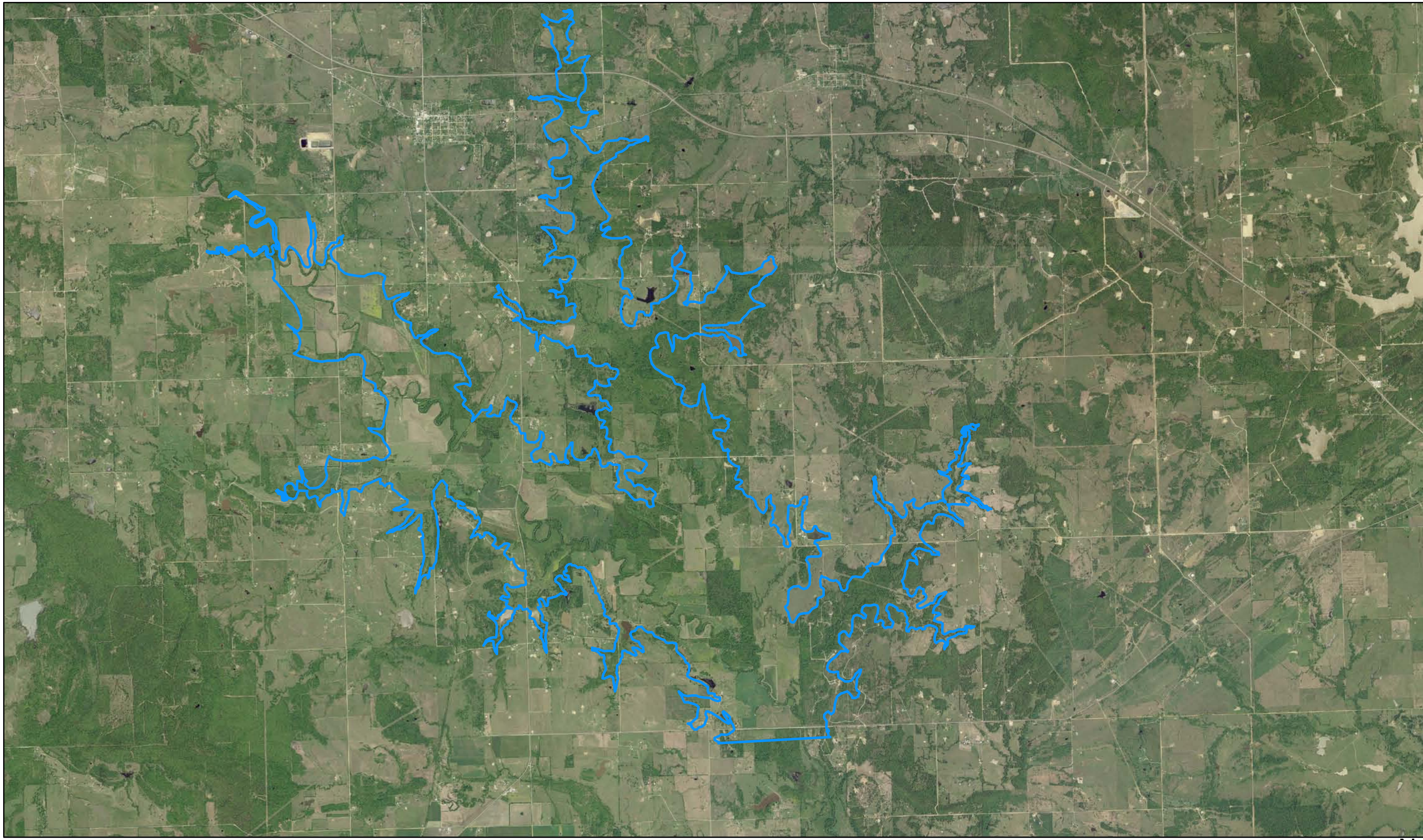
Tate Mountain Reservoir

0 750 1,500 3,000 4,500 6,000
Meters

N



C.H. Guernsey & Company
Engineers ● Architects ● Consultants
GUERNSEY
Tate Mountain Reservoir
0 750 1,500 3,000 4,500 6,000
Meters
N



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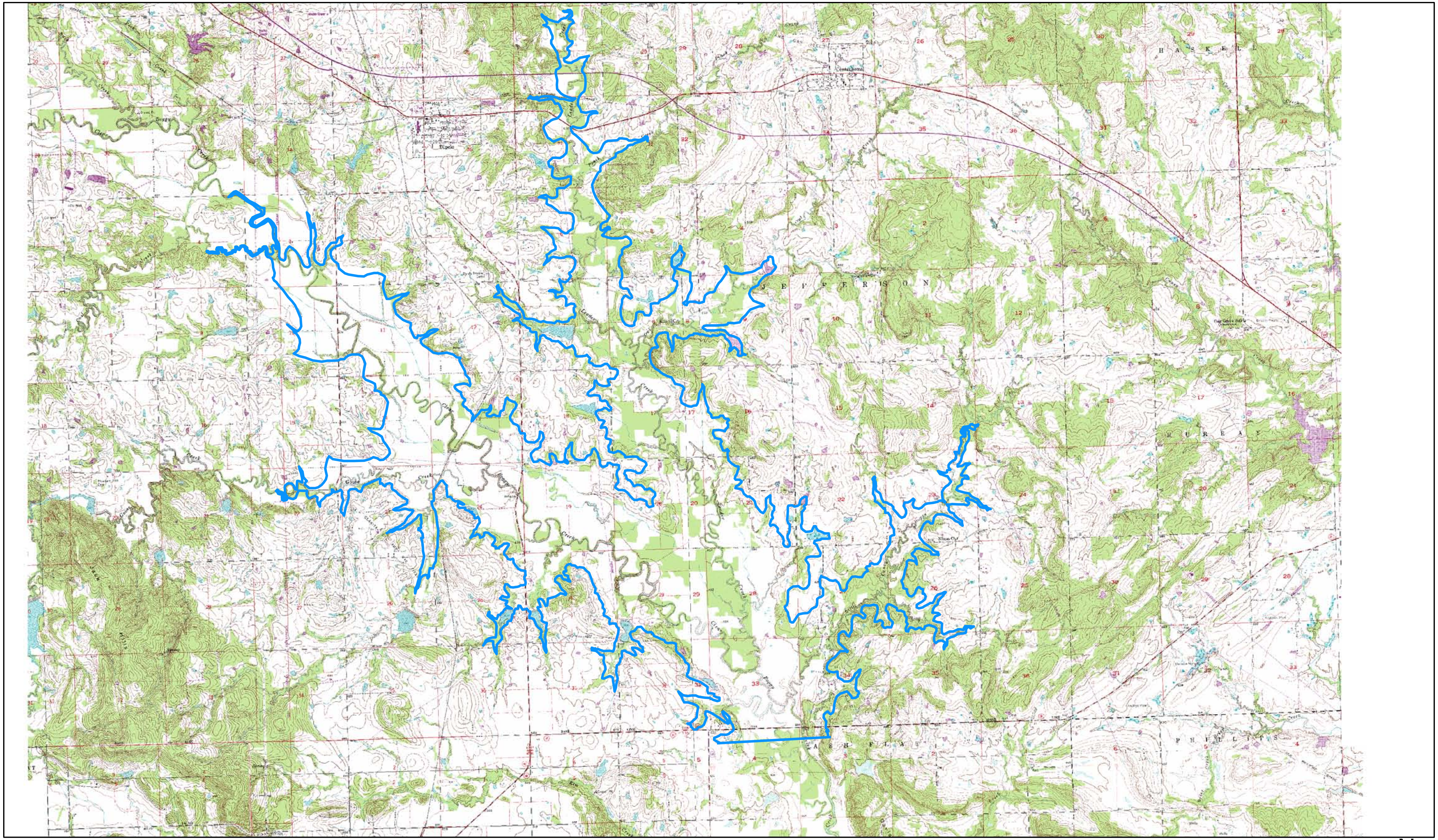
Tupelo Lake



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Tupelo Lake

0 1,150 2,300 4,600 6,900 9,200 Meters

N

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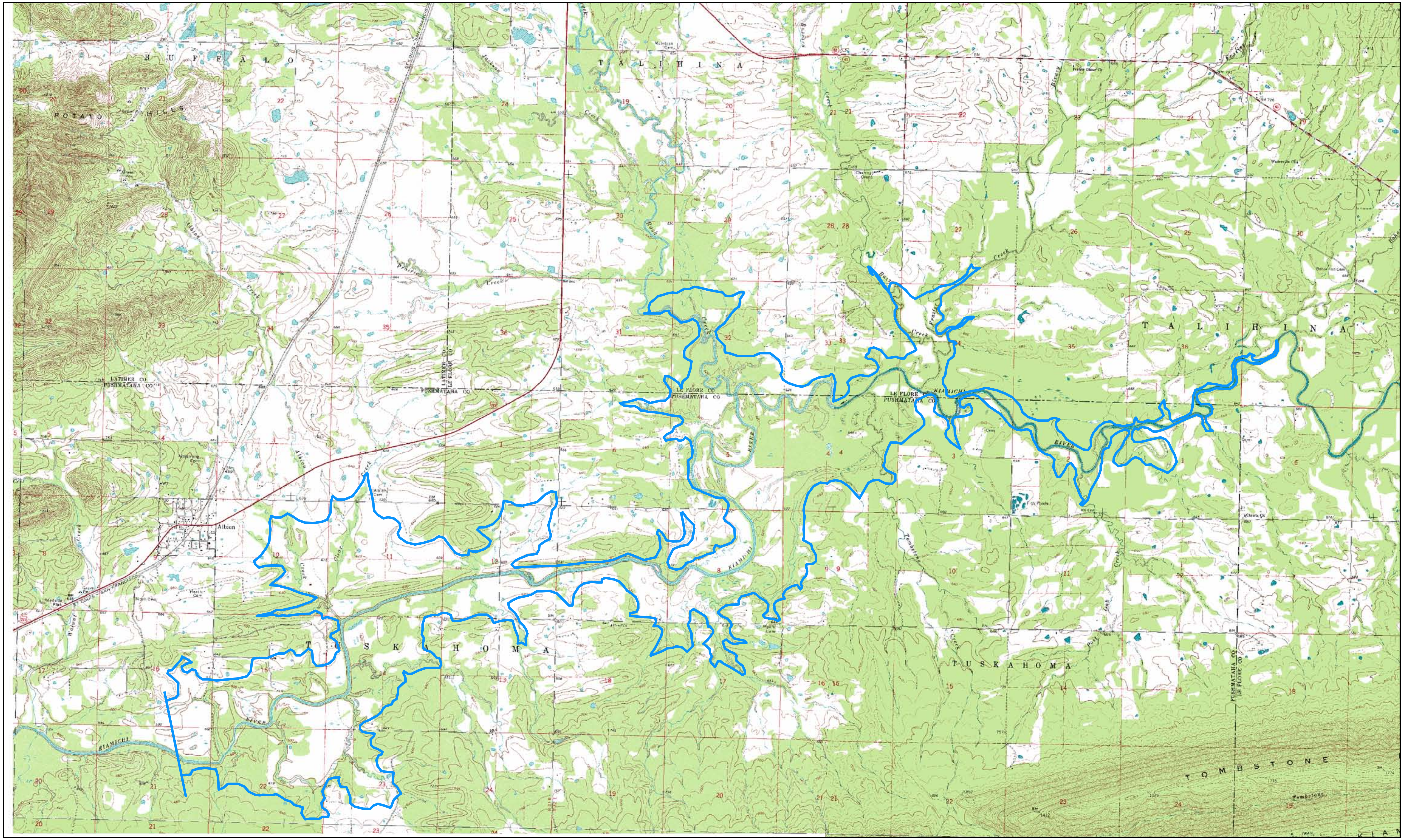
Tuskahoma Lake

0 950 1,900 3,800 5,700 7,600 Meters

N



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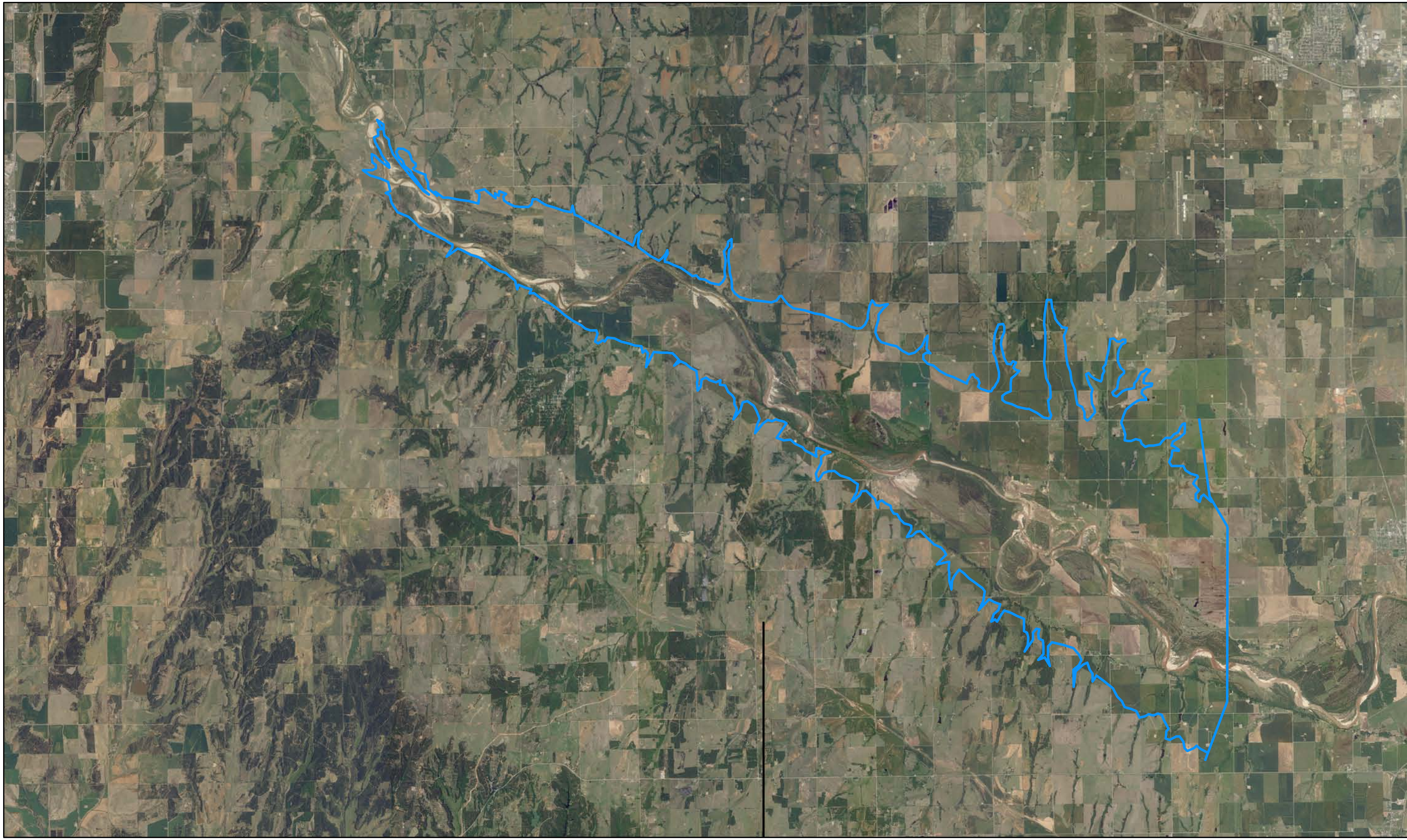
Tuskahoma Lake

0 875 1,750 3,500 5,250 7,000 Meters

N



C.H. Guernsey & Company
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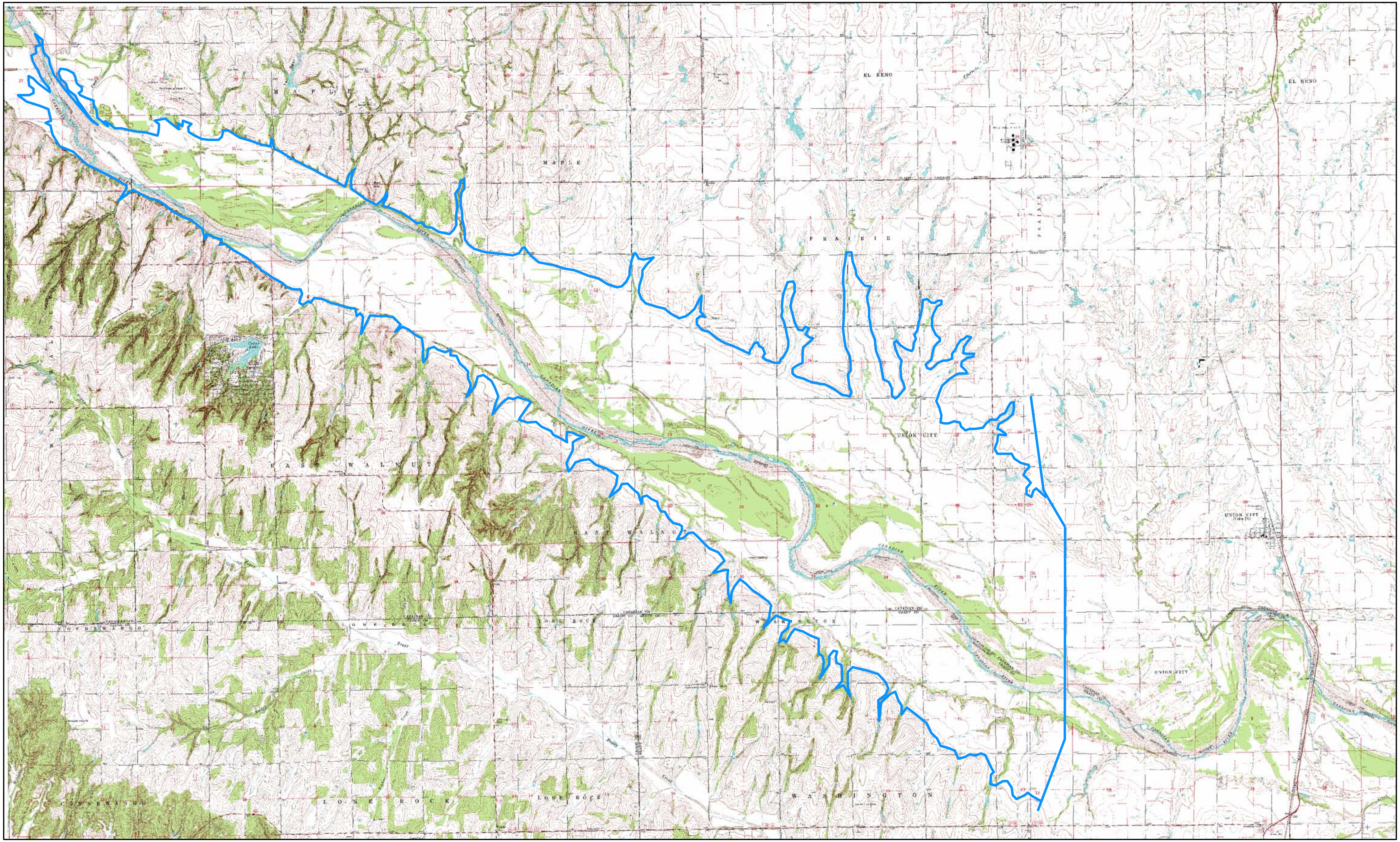
GUERNSEY

Union Reservoir

0 1,700 3,400 6,800 10,200 13,600 Meters

N



GUERNSEY

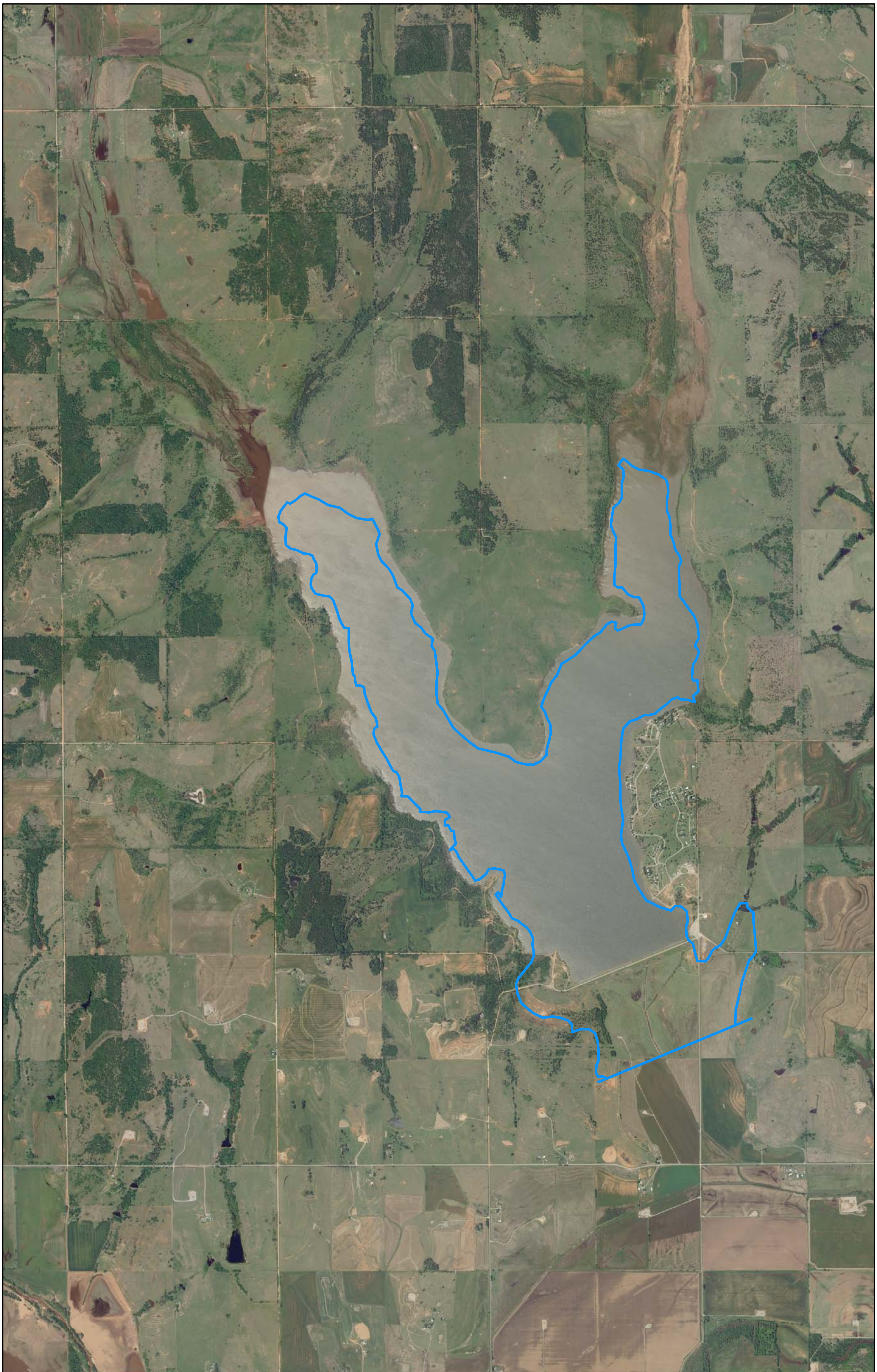
C.H. Guernsey & Company

Engineers ● Architects ● Consultants

Union Reservoir

0 1,450 2,900 5,800 8,700 11,600 Meters

N



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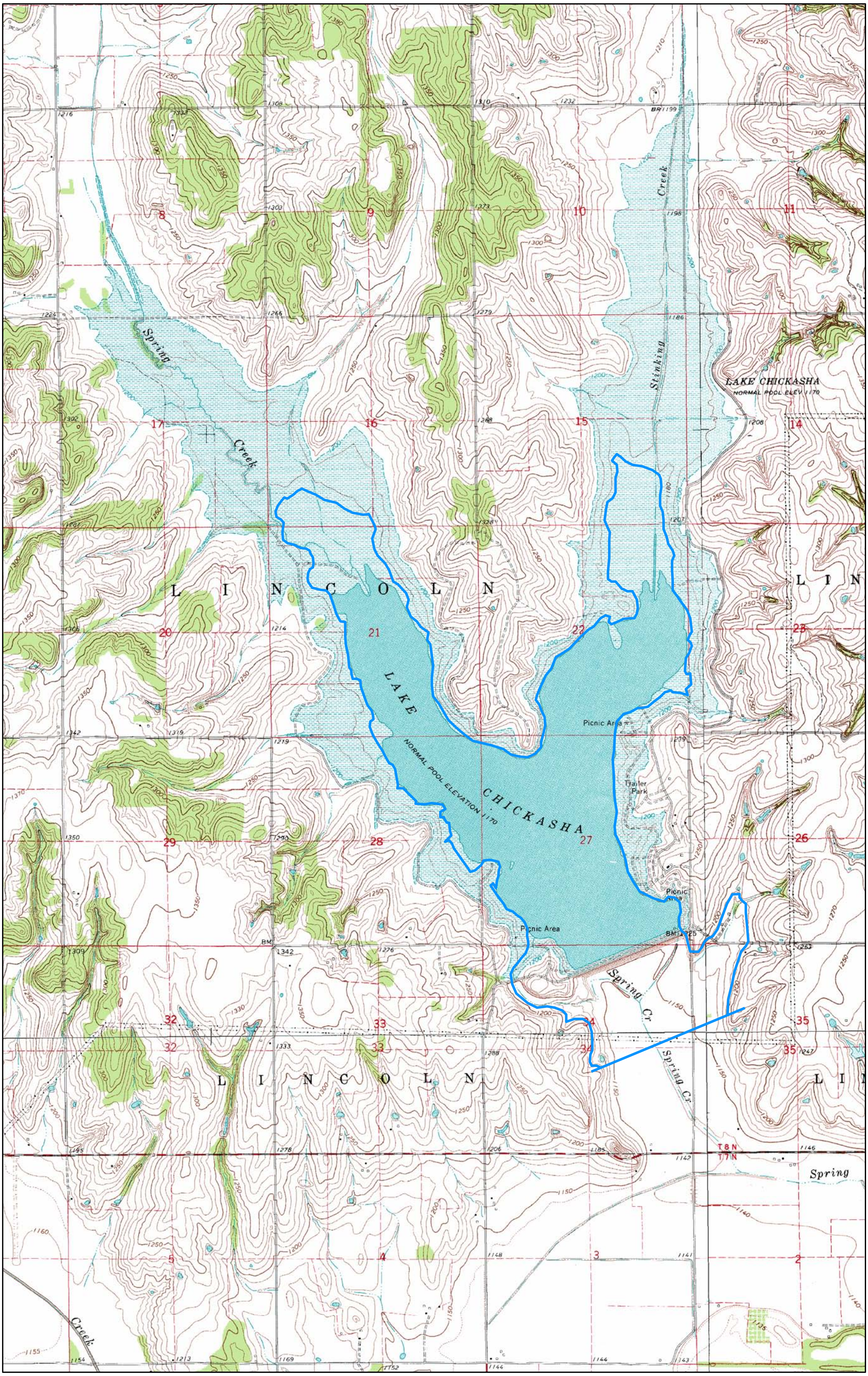
Verden Reservoir



Verden Reservoir

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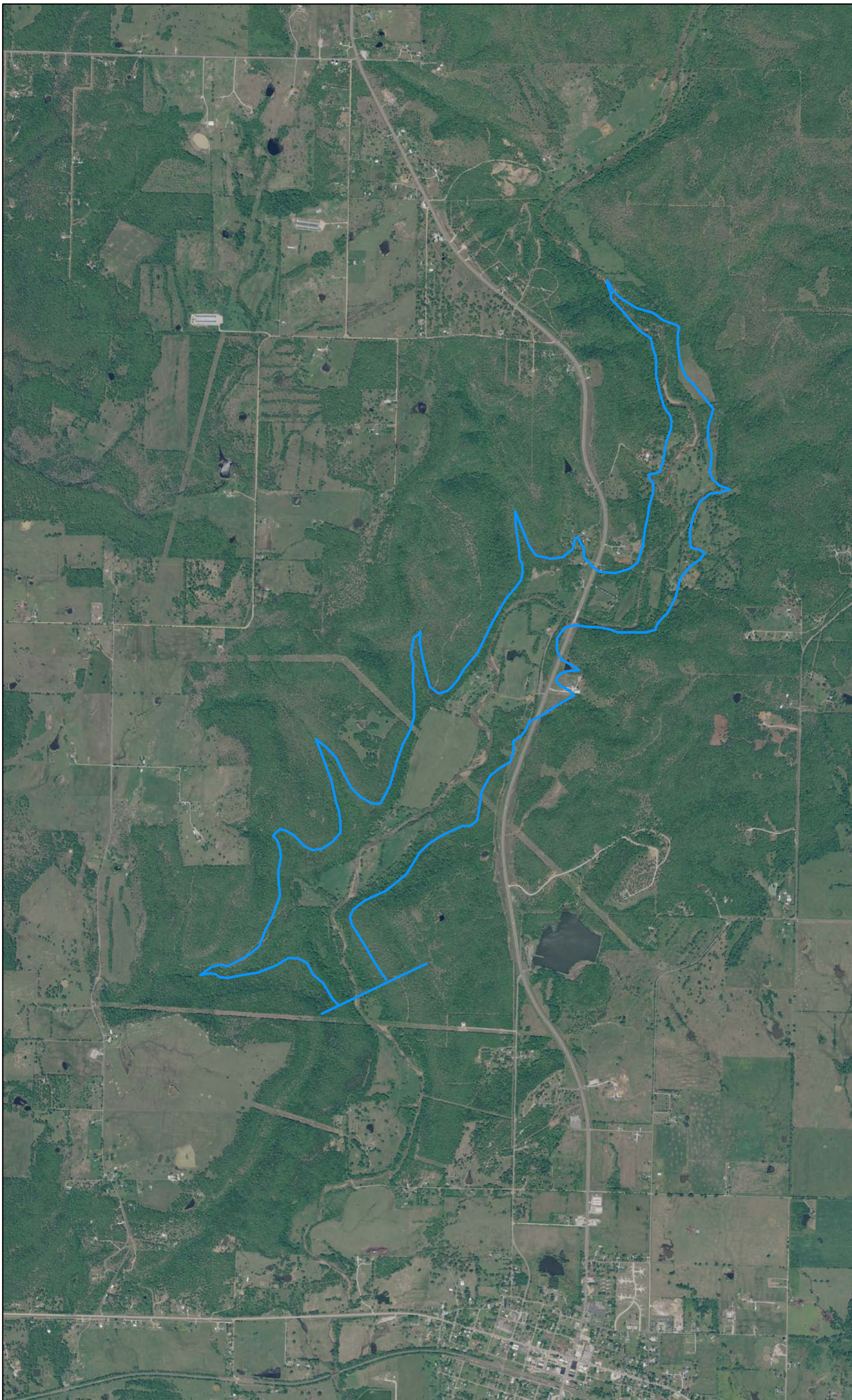

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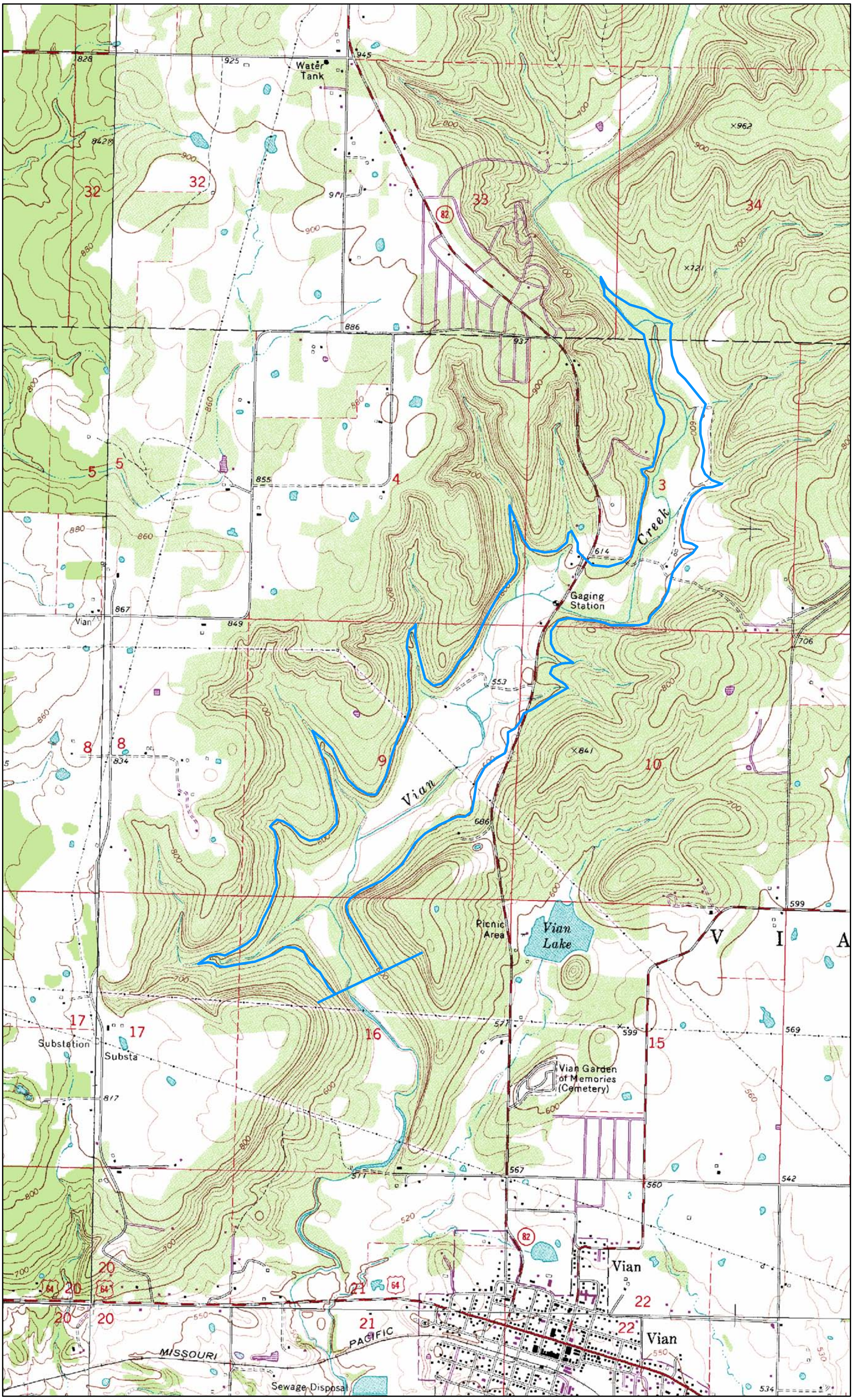
Engineers ● Architects ● Consultants

Vian Reservoir

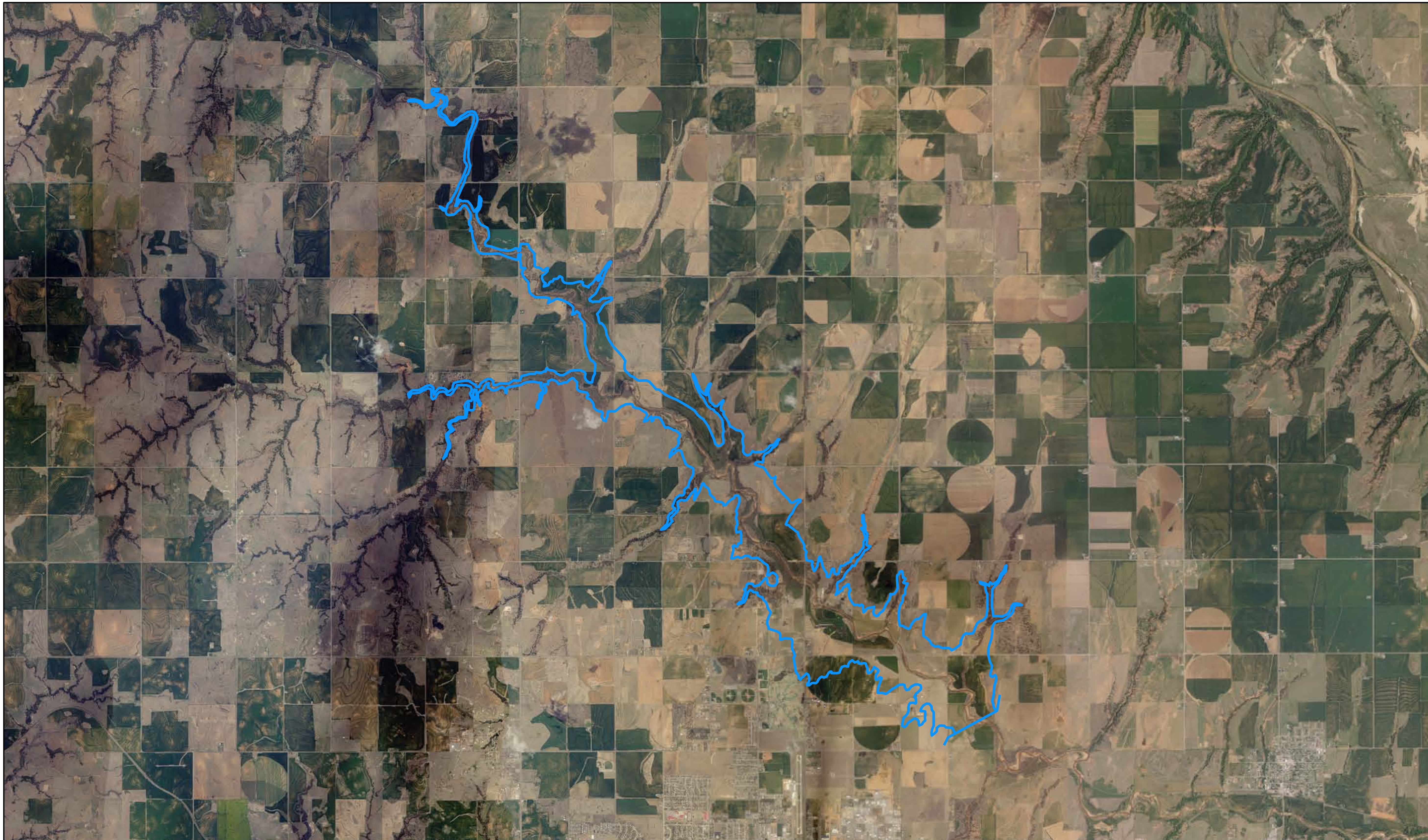


C.H. Guernsey & Company
Engineers ● Architects ● Consultants

Vian Reservoir

0 240 480 960 1,440 1,920 Meters

N



C.H. Guernsey & Company

Engineers • Architects • Consultants

Weatherford Reservoir

C.H. Guernsey & Company
Engineers ● Architects ● Consultants

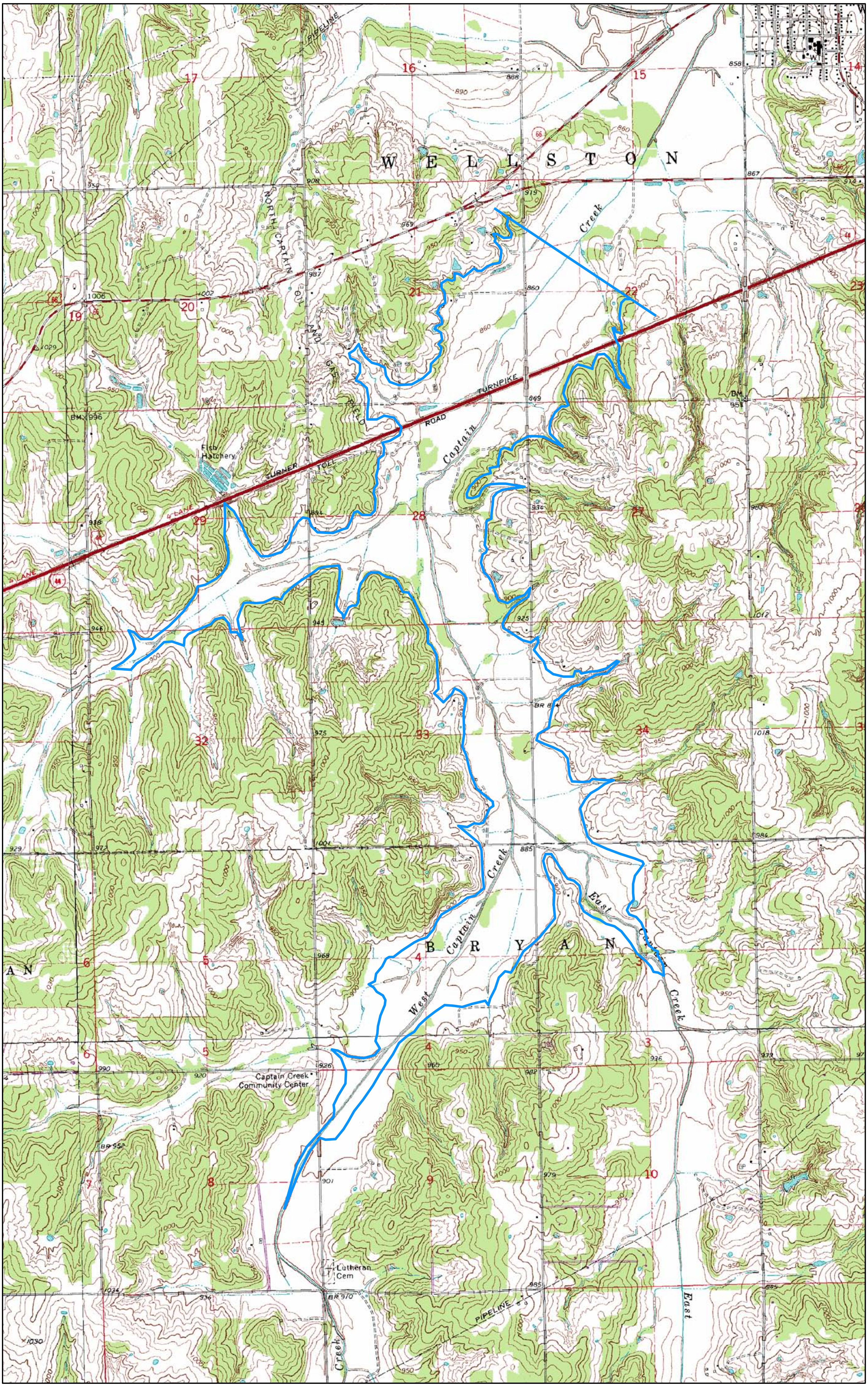
Weatherford Reservoir

N

0 1,000 2,000 4,000 6,000 8,000 Meters

C.H. Guernsey & Company
Engineers ● Architects ● Consultants

Wellston Lake



Wellston Lake

0 295 590 1,180 1,770 2,360 Meters

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GUERNSEY
C.H. Guernsey & Company
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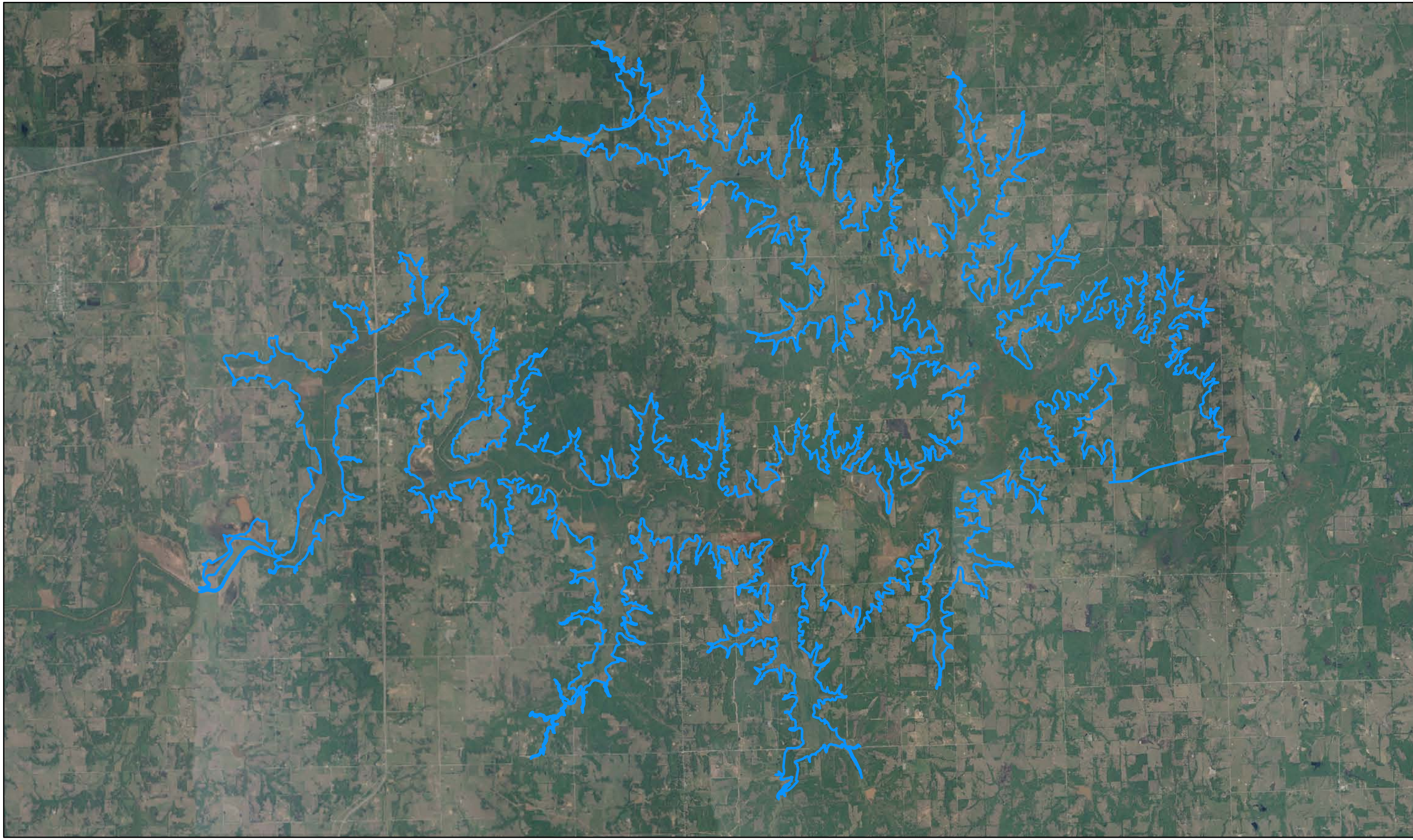

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GUERNSEY

Welty Lake

0 1,750 3,500 7,000 10,500 14,000 Meters

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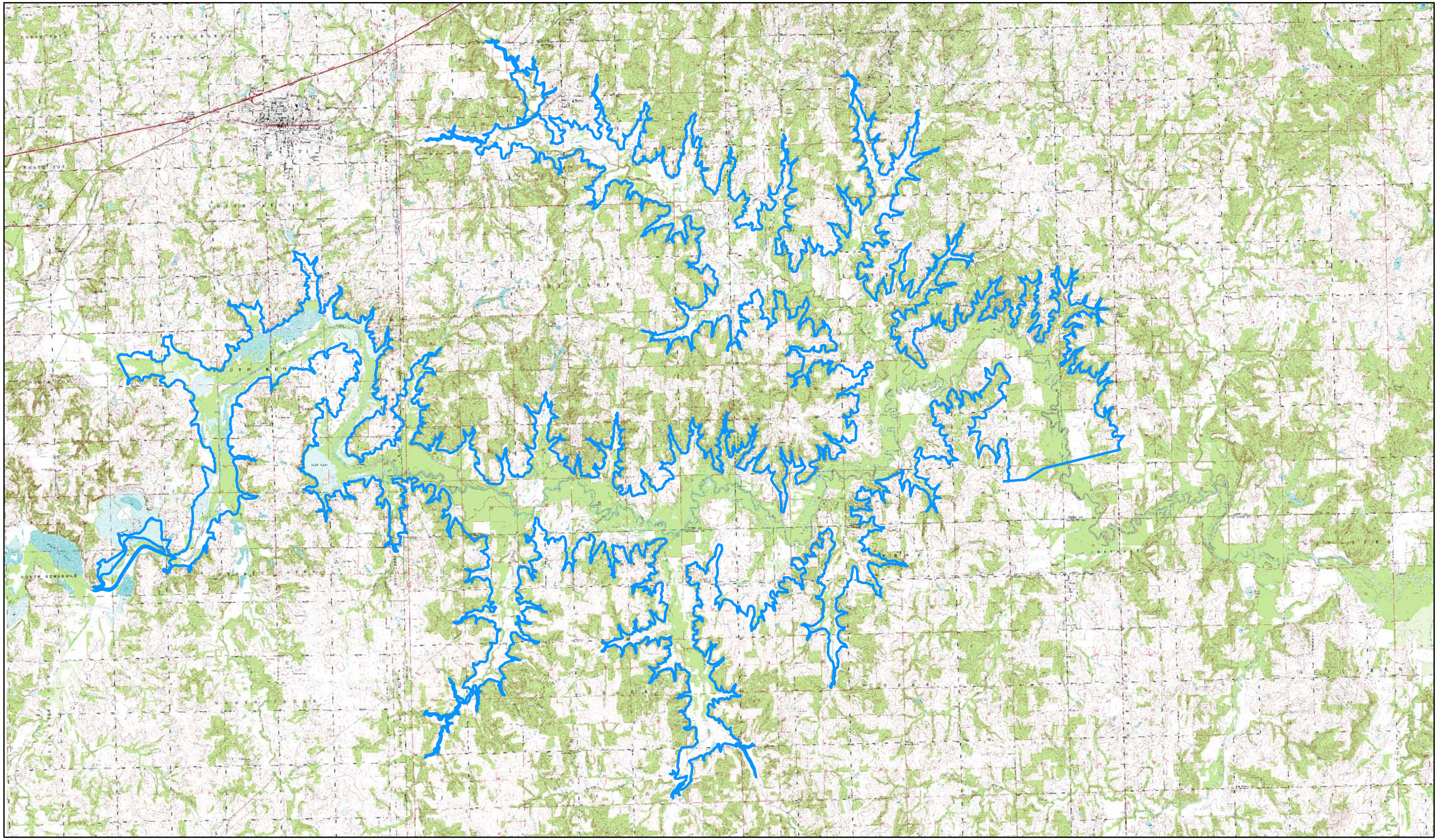

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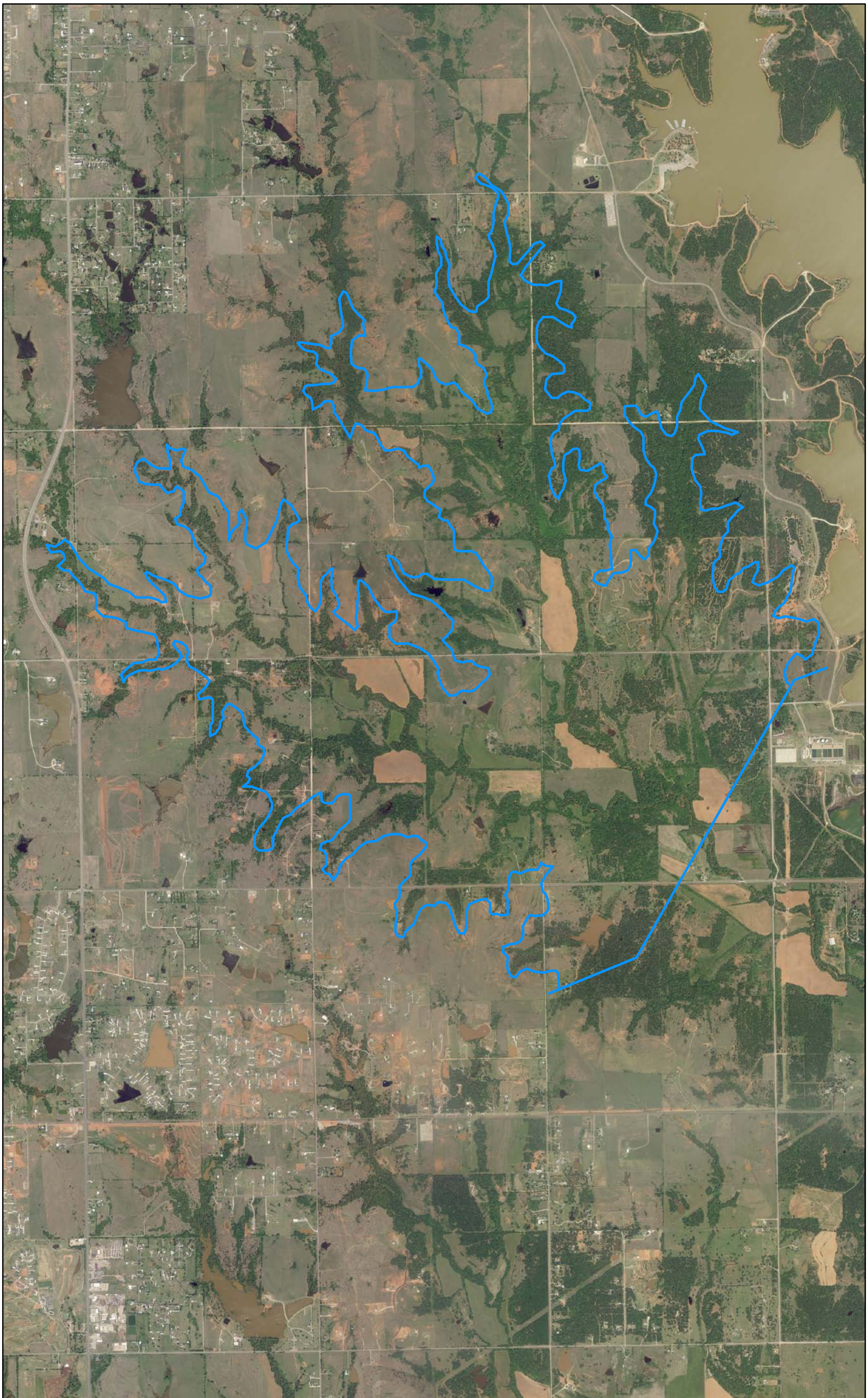
Welty Lake



C.H. Guernsey & Company

Engineers ● Architects ● Consultants

GUERNSEY

West Elm Creek Reservoir

N

0 295 590 1,180 1,770 2,360 Meters

C.H. Guernsey & Company

Engineers ● Architects ● Consultants

GUERNSEY

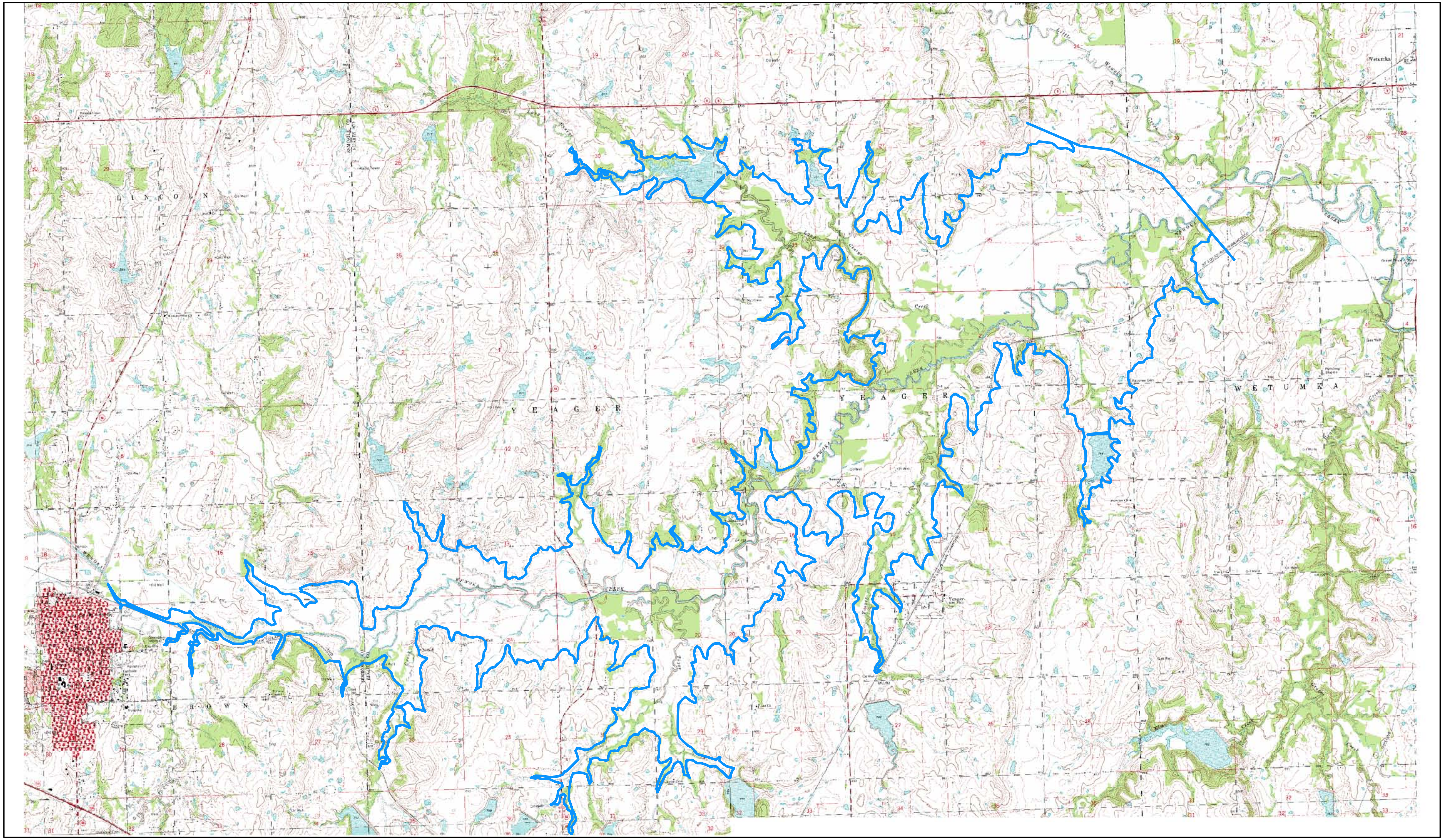
West Elm Creek Reservoir

N

0 295 590 1,180 1,770 2,360 Meters

C.H. Guernsey & Company
Engineers ● Architects ● Consultants

Wetumka Reservoir



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GUERNSEY

Wetumka Reservoir

0 700 1,400 2,800 4,200 5,600 Meters

N

APPENDIX G

T&E SPECIES BY COUNTY

U.S. FISH AND WILDLIFE SERVICE
OKLAHOMA ECOLOGICAL SERVICES FIELD OFFICE

COUNTY OCCURRENCES OF OKLAHOMA FEDERALLY-LISTED ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

January 14, 2010

COUNTY	SPECIES	CLASSIFICATION
Adair	American burying beetle [1, A]	Endangered
	gray bat	Endangered
	Indiana bat [13]	Endangered
	interior least tern [7]	Endangered
	Ozark big-eared bat	Endangered
	piping plover [10]	Threatened
	Neosho mucket mussel	Candidate
	rabbitsfoot mussel	Candidate
Alfalfa	interior least tern [6, 7]	Endangered
	whooping crane [8c, 9]	Endangered, Critical habitat designated
	piping plover [10]	Threatened
	lesser prairie-chicken [12]	Candidate, Warranted but precluded
Atoka	American burying beetle [1, B]	Endangered
	interior least tern [7]	Endangered
	whooping crane [9]	Endangered
	piping plover [10]	Threatened
Beaver	interior least tern [7]	Endangered
	whooping crane [8c, 9]	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover [10]	Threatened
	Arkansas darter	Candidate
	lesser prairie-chicken [11]	Candidate, Warranted but precluded
Beckham	interior least tern [7]	Endangered
	whooping crane [9]	Endangered
	piping plover [10]	Threatened
	lesser prairie-chicken [11]	Candidate, Warranted but precluded
Blaine	black-capped vireo [4, 5]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [8c, 9]	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover [10]	Threatened
	lesser prairie-chicken [12]	Candidate, Warranted but precluded
Bryan	American burying beetle [1, B]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [8h]	Endangered
	piping plover [10]	Threatened
Caddo	black-capped vireo [5]	Endangered

	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Canadian	black-capped vireo (5)	Endangered
	Eskimo curlew	Endangered, Possibly extinct
	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Carter	interior least tern (7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Cherokee	American burying beetle (1, B)	Endangered
	gray bat	Endangered
	interior least tern (7)	Endangered
	Ozark big-eared bat	Endangered
	piping plover (10)	Threatened
	Arkansas darter	Candidate
	Neosho mucket mussel	Candidate
	rabbitsfoot mussel	Candidate
Choctaw	American burying beetle (1, B)	Endangered
	interior least tern (6, 7)	Endangered
	scaleshell mussel	Endangered
	winged mapleleaf mussel	Endangered
	eastern prairie fringed orchid	Threatened, Likely extirpated
	piping plover (10)	Threatened
Cimarron	interior least tern (7)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (11)	Candidate, Warranted but precluded
Cleveland	black-capped vireo (4, 5)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
Coal	American burying beetle (1, B)	Endangered
	interior least tern (7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Comanche	black-capped vireo (4, 5)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Cotton	black-capped vireo (5)	Endangered

	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Craig	American burying beetle (1, B)	Endangered
	gray bat (3)	Endangered
	interior least tern (7)	Endangered
	Neosho madtom	Threatened
	piping plover (10)	Threatened
	Arkansas darter	Candidate
	Neosho mucket mussel	Candidate
Creek	American burying beetle (1, A)	Endangered
	interior least tern (6, 7)	Endangered
	piping plover (10)	Threatened
Custer	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Delaware	American burying beetle (1, A)	Endangered
	gray bat	Endangered
	Indiana bat	Endangered
	interior least tern (7)	Endangered
	Ozark big-eared bat (16)	Endangered
	Ozark cavefish	Threatened
	piping plover (10)	Threatened
	Arkansas darter	Candidate
	Neosho mucket mussel	Candidate
	rabbitsfoot mussel	Candidate
Dewey	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	Arkansas River shiner	Threatened
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Ellis	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened
	piping plover (10)	Threatened
	lesser prairie-chicken (11)	Candidate, Warranted but precluded
Garfield	interior least tern (7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Garvin	interior least tern (7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Grady	interior least tern (6, 7)	Endangered

	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Grant	interior least tern (7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Greer	interior least tern (7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Harmon	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Harper	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	Arkansas darter	Candidate
	lesser prairie-chicken (11)	Candidate, Warranted but precluded
Haskell	American burying beetle (1, B)	Endangered
	interior least tern (6, 7)	Endangered
	piping plover (10)	Threatened
Hughes	American burying beetle (1, B)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
Jackson	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Jefferson	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Johnston	American burying beetle (2, B)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Kay	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened

Kingfisher	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Kiowa	black-capped vireo (4, 5)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Latimer	American burying beetle (1, B)	Endangered
	interior least tern (7)	Endangered
	piping plover (10)	Threatened
Le Flore	American burying beetle (1, B)	Endangered
	Indiana bat	Endangered
	interior least tern (6, 7)	Endangered
	Ouachita rock pocketbook mussel	Endangered
	scaleshell mussel	Endangered
	winged mapleleaf mussel	Endangered
	leopard darter	Threatened
	piping plover (10)	Threatened
Lincoln	whooping crane (9)	Endangered
	interior least tern (7)	Endangered
	piping plover (10)	Threatened
Logan	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
Love	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
Major	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Marshall	American burying beetle (2, A)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Mayes	American burying beetle (1, A)	Endangered
	gray bat (3)	Endangered
	interior least tern (7)	Endangered
	Ozark cavefish (15)	Threatened
	piping plover (10)	Threatened
	Arkansas darter	Candidate

McClain	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
McCurtain	American burying beetle (1, B)	Endangered
	interior least tern (6, 7)	Endangered
	Ouachita rock pocketbook mussel	Endangered
	red-cockaded woodpecker	Endangered
	scaleshell mussel	Endangered
	winged mapleleaf mussel	Endangered
	American alligator	Threatened, Similarity of appearance
	leopard darter	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	rabbitsfoot mussel	Candidate
McIntosh	American burying beetle (1, B)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
Murray	interior least tern (6, 7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Muskogee	American burying beetle (1, B)	Endangered
	gray bat (3)	Endangered
	interior least tern (6, 7)	Endangered
	whooping crane (8h)	Endangered
	piping plover (10)	Threatened
Noble	interior least tern (6, 7)	Endangered
	whooping crane (8)	Endangered
	piping plover (10)	Threatened
Nowata	American burying beetle (1, B)	Endangered
	interior least tern (7)	Endangered
	piping plover (10)	Threatened
	Neosho mucket mussel	Candidate
Okfuskee	American burying beetle (1, A)	Endangered
	interior least tern (7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Oklahoma	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	piping plover (10)	Threatened
Okmulgee	American burying beetle (1, A)	Endangered
	interior least tern (7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
Osage	American burying beetle (1, B)	Endangered

	Eskimo curlew	Endangered, Possibly extinct
	interior least tern [6, 7]	Endangered
	whooping crane [8c, 9]	Endangered
	piping plover [10]	Threatened
	Neosho mucket mussel	Candidate
Ottawa	American burying beetle [1, A]	Endangered
	gray bat	Endangered
	interior least tern [7]	Endangered
	Ozark big-eared bat [17]	Endangered
	winged mapleleaf mussel	Endangered
	Neosho madtom	Threatened
	Ozark cavefish	Threatened
	piping plover [10]	Threatened
	Arkansas darter	Candidate
	Neosho mucket mussel	Candidate
Pawnee	American burying beetle [2, A]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [8c, 9]	Endangered
	piping plover [10]	Threatened
Payne	interior least tern [6, 7]	Endangered
	whooping crane [8c, 9]	Endangered
	piping plover [10]	Threatened
Pittsburg	American burying beetle [1, B]	Endangered
	interior least tern [6, 7]	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover [10]	Threatened
Pontotoc	American burying beetle [2, A]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [9]	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover [10]	Threatened
Pottawatomie	interior least tern [6, 7]	Endangered
	whooping crane [9]	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover [10]	Threatened
Pushmataha	American burying beetle [1, B]	Endangered
	Indiana bat [13]	Endangered
	interior least tern [7]	Endangered
	Ouachita rock pocketbook mussel	Endangered
	red-cockaded woodpecker	Endangered
	scaleshell mussel	Endangered
	winged mapleleaf mussel	Endangered
	leopard darter	Threatened, Critical habitat designated
	piping plover [10]	Threatened
Roger Mills	interior least tern [6, 7]	Endangered
	whooping crane [9]	Endangered
	Arkansas River shiner	Threatened
	piping plover [10]	Threatened

	lesser prairie-chicken [11]	Candidate, Warranted but precluded
Rogers	American burying beetle [1, B]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [8h]	Endangered
	piping plover [10]	Threatened
	western prairie fringed orchid	Threatened, Likely extirpated
	Arkansas darter	Candidate
	Neosho mucket mussel	Candidate
	rabbitsfoot mussel	Candidate
Seminole	American burying beetle [2, A]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [9]	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover [10]	Threatened
Sequoyah	American burying beetle [1, B]	Endangered
	gray bat [3]	Endangered
	Indiana bat [14]	Endangered
	interior least tern [6, 7]	Endangered
	Ozark big-eared bat	Endangered
	piping plover [10]	Threatened
Stephens	whooping crane [9]	Endangered
	interior least tern [7]	Endangered
	piping plover [10]	Threatened
	lesser prairie-chicken [12]	Candidate, Warranted but precluded
Texas	interior least tern [7]	Endangered
	whooping crane [8c, 9]	Endangered
	piping plover [10]	Threatened
	lesser prairie-chicken [11]	Candidate, Warranted but precluded
Tillman	black-capped vireo [5]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [8c, 9]	Endangered
	piping plover [10]	Threatened
	lesser prairie-chicken [12]	Candidate, Warranted but precluded
Tulsa	American burying beetle [1, B]	Endangered
	interior least tern [6, 7]	Endangered
	piping plover [10]	Threatened
Wagoner	American burying beetle [1, B]	Endangered
	gray bat [3]	Endangered
	interior least tern [6, 7]	Endangered
	whooping crane [8h]	Endangered
	piping plover [10]	Threatened
	Neosho mucket mussel	Candidate
Washington	American burying beetle [1, A]	Endangered
	interior least tern [7]	Endangered
	whooping crane [8h]	Endangered
	piping plover [10]	Threatened
	Neosho mucket mussel	Candidate

Washita	interior least tern (7)	Endangered
	whooping crane (9)	Endangered
	piping plover (10)	Threatened
	lesser prairie-chicken (12)	Candidate, Warranted but precluded
Woods	Eskimo curlew	Endangered, Possibly extinct
	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (11)	Candidate, Warranted but precluded
Woodward	Eskimo curlew	Endangered, Possibly extinct
	interior least tern (6, 7)	Endangered
	whooping crane (8c, 9)	Endangered
	Arkansas River shiner	Threatened, Critical habitat designated
	piping plover (10)	Threatened
	lesser prairie-chicken (11)	Candidate, Warranted but precluded

CLASSIFICATION DEFINITIONS

Endangered – A species in danger of extinction throughout all or a significant portion of its range.

Threatened – A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Proposed – A species proposed for federal listing as endangered or threatened.

Candidate – Those species for which sufficient information on biological status and threats exists to propose to list them as endangered or threatened. We encourage their consideration in environmental planning and partnerships; however, none of the substantive or procedural provisions of the Endangered Species Act apply to candidate species.

Candidate, Warranted but precluded – The petitioned listing action for a species is warranted but that (a) the immediate proposal of a regulation and final promulgation of regulation implementing the petitioned action is precluded by pending higher priority proposals, and (b) expeditious progress is being made to add qualified species to the lists of endangered or threatened species.

Similarity of appearance – A species that is listed as endangered or threatened because it closely resembles another endangered or threatened species. This species is not subject to Endangered Species Act, Section 7 consultation.

Proposed for delisting – Any species for which a proposed rule to delist the species has been published in the Federal Register.

Critical habitat designated – Administratively defined by the Endangered Species Act, as the specific areas within the geographic area occupied by a species, at the time it is listed, on which are found those physical or biological features essential to conserve the species and that may require special management considerations or protection; and specific areas outside the geographic area occupied by the species at the time it is listed upon determination that such areas are essential to conserve the species.

Likely extirpated – Based on the best available information and species experts, the species has likely been destroyed or removed completely from a particular area, region, or habitat. The species, however, may exist elsewhere.

Possibly Extinct – A species thought to no longer be in existence due to the extended time since substantiated data have been reported validating an occurrence.

FOOTNOTES

American burying beetle
[1] Historical Range – According to specimen records, the recovery plan and available life history information, this county is within the documented historical range of the American burying beetle.

[2] Non-Historical Range – This county is not within the documented historical range of the American burying beetle. However, suitable habitat is present and this county is adjacent to at least one county with current positive findings, suggesting American burying beetles are likely to be present within this county.

[A] Unconfirmed – Surveys within the last 15 years are lacking or insufficient to determine presence of the American burying beetle. However, suitable habitat is present and this county is adjacent to at least one county with current positive findings. In some instances, occurrences of American burying beetles have been reported by reputable individuals, but identification has not been verified by a Service biologist or trained entomologist.

[B] Confirmed – Surveys within the last 15 years have documented the presence of the American burying beetle within the county.

Gray bat
[3] Portions of this county provide suitable foraging habitat and are within the foraging radius of gray bats known to be using caves in adjacent counties. This area currently includes approximately the southeastern 1/8 of Craig County, the eastern 1/4 of Mayes County, the northeastern 1/4 of Muskogee County, the north-central and the northwestern 1/4 of Sequoyah County, and the southeastern 1/4 of Wagoner County, Oklahoma.

Black-capped vireo
[4] Counties with documented occurrences, including breeding activities.

[5] Counties situated within the probable migratory pathway between breeding and winter habitats, and contain sites that could provide stopover habitat during migration.

Interior least tern
[6] Counties with documented occurrences, including breeding activities.

[7] Counties situated within the probable migratory pathway between breeding and winter habitats, and contain sites that could provide stopover habitat during migration.

Whooping Crane
[8c] Counties with documented current occurrences (current defined as within the last 25 years).

[8h] Counties with documented historical occurrences (historical defined as over 25 years).

[9] Counties situated within the current probable migratory pathway between breeding and winter habitats, and contain sites that could provide stopover habitat during migration.

Piping plover
[10] Counties situated within the probable migratory pathway between breeding and winter habitats, and contain sites that could provide stopover habitat during migration.

Lesser prairie-chicken
[11] Current range as defined by the Lesser Prairie-Chicken Interstate Working Group.

[12] Historical range as defined by the Lesser Prairie-Chicken Interstate Working Group.

Indiana bat
[13] Counties with documented historical winter occurrences, and contain sites that could provide suitable active season foraging and roosting habitat and winter hibernacula.

[14] This county is not with the documented historical range, but is adjacent to counties with current and/or historical occurrences. The county also contains sites that could provide suitable active season foraging and roosting habitat and winter hibernacula.

Ozark cavefish
[15] County with documented historical occurrences, and contains caves that could provide suitable habitat.

Ozark big-eared bat
[16] County with documented historical occurrences, and contains caves that could provide suitable active season foraging and roosting habitat and winter hibernacula.

[17] This county is not within the documented historical range, but is adjacent to counties with documented historical occurrences. The county contains sites that could provide suitable active season foraging and roosting habitat and winter hibernacula.

APPENDIX H

Reservoir Costs Based on Corp Cost Indices

Corp of Engineers' Cost Indices Updated 30-Sep-2009

		% 1967 Cost	
Desc.	Year	Dam	Composite
Backward Extrapolation	1951	47.63%	47.63%
	1952	49.89%	49.89%
	1953	52.26%	52.26%
	1954	54.74%	54.74%
	1955	57.33%	57.33%
	1956	60.05%	60.05%
	1957	62.90%	62.90%
	1958	65.89%	65.89%
	1959	69.01%	69.01%
	1960	72.29%	72.29%
	1961	75.72%	75.72%
	1962	79.31%	79.31%
	1963	83.08%	83.08%
	1964	87.02%	87.02%
	1965	91.15%	91.15%
	1966	95.47%	95.47%
Historical Corp Data	1967	100.00%	100.00%
	1968	104.99%	104.98%
	1969	112.21%	112.09%
	1970	121.16%	119.92%
	1971	132.02%	132.17%
	1972	142.58%	142.49%
	1973	149.41%	149.16%
	1974	165.26%	166.25%
	1975	186.45%	189.80%
	1976	203.20%	203.43%
	1977	214.55%	215.68%
	1978	234.29%	234.58%
	1979	254.47%	255.68%
	1980	277.12%	280.71%
	1981	302.42%	308.09%
	1982	323.67%	329.87%
	1983	334.76%	340.21%
	1984	344.25%	349.63%
	1985	350.47%	354.31%
	1986	352.94%	356.24%
	1987	358.99%	361.43%
	1988	371.82%	374.45%

		% 1967 Cost	
Desc.	Year	Dam	Composite
Historical Corp Data	1989	385.00%	388.68%
	1990	393.91%	398.34%
	1991	402.98%	406.78%
	1992	410.31%	415.22%
	1993	422.71%	427.83%
	1994	435.37%	439.45%
	1995	450.08%	452.31%
	1996	460.21%	462.16%
	1997	470.29%	472.17%
	1998	479.06%	478.10%
	1999	488.39%	486.21%
	2000	496.78%	497.07%
	2001	503.96%	503.52%
	2002	518.66%	517.46%
	2003	529.45%	529.95%
	2004	566.66%	571.29%
	2005	602.14%	608.36%
	2006	635.50%	641.91%
	2007	667.25%	673.52%
	2008	703.25%	716.54%
	2009	700.74%	701.41%
Corp Projections	2010	705.21%	706.49%
	2011	715.08%	716.38%
	2012	727.24%	728.56%
	2013	740.33%	741.57%
	2014	753.65%	755.02%
	2015	767.22%	768.61%
	2016	781.03%	782.45%
	2017	795.09%	796.53%
	2018	809.40%	810.87%
	2019	823.97%	825.47%
	2020	838.80%	840.33%
	2021	853.90%	855.45%
	2022	869.27%	870.85%
	2023	884.92%	886.52%
	2024	900.84%	902.48%
	2025	917.06%	918.73%
Avg. Annual Increase		4.74%	4.75%

Scaled Estimated Costs Based on Previous Estimates and Corp Cost Indices (Updated 30-Sep-2009)

Reservoir Name	Original Cost Estimate	Estimate Year	2013 Cost Estimate
Albany Lake	$27,100,000	1978	$85,670,000
Alva Reservoir also known as the Alva Project	$207,000,000	1985	$433,251,000
Asher Lake	$198,019,000	1988	$392,162,000
Atlee Lake	$40,304,000	1986	$83,899,000
Atwood Reservoir	$133,732,000	1988	$264,846,000
Bennington Reservoir also known as Durant Reservoir	$91,097,000	1986	$189,633,000
Big Creek Lake	No Previous Estimate Available		
Boise City Reservoir	$82,540,000	1978	$260,931,000
Boley Reservoir	$46,912,000	1988	$92,906,000
Boswell Lake (Alternative D)	$130,000,000	1987	$266,730,000
Boynton Lake	No Previous Estimate Available		
Brazil Lake	$76,460,000	1982	$171,887,000
Buck Creek Lake	$36,700,000	1974	$163,703,000
Burneyville Reservoir	$81,903,000	1986	$170,494,000
Byng Lake	$266,774,000	1988	$528,326,000
Caddo Creek Reservoir	$82,878,000	1986	$172,524,000
Candy Lake	$17,700,000	1974	$78,952,000
Caney Mountain Lake	$30,900,000	1974	$137,832,000
Centerpoint Lake	$4,740,000	1988	$9,387,000
Cestos Reservoir	$18,320,000	1978	$57,914,000
Chelsea Reservoir	$80,400,000	1985	$168,277,000
Chickasaw Lake	$31,092,000	1986	$64,723,000
Chickasha Reservoir	$7,855,000	1951	$122,297,000
Cookietown Reservoir also known as the Cache Creek Project	$99,000,000	1978	$312,965,000
Courtney Reservoir, also known as the Criner Hills Project	$83,438,000	1986	$173,689,000
Cox City Lake	$38,215,000	1986	$79,551,000
Crescent Reservoir	No Previous Estimate Available		
Davenport Reservoir	$63,372,000	1988	$125,503,000
Davis Lake	$27,083,000	1986	$56,378,000
Durwood Reservoir	$83,920,000	1986	$174,693,000

Scaled Estimated Costs Based on Previous Estimates and Corp Cost Indices (Updated 30-Sep-2009)

Reservoir Name	Original Cost Estimate	Estimate Year	2013 Cost Estimate
Eldon Lake	No Previous Estimate Available		
Englewood Reservoir	$216,600,000	1985	$453,343,000
Fallis Lake	$50,747,000	1988	$100,501,000
Finley Lake	$30,266,000	1974	$135,004,000
Forgan Reservoir	$127,300,000	1990	$236,988,000
Gainsville Reservoir	$53,805,000	1986	$112,004,000
Geronimo Reservoir	No Previous Estimate Available		
Goodwell Reservoir	$103,390,000	1978	$326,843,000
Gracemont Reservoir	$16,970,000	1973	$84,369,000
Greasy Reservoir	$64,900,000	1985	$135,836,000
Greer Reservoir	No Previous Estimate Available		
Hackett Lake	$15,200,000	1960	$155,927,000
Headrick Lake also known as Navajo Reservoir	No Previous Estimate Available		
Hennepin Reservoir, also known as Criner Hills Project	$98,408,000	1987	$201,910,000
Hennessey Reservoir	$146,900,000	1985	$307,461,000
Higgins Reservoir also known as the Wilburton Project	$19,920,000	1974	$88,855,000
Holson Creek Reservoir (Option B, Plan 12)	$71,427,930	1998	$110,790,000
Hunewell Reservoir	$69,210,000	1978	$218,791,000
Hydro Reservoir also known as the Geary Project and Minco Project	$373,600,000	1985	$781,944,000
Iron Mound Reservoir also known as the Seward Project	No Previous Estimate Available		
Kechi Reservoir	$41,775,000	1981	$100,552,000
Kellond Lake	$32,000,000	1974	$142,738,000
Kendrick Lake	$31,660,000	1988	$62,700,000
Lebos Lake	No Previous Estimate Available		
Lela Reservoir also referred to as the Watchorn Project or Pawnee Reservoir	$70,360,000	1978	$222,427,000
Little River Reservoir	$76,115,000	1988	$150,740,000
Lukfata Lake	$30,000,000	1976	$109,360,000
Mangum Reservoir (Lower Mangum Damsite)	No Previous Estimate Available		
Mangum Reservoir also known as the Upper Mangum Site	$38,680,000	1973	$192,303,000
Morse Lake	$68,293,000	1988	$135,249,000

Scaled Estimated Costs Based on Previous Estimates and Corp Cost Indices (Updated 30-Sep-2009)

Reservoir Name	Original Cost Estimate	Estimate Year	2013 Cost Estimate
Mountain View Reservoir	$34,240,000	1973	$170,229,000
Navina Reservoir also known as the Seward Project, also termed the Lower Navina Site	$286,800,000	1985	$600,272,000
Non Lake	$56,061,000	1988	$111,025,000
Nuyaka Reservoir	$407,800,000	1985	$853,524,000
Oakwood Reservoir	$282,465,000	1980	$746,206,000
Otoe Lake	$123,100,000	1978	$389,152,000
Paden Lake	$12,325,000	1988	$24,409,000
Parker Lake	$53,111,000	1987	$108,971,000
Pawnee Reservoir	$164,700,000	1985	$344,717,000
Peaceable Reservoir	No Previous Estimate Available		
Pecan Creek Reservoir	$10,777,000	1988	$21,343,000
Peggs Lake	No Previous Estimate Available		
Perkins Lake	$408,155,000	1991	$744,077,000
Port Lake	$23,660,000	1973	$117,629,000
Purcell Reservior also named Muncrief Dam (alternative to the Dibble site)	$5,800,000	1972	$30,185,000
Dibble Reservoir	$109,700,000	1985	$229,602,000
Purdy Reservoir	$83,438,000	1986	$173,689,000
Quapaw Lake also known as Meeker Reservoir	$24,842,000	1988	$49,198,000
Rainy Mountain Creek Reservoir	$23,900,000	1973	$118,822,000
Ravia Reservoir	$80,772,000	1989	$154,106,000
Salina Reservoir	No Previous Estimate Available		
Sand Reservoir	$31,600,000	1985	$66,139,000
Sandy Creek Reservoir	$32,459,000	1986	$67,569,000
Sasakwa Reservoir	$179,600,000	1985	$375,902,000
Scissortail Reservoir also known as the Ada site	$187,000,000	2009	$197,707,000
Seward Reservoir also known as the Seward Project	$42,200,000	1974	$188,236,000
Sheridan Reservoir	$174,300,000	1985	$364,809,000
Shidler Lake	$10,900,000	1971	$61,157,000
Sid Lake	No Previous Estimate Available		
Skeleton Reservoir	$144,400,000	1985	$302,229,000

Scaled Estimated Costs Based on Previous Estimates and Corp Cost Indices (Updated 30-Sep-2009)

Reservoir Name	Original Cost Estimate	Estimate Year	2013 Cost Estimate
Slapout Reservoir	$72,090,000	1978	$227,896,000
Snyder Lake	$24,250,000	1974	$108,169,000
Spring Creek Reservoir	$39,860,000	1988	$78,940,000
Steedman Lake	$32,541,000	1988	$64,445,000
Tahlequah Reservoir	No Previous Estimate Available		
Tate Mountain Reservoir	No Previous Estimate Available		
Temple Reservoir	No Previous Estimate Available		
Trico Lake	No Previous Estimate Available		
Tupelo Lake	$99,960,000	1988	$197,963,000
Tuskahoma Lake	$49,000,000	1987	$100,537,000
Tuskegee Lake	$241,085,000	1988	$477,451,000
Union Reservoir also known as the Gary Project and Minco Project	$418,008,000	1980	$1,104,279,000
Vanoss Lake	$46,612,000	1988	$92,312,000
Verden Reservoir	$11,870,000	1973	$59,013,000
Vian Reservoir	$54,700,000	1985	$114,487,000
Weatherford Reservoir (see also other entry)	$139,400,000	1985	$291,764,000
Weatherford Reservoir also known as the Geary Project and Minco Project	$25,427,000	1973	$126,414,000
Weleetka Reservoir also known as Hickory Ridge Reservoir	$50,629,000	1988	$100,267,000
Wellston Lake	$28,633,000	1988	$56,705,000
Welty Lake	$245,000,000	1985	$512,784,000
West Elm Creek Reservoir also termed West Elm Lake	$150,800,000	1985	$315,624,000
Wetumka Reservoir	$164,700,000	1985	$344,717,000

APPENDIX I

FUTURE DEMAND VERSUS SUPPLY "GAP" ANALYSIS

State of Oklahoma
OWRB
WATER RESOURCES BOARD
the water agency

Oklahoma Comprehensive Water Plan
2011 Update

Oklahoma Comprehensive Water Plan
Physical Water Supply Availability Report

November 2009

This study was funded through an agreement with the Oklahoma Water Resources Board under its authority to update the Oklahoma Comprehensive Water Plan, the state's long-range water planning strategy, due for submittal to the State Legislature in 2012. Results from this and other studies have been incorporated where appropriate in the OCWP's technical and policy considerations. The general goal of the OCWP is to ensure reliable water supplies for all Oklahomans through integrated and coordinated water resources planning and to provide information so that water providers, policy-makers, and water users can make informed decisions concerning the use and management of Oklahoma's water resources.

Oklahoma Comprehensive Water Plan
OCWP

Prepared by CDM under a cooperative agreement between the United States Army Corps of Engineers and the Oklahoma Water Resources Board

Figure 3-38 - 2060 Total Demand Density

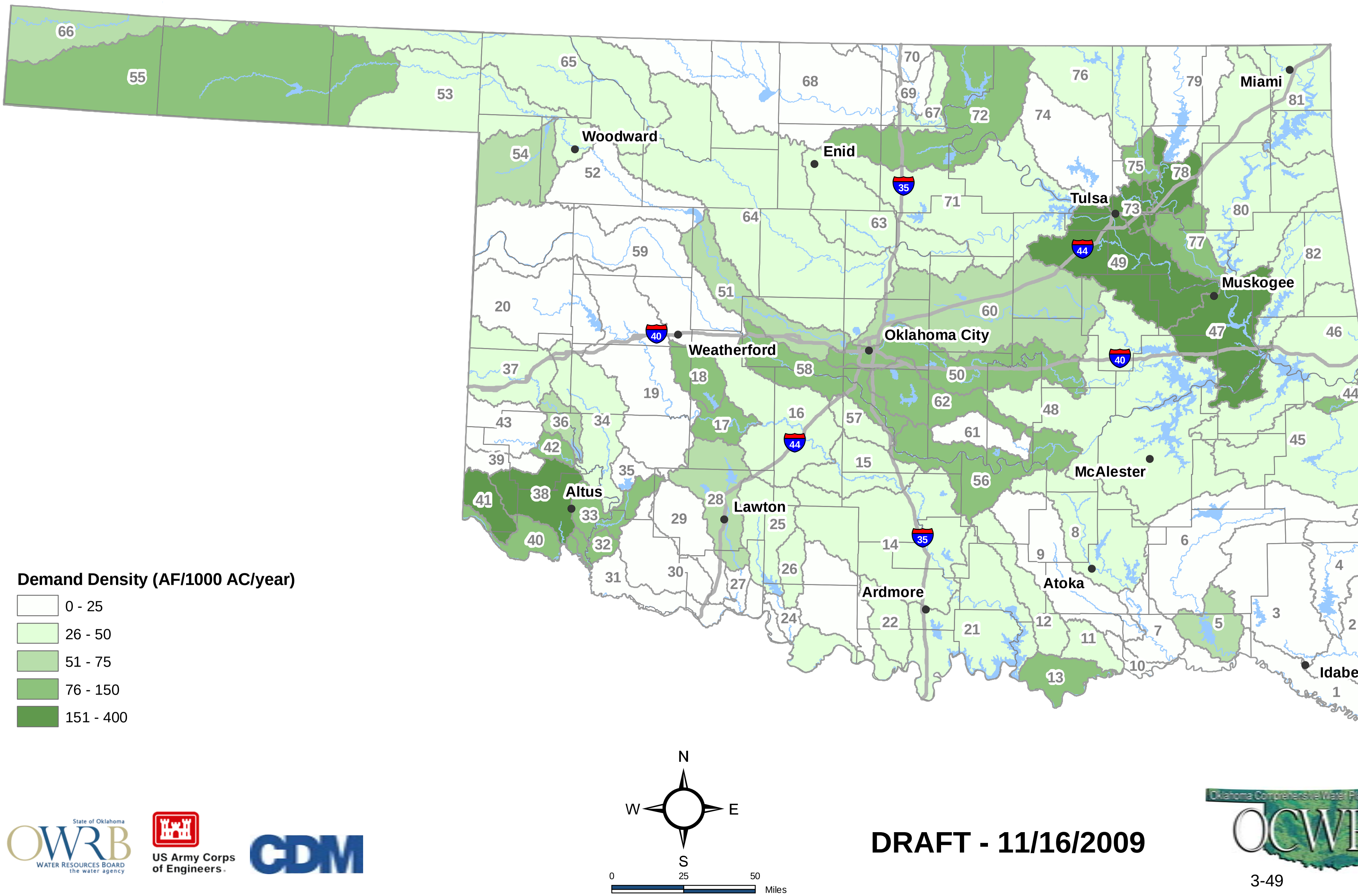

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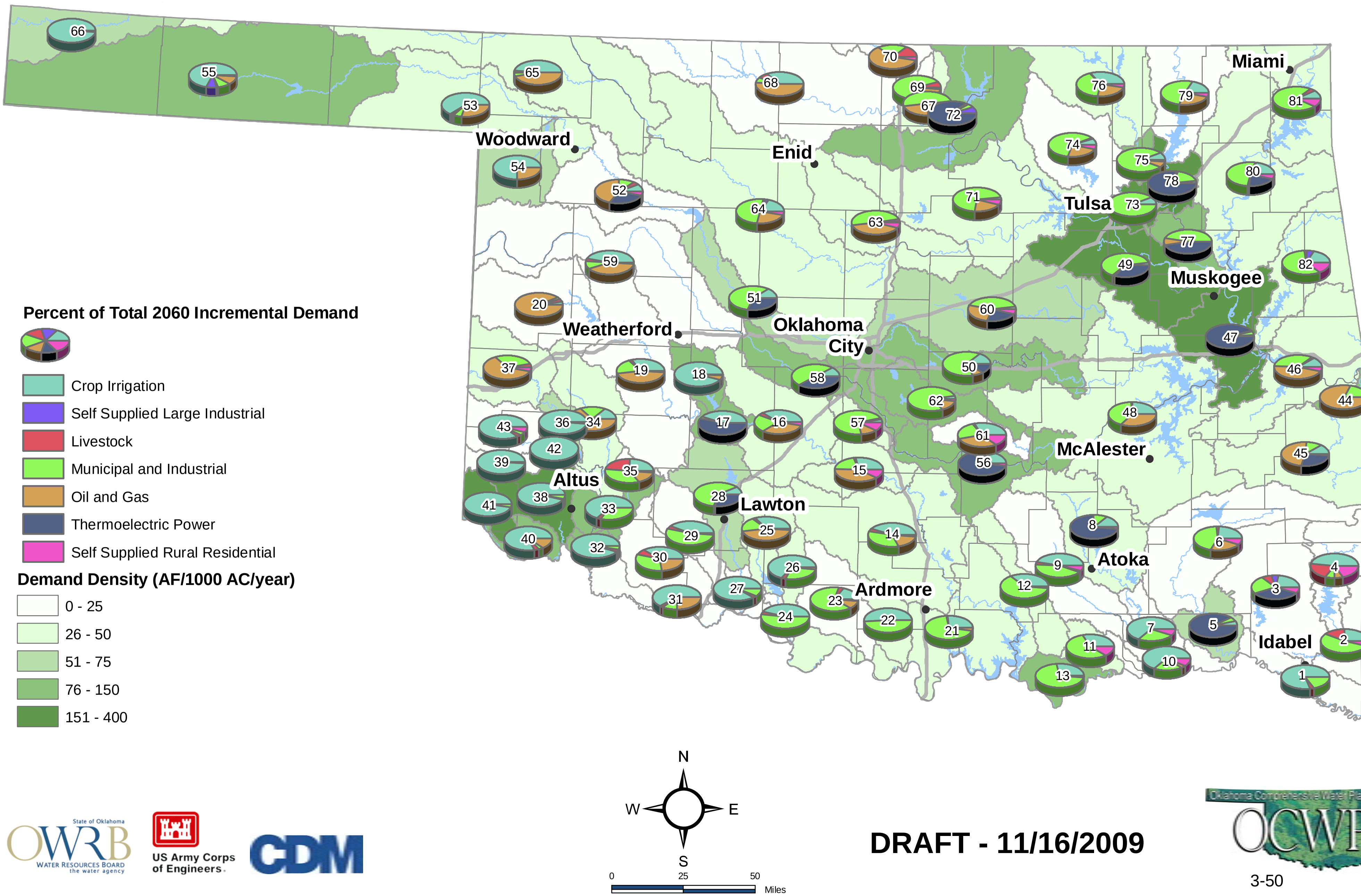
Figure 3-39 - 2060 Total Demand Density and Percentage of Total Demand Growth by Sector



State of Oklahoma OWRB WATER RESOURCES BOARD the water agency

US Army Corps of Engineers

CDM

DRAFT - 11/16/2009

Oklahoma Comprehensive Water Plan OCWP

Table 3-2 Municipal and Industrial Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY) 2007	2010	2020	2030	2040	2050	2060	Supply Source (Percent of Demand) Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
1	10100	Red River Mainstem (To Kiamichi River)	1,716	1,752	1,839	1,903	1,957	2,016	2,070	96%	4%	0%	100%
2	10201	Little River (McCurtain County) - 1	980	1,000	1,049	1,086	1,117	1,151	1,182	98%	2%	0%	100%
3	10202	Little River (McCurtain County) - 2	1,528	1,561	1,646	1,713	1,773	1,838	1,900	99%	1%	74%	26%
4	10203	Little River (McCurtain County) - 3	173	176	186	193	199	206	212	100%	0%	0%	100%
5	10301	Kiamichi River - 1	921	949	1,011	1,054	1,103	1,156	1,209	86%	14%	0%	100%
6	10302	Kiamichi River - 2	1,572	1,620	1,761	1,909	2,066	2,235	2,409	100%	0%	0%	100%
7	10411	Muddy Boggy River - 1	492	507	545	575	608	643	678	61%	39%	0%	100%
8	10412	Muddy Boggy River - 2	3,146	3,245	3,552	3,869	4,196	4,552	4,909	94%	6%	23%	77%
9	10420	Clear Boggy Creek	3,703	3,811	4,106	4,389	4,675	4,974	5,274	81%	19%	0%	100%
10	10500	Red River Mainstem (To Blue River)	470	483	508	519	532	546	560	90%	10%	2%	98%
11	10601	Blue River - 1	627	651	715	783	852	920	990	25%	75%	0%	100%
12	10602	Blue River - 2	4,434	4,593	5,010	5,452	5,894	6,336	6,790	35%	65%	0%	100%
13	10700	Red River Mainstem (To Washita)	2,935	3,048	3,346	3,666	3,987	4,307	4,635	41%	59%	22%	78%
14	10810	Lower Washita	12,386	12,634	13,271	13,842	14,394	15,024	15,683	68%	32%	45%	55%
15	10821	Middle Washita - 1	1,784	1,834	1,980	2,114	2,249	2,391	2,536	35%	65%	42%	58%
16	10822	Middle Washita - 2	4,667	4,785	5,078	5,330	5,562	5,793	6,025	52%	48%	12%	88%
17	10831	Upper Washita - 1	742	757	795	819	844	869	891	97%	3%	0%	100%
18	10832	Upper Washita - 2	155	158	165	169	173	177	180	13%	87%	0%	100%
19	10833	Upper Washita - 3	4,432	4,533	4,745	4,910	5,068	5,205	5,324	80%	20%	7%	93%
20	10840	Washita Headwaters	986	1,001	1,028	1,046	1,065	1,084	1,101	23%	77%	20%	80%
21	10900	Red River Mainstem (To Walnut Bayou)	8,087	8,402	12,964	14,326	15,712	17,175	18,697	52%	48%	4%	96%
22	11000	Walnut Bayou	2,384	2,443	3,034	3,202	3,368	3,546	3,734	62%	38%	0%	100%
23	11100	Mud Creek	1,646	1,673	2,066	2,124	2,185	2,257	2,335	35%	65%	0%	100%
24	11201	Beaver Creek - 1	429	432	443	450	456	469	483	90%	10%	100%	0%
25	11202	Beaver Creek - 2	3,460	3,563	3,688	3,757	3,822	3,894	3,974	94%	6%	0%	100%
26	11203	Beaver Creek - 3	2,092	2,116	2,169	2,190	2,215	2,252	2,298	74%	26%	19%	81%
27	11311	Cache Creek - 1	158	161	167	169	172	177	179	100%	0%	0%	0%
28	11312	Cache Creek - 2	13,298	14,554	15,544	16,291	16,877	17,346	17,729	92%	8%	8%	92%
29	11321	Deep Red River And West Cache Creek - 1	2,057	2,246	2,394	2,505	2,592	2,664	2,721	58%	42%	17%	83%
30	11322	Deep Red River And West Cache Creek - 2	759	772	799	817	834	852	876	94%	6%	50%	50%
31	11400	Red River Mainstem (To North Fork of Red)	743	752	777	792	807	825	848	35%	65%	64%	36%
32	11511	Lower North Fork Red River - 1	131	133	138	142	145	148	153	47%	53%	89%	11%
33	11512	Lower North Fork Red River - 2	2,804	2,872	3,037	3,171	3,279	3,371	3,446	82%	18%	82%	18%
34	11513	Lower North Fork Red River - 3	3,549	3,644	3,898	4,177	4,453	4,735	5,042	39%	61%	46%	54%
35	11514	Lower North Fork Red River - 4	90	91	93	95	96	97	99	98%	2%	50%	50%
36	11521	Upper North Fork Red River - 1	213	217	226	234	245	255	266	1%	99%	55%	45%
37	11522	Upper North Fork Red River - 2	1,661	1,710	1,846	2,002	2,158	2,315	2,486	1%	99%	35%	65%
38	11601	Salt Fork Red River - 1	1,883	1,925	2,024	2,103	2,173	2,232	2,280	86%	14%	86%	14%
39	11602	Salt Fork Red River - 2	103	104	105	106	108	110	112	100%	0%	0%	0%
40	11701	Prairie Dog Town Fork Red River - 1	314	322	341	357	370	381	389	12%	88%	0%	100%
41	11702	Prairie Dog Town Fork Red River - 2	689	705	713	735	757	779	800	100%	0%	0%	0%
42	11801	Elm Fork Red River - 1	444	448	453	453	461	469	476	92%	8%	0%	100%
43	11802	Elm Fork Red River - 2	172	175	182	189	197	206	215	82%	18%	50%	50%

Table 3-2 Municipal and Industrial Sector Demand by OCWP Basin

			Demands (AFY)							Supply Source (Percent of Demand)			
Basin Number	Basin ID	Basin Name	2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
44	20101	Poteau River - 1	1,245	1,275	1,364	1,452	1,541	1,629	1,723	100%	0%	0%	100%
45	20102	Poteau River - 2	5,749	5,885	6,269	6,656	7,057	7,458	7,891	97%	3%	0%	100%
46	20201	Lower Arkansas River - 1	8,209	8,502	9,358	10,242	11,120	12,015	12,927	100%	0%	94%	6%
49	20202	Lower Arkansas River - 1	8,807	9,031	9,594	10,104	10,602	11,114	11,643	99%	1%	79%	21%
47	20300	Canadian River (To North Canadian River)	20,232	20,673	21,969	23,169	24,470	25,890	27,365	93%	7%	25%	75%
48	20400	Middle Arkansas River	75,559	77,584	82,298	86,001	88,819	91,157	93,495	98%	2%	76%	24%
50	20510	Lower North Canadian River	59,427	61,244	64,913	67,690	69,856	71,513	73,173	56%	44%	10%	90%
51	20520	Middle North Canadian River	9,327	9,631	10,434	11,125	11,726	12,277	12,843	46%	54%	58%	42%
52	20531	Upper North Canadian River - 1	1,314	1,337	1,383	1,416	1,438	1,473	1,503	5%	95%	43%	57%
53	20532	Upper North Canadian River - 2	4,830	4,923	5,137	5,272	5,366	5,492	5,585	31%	69%	32%	68%
54	20533	Upper North Canadian River - 3	488	489	489	491	482	484	496	0%	100%	14%	86%
55	20540	North Canadian Headwaters	4,333	4,582	5,406	6,343	7,259	8,195	9,118	1%	99%	1%	99%
56	20611	Lower Canadian River - 1	7,083	7,301	7,803	8,223	8,608	8,954	9,300	56%	44%	39%	61%
57	20612	Lower Canadian River - 2	1,912	1,998	2,261	2,536	2,809	3,092	3,381	42%	58%	10%	90%
58	20620	Middle Canadian River	17,526	18,144	19,631	20,890	21,965	22,871	23,779	61%	39%	38%	62%
59	20630	Upper Canadian River	3,292	3,353	3,474	3,580	3,677	3,776	3,876	23%	77%	7%	93%
60	20700	Deep Fork River	42,714	44,022	46,659	48,645	50,200	51,396	52,598	68%	32%	5%	95%
62	20801	Little River - 1	710	730	776	820	862	903	946	3%	97%	12%	88%
61	20802	Little River - 2	30,127	31,153	33,386	35,159	36,583	37,622	38,645	78%	22%	10%	90%
63	20910	Lower Cimarron River	11,215	11,512	12,244	12,871	13,484	14,021	14,603	64%	36%	69%	31%
64	20920	Middle Cimarron River	33,196	34,169	36,402	38,279	39,914	41,340	42,841	33%	67%	45%	55%
65	20930	Upper Cimarron River	2,684	2,712	2,765	2,802	2,832	2,883	2,928	15%	85%	33%	67%
66	20940	Cimarron Headwaters	0	0	0	0	0	0	0	0%	0%	0%	0%
69	21011	Lower Salt Fork of the Arkansas River - 2	2,817	2,878	3,011	3,088	3,160	3,231	3,308	40%	60%	50%	50%
70	21012	Lower Salt Fork of the Arkansas River - 2	1,059	1,082	1,132	1,161	1,187	1,214	1,243	69%	31%	50%	50%
68	21013	Lower Salt Fork of the Arkansas River - 3	290	296	310	318	325	332	340	81%	19%	0%	100%
67	21020	Upper Salt Fork of the Arkansas River	2,880	2,909	2,970	3,011	3,036	3,098	3,159	8%	92%	100%	0%
71	21100	Arkansas River - Cimarron Rivers to Keystone Lake	20,422	21,124	22,671	24,143	25,571	26,718	27,851	80%	20%	32%	68%
72	21200	Arkansas River Mainstem (To Kansas State Line)	7,306	7,466	7,862	8,120	8,359	8,587	8,841	56%	44%	64%	36%
73	21301	Bird Creek - 1	27,089	27,833	29,505	30,811	31,749	32,482	33,201	100%	0%	0%	0%
74	21302	Bird Creek - 2	8,752	8,980	9,546	9,974	10,312	10,604	10,913	98%	2%	28%	72%
75	21401	Caney River - 1	10,604	10,901	11,592	12,147	12,569	12,923	13,274	100%	0%	0%	0%
76	21402	Caney River - 2	11,879	12,088	12,544	12,701	12,903	13,105	13,334	100%	0%	0%	100%
77	21511	Verdigris River (To Oologah Dam) - 1	7,426	7,686	8,467	9,158	9,785	10,399	11,039	100%	0%	0%	0%
78	21512	Verdigris River (To Oologah Dam) - 2	8,135	8,423	9,241	10,011	10,707	11,404	12,117	100%	0%	100%	0%
79	21520	Verdigris River (To Kansas State Line)	3,455	3,586	3,986	4,396	4,793	5,203	5,629	100%	0%	0%	0%
80	21601	Grand (Nesho) River - 1	13,256	13,742	15,148	16,658	18,209	19,777	21,395	81%	19%	0%	100%
81	21602	Grand (Nesho) River - 2	8,015	8,319	9,118	9,900	10,726	11,600	12,495	0%	100%	0%	100%
82	21700	Illinois River	5,519	5,769	6,480	7,298	8,122	8,944	9,779	96%	4%	8%	92%
		Total	**583,901**	**601,891**	**647,038**	**682,391**	**713,982**	**743,158**	**772,773**				

Table 3-5 Self-Supplied Rural Residential Sector Demand by OCWP Basin

			Demands (AFY)							Supply Source (Percent of Demand)			
Basin Number	Basin ID	Basin Name	2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
1	10100	Red River Mainstem (To Kiamichi River)	60	61	63	65	67	69	71	0%	100%	96%	4%
2	10201	Little River (McCurtain County) - 1	102	104	108	112	115	119	122	0%	100%	98%	2%
3	10202	Little River (McCurtain County) - 2	419	425	449	469	487	508	527	0%	100%	100%	0%
4	10203	Little River (McCurtain County) - 3	318	323	341	357	371	385	400	0%	100%	100%	0%
5	10301	Kiamichi River - 1	131	132	136	139	143	147	150	0%	100%	86%	14%
6	10302	Kiamichi River - 2	253	260	284	307	331	356	383	0%	100%	100%	0%
7	10411	Muddy Boggy River - 1	144	147	155	162	170	179	188	0%	100%	61%	39%
8	10412	Muddy Boggy River - 2	441	455	511	566	622	684	746	0%	100%	95%	5%
9	10420	Clear Boggy Creek	380	389	425	461	498	537	576	0%	100%	81%	19%
10	10500	Red River Mainstem (To Blue River)	87	89	95	100	106	112	118	0%	100%	90%	10%
11	10601	Blue River - 1	119	122	135	148	161	174	187	0%	100%	25%	75%
12	10602	Blue River - 2	247	252	266	280	294	308	322	0%	100%	35%	65%
13	10700	Red River Mainstem (To Washita)	67	70	77	84	92	99	106	0%	100%	54%	46%
14	10810	Lower Washita	1,245	1,254	1,294	1,327	1,360	1,398	1,439	0%	100%	83%	17%
15	10821	Middle Washita - 1	650	671	746	812	877	944	1,013	0%	100%	62%	38%
16	10822	Middle Washita - 2	984	1,000	1,056	1,102	1,145	1,188	1,230	0%	100%	58%	42%
17	10831	Upper Washita - 1	85	86	89	92	95	98	100	0%	100%	97%	3%
18	10832	Upper Washita - 2	476	481	501	516	532	547	561	0%	100%	13%	87%
19	10833	Upper Washita - 3	306	311	324	335	346	355	362	0%	100%	82%	18%
20	10840	Washita Headwaters	97	97	99	100	101	102	103	0%	100%	38%	62%
21	10900	Red River Mainstem (To Walnut Bayou)	120	126	174	195	217	239	263	0%	100%	53%	47%
22	11000	Walnut Bayou	12	13	29	30	32	34	36	0%	100%	62%	38%
23	11100	Mud Creek	210	210	212	214	217	220	225	0%	100%	35%	65%
24	11201	Beaver Creek - 1	0	0	0	0	0	0	0	0%	100%	100%	0%
25	11202	Beaver Creek - 2	122	128	137	144	151	157	163	0%	100%	94%	6%
26	11203	Beaver Creek - 3	20	20	20	20	20	21	21	0%	100%	79%	21%
27	11311	Cache Creek - 1	0	0	0	0	0	0	0	0%	100%	100%	0%
28	11312	Cache Creek - 2	108	118	125	130	135	139	142	0%	100%	93%	7%
29	11321	Deep Red River And West Cache Creek - 1	52	58	62	65	68	70	71	0%	100%	65%	35%
30	11322	Deep Red River And West Cache Creek - 2	15	15	15	16	16	16	17	0%	100%	97%	3%
31	11400	Red River Mainstem (To North Fork of Red)	36	36	37	37	38	39	40	0%	100%	77%	23%
32	11511	Lower North Fork Red River - 1	20	20	20	21	22	22	23	0%	100%	94%	6%
33	11512	Lower North Fork Red River - 2	23	24	24	25	26	26	27	0%	100%	97%	3%
34	11513	Lower North Fork Red River - 3	26	26	27	28	28	29	30	0%	100%	67%	33%
35	11514	Lower North Fork Red River - 4	1	1	1	1	1	1	1	0%	100%	99%	1%
36	11521	Upper North Fork Red River - 1	0	0	0	0	0	0	0	0%	100%	55%	45%
37	11522	Upper North Fork Red River - 2	215	220	239	258	277	296	318	0%	100%	36%	64%
38	11601	Salt Fork Red River - 1	20	21	22	23	24	25	25	0%	100%	98%	2%
39	11602	Salt Fork Red River - 2	0	0	0	0	0	0	0	0%	100%	100%	0%
40	11701	Prairie Dog Town Fork Red River - 1	76	77	82	85	88	91	93	0%	100%	12%	88%
41	11702	Prairie Dog Town Fork Red River - 2	0	0	0	0	0	0	0	0%	100%	100%	0%
42	11801	Elm Fork Red River - 1	0	0	0	0	0	0	0	0%	100%	92%	8%
43	11802	Elm Fork Red River - 2	112	115	126	136	147	158	170	0%	100%	91%	9%

Table 3-5 Self-Supplied Rural Residential Sector Demand by OCWP Basin

			Demands (AFY)							Supply Source (Percent of Demand)			
Basin Number	Basin ID	Basin Name	2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
44	20101	Poteau River - 1	6	7	7	8	8	8	9	0%	100%	100%	0%
45	20102	Poteau River - 2	382	391	423	454	487	519	554	0%	100%	97%	3%
46	20201	Lower Arkansas River - 1	679	706	801	898	997	1,097	1,202	0%	100%	100%	0%
49	20202	Lower Arkansas River - 1	667	679	720	760	798	836	875	0%	100%	100%	0%
47	20300	Canadian River (To North Canadian River)	200	204	218	232	248	264	282	0%	100%	95%	5%
48	20400	Middle Arkansas River	747	759	799	832	858	880	901	0%	100%	100%	0%
50	20510	Lower North Canadian River	688	700	741	778	812	843	877	0%	100%	60%	40%
51	20520	Middle North Canadian River	102	104	111	120	128	137	147	0%	100%	77%	23%
52	20531	Upper North Canadian River - 1	436	440	453	464	472	483	492	0%	100%	46%	54%
53	20532	Upper North Canadian River - 2	413	413	419	425	429	438	443	0%	100%	53%	47%
54	20533	Upper North Canadian River - 3	213	213	214	217	216	218	223	0%	100%	15%	85%
55	20540	North Canadian Headwaters	634	660	760	855	943	1,037	1,130	0%	100%	2%	98%
56	20611	Lower Canadian River - 1	1,529	1,570	1,694	1,802	1,900	1,986	2,073	0%	100%	73%	27%
57	20612	Lower Canadian River - 2	233	243	279	312	345	379	414	0%	100%	48%	52%
58	20620	Middle Canadian River	334	343	370	394	415	435	455	0%	100%	76%	24%
59	20630	Upper Canadian River	838	843	862	885	905	930	957	0%	100%	28%	72%
60	20700	Deep Fork River	2,926	2,998	3,240	3,449	3,652	3,848	4,058	0%	100%	70%	30%
62	20801	Little River - 1	457	465	495	522	549	575	602	0%	100%	15%	85%
61	20802	Little River - 2	655	672	719	760	795	824	853	0%	100%	80%	20%
63	20910	Lower Cimarron River	696	719	792	859	927	990	1,057	0%	100%	89%	11%
64	20920	Middle Cimarron River	1,548	1,586	1,724	1,853	1,984	2,114	2,256	0%	100%	64%	36%
65	20930	Upper Cimarron River	529	530	542	553	562	576	587	0%	100%	43%	57%
66	20940	Cimarron Headwaters	128	129	137	142	143	148	153	0%	100%	100%	0%
69	21011	Lower Salt Fork of the Arkansas River - 2	62	62	65	66	68	69	71	0%	100%	70%	30%
70	21012	Lower Salt Fork of the Arkansas River - 2	28	28	29	30	30	31	32	0%	100%	84%	16%
68	21013	Lower Salt Fork of the Arkansas River - 3	49	49	51	52	53	54	56	0%	100%	81%	19%
67	21020	Upper Salt Fork of the Arkansas River	275	276	278	281	283	289	295	0%	100%	100%	0%
71	21100	Arkansas River - Cimarron Rivers to Keystone Lake	1,282	1,318	1,429	1,531	1,634	1,727	1,821	0%	100%	86%	14%
72	21200	Arkansas River Mainstem (To Kansas State Line)	424	434	468	496	525	554	584	0%	100%	84%	16%
73	21301	Bird Creek - 1	211	215	228	239	248	255	261	0%	100%	100%	0%
74	21302	Bird Creek - 2	602	613	654	684	710	735	762	0%	100%	98%	2%
75	21401	Caney River - 1	99	103	116	127	137	147	158	0%	100%	100%	0%
76	21402	Caney River - 2	348	355	383	404	424	443	465	0%	100%	100%	0%
77	21511	Verdigris River (To Oologah Dam) - 1	32	33	37	40	44	47	50	0%	100%	100%	0%
78	21512	Verdigris River (To Oologah Dam) - 2	168	174	196	214	231	249	267	0%	100%	100%	0%
79	21520	Verdigris River (To Kansas State Line)	261	271	305	335	364	393	424	0%	100%	100%	0%
80	21601	Grand (Nesho) River - 1	897	938	1,073	1,205	1,339	1,480	1,625	0%	100%	81%	19%
81	21602	Grand (Nesho) River - 2	956	980	1,072	1,160	1,254	1,354	1,455	0%	100%	0%	100%
82	21700	Illinois River	1,008	1,057	1,224	1,389	1,555	1,723	1,894	0%	100%	96%	4%
		Total	**29,543**	**30,236**	**32,633**	**34,795**	**36,890**	**39,009**	**41,189**				

Table 3-8 Self-Supplied Industrial Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY)							Supply Source (Percent of Demand)			
			2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
1	10100	Red River Mainstem (To Kiamichi River)	0	0	0	0	0	0	0	0%	0%	0%	0%
2	10201	Little River (McCurtain County) - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
3	10202	Little River (McCurtain County) - 2	1,743	1,709	1,665	1,723	1,772	1,826	1,875	100%	0%	0%	0%
4	10203	Little River (McCurtain County) - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
5	10301	Kiamichi River - 1	92	95	99	101	104	101	99	100%	0%	0%	0%
6	10302	Kiamichi River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
7	10411	Muddy Boggy River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
8	10412	Muddy Boggy River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
9	10420	Clear Boggy Creek	0	0	0	0	0	0	0	0%	0%	0%	0%
10	10500	Red River Mainstem (To Blue River)	0	0	0	0	0	0	0	0%	0%	0%	0%
11	10601	Blue River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
12	10602	Blue River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
13	10700	Red River Mainstem (To Washita)	0	0	0	0	0	0	0	0%	0%	0%	0%
14	10810	Lower Washita	230	225	219	223	227	232	236	0%	100%	16%	84%
15	10821	Middle Washita - 1	118	115	113	121	127	134	140	100%	0%	0%	0%
16	10822	Middle Washita - 2	163	160	156	164	170	174	178	0%	100%	0%	100%
17	10831	Upper Washita - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
18	10832	Upper Washita - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
19	10833	Upper Washita - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
20	10840	Washita Headwaters	0	0	0	0	0	0	0	0%	0%	0%	0%
21	10900	Red River Mainstem (To Walnut Bayou)	1,486	1,460	1,425	1,449	1,473	1,517	1,562	100%	0%	0%	0%
22	11000	Walnut Bayou	0	0	0	0	0	0	0	0%	0%	0%	0%
23	11100	Mud Creek	0	0	0	0	0	0	0	0%	0%	0%	0%
24	11201	Beaver Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
25	11202	Beaver Creek - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
26	11203	Beaver Creek - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
27	11311	Cache Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
28	11312	Cache Creek - 2	199	195	190	200	207	213	217	100%	0%	0%	0%
29	11321	Deep Red River And West Cache Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
30	11322	Deep Red River And West Cache Creek - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
31	11400	Red River Mainstem (To North Fork of Red)	0	0	0	0	0	0	0	0%	0%	0%	0%
32	11511	Lower North Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%

Table 3-8 Self-Supplied Industrial Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY)							Supply Source (Percent of Demand)			
			2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
33	11512	Lower North Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
34	11513	Lower North Fork Red River - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
35	11514	Lower North Fork Red River - 4	0	0	0	0	0	0	0	0%	0%	0%	0%
36	11521	Upper North Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
37	11522	Upper North Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
38	11601	Salt Fork Red River - 1	613	601	586	614	636	654	669	0%	100%	5%	95%
39	11602	Salt Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
40	11701	Prairie Dog Town Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
41	11702	Prairie Dog Town Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
42	11801	Elm Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
43	11802	Elm Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
44	20101	Poteau River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
45	20102	Poteau River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
46	20201	Lower Arkansas River - 1	209	205	200	219	237	255	273	100%	0%	0%	0%
49	20202	Lower Arkansas River - 1	15,465	15,184	14,812	15,256	15,640	16,024	16,408	97%	3%	100%	0%
47	20300	Canadian River (To North Canadian River)	0	0	0	0	0	0	0	0%	0%	0%	0%
48	20400	Middle Arkansas River	0	0	0	0	0	0	0	0%	0%	0%	0%
50	20510	Lower North Canadian River	830	813	794	838	879	918	958	0%	100%	0%	100%
51	20520	Middle North Canadian River	0	0	0	0	0	0	0	0%	0%	0%	0%
52	20531	Upper North Canadian River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
53	20532	Upper North Canadian River - 2	3,159	3,097	3,016	3,106	3,167	3,242	3,303	0%	100%	43%	57%
54	20533	Upper North Canadian River - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
55	20540	North Canadian Headwaters	6,304	6,200	6,158	7,310	8,463	9,615	10,750	0%	100%	0%	100%
56	20611	Lower Canadian River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
57	20612	Lower Canadian River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
58	20620	Middle Canadian River	0	0	0	0	0	0	0	0%	0%	0%	0%
59	20630	Upper Canadian River	47	46	45	47	49	50	51	0%	100%	0%	100%
60	20700	Deep Fork River	0	0	0	0	0	0	0	0%	0%	0%	0%
62	20801	Little River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
61	20802	Little River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
63	20910	Lower Cimarron River	0	0	0	0	0	0	0	0%	0%	0%	0%
64	20920	Middle Cimarron River	1,517	1,487	1,457	1,598	1,738	1,876	2,025	100%	0%	0%	0%
65	20930	Upper Cimarron River	0	0	0	0	0	0	0	0%	0%	0%	0%
66	20940	Cimarron Headwaters	0	0	0	0	0	0	0	0%	0%	0%	0%

Table 3-8 Self-Supplied Industrial Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY)							Supply Source (Percent of Demand)			
			2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
69	21011	Lower Salt Fork of the Arkansas River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
70	21012	Lower Salt Fork of the Arkansas River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
68	21013	Lower Salt Fork of the Arkansas River - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
67	21020	Upper Salt Fork of the Arkansas River	0	0	0	0	0	0	0	0%	0%	0%	0%
71	21100	Arkansas River - Cimarron Rivers to Keystone Lake	0	0	0	0	0	0	0	0%	0%	0%	0%
72	21200	Arkansas River Mainstem (To Kansas State Line)	11,462	11,788	12,318	12,644	12,944	13,244	13,571	82%	18%	89%	11%
73	21301	Bird Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
74	21302	Bird Creek - 2	110	107	105	110	115	119	125	100%	0%	0%	0%
75	21401	Caney River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
76	21402	Caney River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
77	21511	Verdigris River (To Oologah Dam) - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
78	21512	Verdigris River (To Oologah Dam) - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
79	21520	Verdigris River (To Kansas State Line)	0	0	0	0	0	0	0	0%	0%	0%	0%
80	21601	Grand (Nesho) River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
81	21602	Grand (Nesho) River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
82	21700	Illinois River	1,448	1,419	1,390	1,517	1,641	1,768	1,895	100%	0%	0%	0%
		Total	**45,192**	**44,906**	**44,748**	**47,238**	**49,587**	**51,962**	**54,334**				

Table 3-11 Thermoelectric Power Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY) 2007	2010	2020	2030	2040	2050	2060	Supply Source (Percent of Demand) Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
1	10100	Red River Mainstem (To Kiamichi River)	0	0	0	0	0	0	0	0%	0%	0%	0%
2	10201	Little River (McCurtain County) - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
3	10202	Little River (McCurtain County) - 2	956	988	1,103	1,230	1,372	1,531	1,708	100%	0%	0%	0%
4	10203	Little River (McCurtain County) - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
5	10301	Kiamichi River - 1	7,069	7,304	8,149	9,091	10,142	11,314	12,623	93%	7%	0%	100%
6	10302	Kiamichi River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
7	10411	Muddy Boggy River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
8	10412	Muddy Boggy River - 2	12,886	13,316	14,855	16,572	18,488	20,626	23,010	100%	0%	0%	0%
9	10420	Clear Boggy Creek	0	0	0	0	0	0	0	0%	0%	0%	0%
10	10500	Red River Mainstem (To Blue River)	0	0	0	0	0	0	0	0%	0%	0%	0%
11	10601	Blue River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
12	10602	Blue River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
13	10700	Red River Mainstem (To Washita)	0	0	0	0	0	0	0	0%	0%	0%	0%
14	10810	Lower Washita	0	0	0	0	0	0	0	0%	0%	0%	0%
15	10821	Middle Washita - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
16	10822	Middle Washita - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
17	10831	Upper Washita - 1	5,010	5,178	5,776	6,444	7,189	8,020	8,947	31%	69%	94%	6%
18	10832	Upper Washita - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
19	10833	Upper Washita - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
20	10840	Washita Headwaters	0	0	0	0	0	0	0	0%	0%	0%	0%
21	10900	Red River Mainstem (To Walnut Bayou)	0	0	0	0	0	0	0	0%	0%	0%	0%
22	11000	Walnut Bayou	0	0	0	0	0	0	0	0%	0%	0%	0%
23	11100	Mud Creek	0	0	0	0	0	0	0	0%	0%	0%	0%
24	11201	Beaver Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
25	11202	Beaver Creek - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
26	11203	Beaver Creek - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
27	11311	Cache Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
28	11312	Cache Creek - 2	2,484	2,566	2,863	3,194	3,563	3,975	4,435	100%	0%	0%	0%
29	11321	Deep Red River And West Cache Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
30	11322	Deep Red River And West Cache Creek - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
31	11400	Red River Mainstem (To North Fork of Red)	0	0	0	0	0	0	0	0%	0%	0%	0%
32	11511	Lower North Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
33	11512	Lower North Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
34	11513	Lower North Fork Red River - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
35	11514	Lower North Fork Red River - 4	0	0	0	0	0	0	0	0%	0%	0%	0%
36	11521	Upper North Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
37	11522	Upper North Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
38	11601	Salt Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
39	11602	Salt Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
40	11701	Prairie Dog Town Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
41	11702	Prairie Dog Town Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
42	11801	Elm Fork Red River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
43	11802	Elm Fork Red River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
44	20101	Poteau River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
45	20102	Poteau River - 2	5,695	5,885	6,565	7,324	8,171	9,116	10,170	100%	0%	0%	0%
46	20201	Lower Arkansas River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
49	20202	Lower Arkansas River - 1	100,057	103,395	115,348	128,683	143,560	160,157	178,672	0%	100%	100%	0%
47	20300	Canadian River (To North Canadian River)	0	0	0	0	0	0	0	0%	0%	0%	0%
48	20400	Middle Arkansas River	13,071	13,507	15,069	16,811	18,754	20,922	23,341	98%	2%	100%	0%
50	20510	Lower North Canadian River	2,653	2,741	3,058	3,412	3,806	4,246	4,737	83%	17%	78%	22%

Table 3-11 Thermoelectric Power Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY)							Supply Source (Percent of Demand)			
			2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
51	20520	Middle North Canadian River	2,288	2,364	2,637	2,942	3,282	3,662	4,085	0%	100%	100%	0%
52	20531	Upper North Canadian River - 1	514	531	593	661	738	823	918	0%	100%	100%	0%
53	20532	Upper North Canadian River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
54	20533	Upper North Canadian River - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
55	20540	North Canadian Headwaters	0	0	0	0	0	0	0	0%	0%	0%	0%
56	20611	Lower Canadian River - 1	17,320	17,898	19,967	22,275	24,851	27,723	30,929	92%	8%	86%	14%
57	20612	Lower Canadian River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
58	20620	Middle Canadian River	6,361	6,573	7,333	8,181	9,126	10,181	11,359	100%	0%	0%	0%
59	20630	Upper Canadian River	0	0	0	0	0	0	0	0%	0%	0%	0%
60	20700	Deep Fork River	7,042	7,277	8,118	9,057	10,104	11,272	12,575	100%	0%	0%	0%
62	20801	Little River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
61	20802	Little River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
63	20910	Lower Cimarron River	0	0	0	0	0	0	0	0%	0%	0%	0%
64	20920	Middle Cimarron River	242	250	279	312	348	388	433	100%	0%	0%	0%
65	20930	Upper Cimarron River	0	0	0	0	0	0	0	0%	0%	0%	0%
66	20940	Cimarron Headwaters	0	0	0	0	0	0	0	0%	0%	0%	0%
69	21011	Lower Salt Fork of the Arkansas River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
70	21012	Lower Salt Fork of the Arkansas River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
68	21013	Lower Salt Fork of the Arkansas River - 3	0	0	0	0	0	0	0	0%	0%	0%	0%
67	21020	Upper Salt Fork of the Arkansas River	0	0	0	0	0	0	0	0%	0%	0%	0%
71	21100	Arkansas River - Cimarron Rivers to Keystone Lake	0	0	0	0	0	0	0	0%	0%	0%	0%
72	21200	Arkansas River Mainstem (To Kansas State Line)	36,650	37,872	42,251	47,135	52,584	58,663	65,445	100%	0%	0%	0%
73	21301	Bird Creek - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
74	21302	Bird Creek - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
75	21401	Caney River - 1	0	0	0	0	0	0	0	0%	0%	0%	0%
76	21402	Caney River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
77	21511	Verdigris River (To Oologah Dam) - 1	4,580	4,733	5,280	5,891	6,572	7,332	8,179	100%	0%	0%	0%
78	21512	Verdigris River (To Oologah Dam) - 2	22,905	23,669	26,405	29,458	32,863	36,662	40,901	100%	0%	0%	0%
79	21520	Verdigris River (To Kansas State Line)	0	0	0	0	0	0	0	0%	0%	0%	0%
80	21601	Grand (Nesho) River - 1	4,346	4,491	5,010	5,589	6,236	6,956	7,761	100%	0%	0%	0%
81	21602	Grand (Nesho) River - 2	0	0	0	0	0	0	0	0%	0%	0%	0%
82	21700	Illinois River	0	0	0	0	0	0	0	0%	0%	0%	0%
		Total	**252,127**	**260,539**	**290,660**	**324,262**	**361,750**	**403,571**	**450,227**				

Table 3-14 Livestock Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY) 2007	2010	2020	2030	2040	2050	2060	Supply Source (Percent of Demand) Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
1	10100	Red River Mainstem (To Kiamichi River)	445	449	463	477	490	504	518	94%	6%	100%	0%
2	10201	Little River (McCurtain County) - 1	368	372	385	397	410	422	435	100%	0%	0%	0%
3	10202	Little River (McCurtain County) - 2	1,100	1,109	1,140	1,172	1,203	1,234	1,265	100%	0%	0%	0%
4	10203	Little River (McCurtain County) - 3	664	669	685	702	718	734	751	100%	0%	0%	0%
5	10301	Kiamichi River - 1	394	394	395	396	398	399	400	78%	22%	0%	100%
6	10302	Kiamichi River - 2	984	986	996	1,005	1,014	1,024	1,033	93%	7%	0%	100%
7	10411	Muddy Boggy River - 1	414	414	415	415	416	417	417	49%	51%	2%	98%
8	10412	Muddy Boggy River - 2	1,309	1,314	1,333	1,351	1,370	1,389	1,407	67%	33%	41%	59%
9	10420	Clear Boggy Creek	1,180	1,185	1,202	1,218	1,235	1,251	1,267	82%	18%	0%	100%
10	10500	Red River Mainstem (To Blue River)	297	297	298	298	299	299	300	89%	11%	0%	100%
11	10601	Blue River - 1	362	362	363	364	365	366	366	97%	3%	0%	100%
12	10602	Blue River - 2	572	574	580	586	592	598	604	36%	64%	0%	100%
13	10700	Red River Mainstem (To Washita)	535	535	536	538	539	540	541	68%	32%	61%	39%
14	10810	Lower Washita	2,267	2,284	2,341	2,398	2,454	2,511	2,567	40%	60%	29%	71%
15	10821	Middle Washita - 1	856	860	873	887	900	913	927	46%	54%	36%	64%
16	10822	Middle Washita - 2	2,084	2,096	2,139	2,182	2,225	2,267	2,310	35%	65%	4%	96%
17	10831	Upper Washita - 1	407	407	407	407	407	407	407	17%	83%	3%	97%
18	10832	Upper Washita - 2	518	518	519	519	519	520	520	1%	99%	0%	100%
19	10833	Upper Washita - 3	2,034	2,041	2,066	2,090	2,115	2,140	2,164	12%	88%	27%	73%
20	10840	Washita Headwaters	929	937	965	992	1,019	1,047	1,074	3%	97%	32%	68%
21	10900	Red River Mainstem (To Walnut Bayou)	1,807	1,815	1,844	1,874	1,903	1,932	1,961	44%	56%	28%	72%
22	11000	Walnut Bayou	348	350	354	358	363	367	372	0%	100%	14%	86%
23	11100	Mud Creek	915	918	926	935	943	952	960	10%	90%	1%	99%
24	11201	Beaver Creek - 1	178	178	179	179	180	180	181	100%	0%	0%	0%
25	11202	Beaver Creek - 2	677	681	695	709	723	737	751	17%	83%	0%	100%
26	11203	Beaver Creek - 3	246	248	252	256	260	265	269	28%	72%	11%	89%
27	11311	Cache Creek - 1	156	156	157	158	160	161	162	78%	22%	100%	0%
28	11312	Cache Creek - 2	837	840	849	858	867	876	885	34%	66%	3%	97%
29	11321	Deep Red River And West Cache Creek - 1	529	531	540	548	556	565	573	25%	75%	60%	40%
30	11322	Deep Red River And West Cache Creek - 2	662	663	668	673	677	682	687	58%	42%	94%	6%
31	11400	Red River Mainstem (To North Fork of Red)	608	609	613	617	620	624	628	9%	91%	100%	0%
32	11511	Lower North Fork Red River - 1	110	111	114	117	120	123	126	9%	91%	100%	0%
33	11512	Lower North Fork Red River - 2	299	302	314	327	339	351	363	65%	35%	99%	1%
34	11513	Lower North Fork Red River - 3	912	916	926	937	947	958	968	30%	70%	41%	59%
35	11514	Lower North Fork Red River - 4	133	133	134	135	136	138	139	0%	100%	0%	100%
36	11521	Upper North Fork Red River - 1	162	162	164	166	168	171	173	1%	99%	100%	0%
37	11522	Upper North Fork Red River - 2	554	559	577	595	613	631	649	2%	98%	43%	57%
38	11601	Salt Fork Red River - 1	409	416	438	460	482	504	526	62%	38%	35%	65%
39	11602	Salt Fork Red River - 2	159	159	162	165	167	170	172	0%	100%	31%	69%
40	11701	Prairie Dog Town Fork Red River - 1	210	215	232	249	266	283	300	7%	93%	45%	55%
41	11702	Prairie Dog Town Fork Red River - 2	247	249	255	262	268	274	281	0%	100%	25%	75%
42	11801	Elm Fork Red River - 1	76	76	76	76	76	76	76	5%	95%	89%	11%
43	11802	Elm Fork Red River - 2	359	361	367	373	379	385	391	0%	100%	68%	32%
44	20101	Poteau River - 1	152	152	153	154	155	157	158	100%	0%	0%	0%
45	20102	Poteau River - 2	1,718	1,722	1,735	1,747	1,760	1,772	1,785	72%	28%	0%	100%
46	20201	Lower Arkansas River - 1	2,096	2,110	2,156	2,201	2,247	2,292	2,338	38%	62%	98%	2%
47	20202	Lower Arkansas River - 1	1,329	1,333	1,345	1,358	1,370	1,382	1,395	74%	26%	100%	0%
48	20300	Canadian River (To North Canadian River)	3,708	3,723	3,775	3,828	3,880	3,932	3,984	84%	16%	78%	22%
49	20400	Middle Arkansas River	1,179	1,182	1,193	1,204	1,215	1,225	1,236	14%	86%	96%	4%
50	20510	Lower North Canadian River	1,042	1,045	1,055	1,066	1,076	1,086	1,097	37%	63%	39%	61%

Table 3-14 Livestock Sector Demand by OCWP Basin

			Demands (AFY)							Supply Source (Percent of Demand)			
Basin Number	Basin ID	Basin Name	2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
51	20520	Middle North Canadian River	1,157	1,159	1,165	1,171	1,177	1,183	1,190	8%	92%	83%	17%
52	20531	Upper North Canadian River - 1	1,220	1,223	1,233	1,243	1,252	1,262	1,272	2%	98%	68%	32%
53	20532	Upper North Canadian River - 2	2,371	2,380	2,410	2,440	2,470	2,500	2,530	1%	99%	23%	77%
54	20533	Upper North Canadian River - 3	773	774	779	784	789	795	800	0%	100%	4%	96%
55	20540	North Canadian Headwaters	10,779	10,816	10,941	11,066	11,190	11,315	11,440	1%	99%	1%	99%
56	20611	Lower Canadian River - 1	1,246	1,251	1,268	1,285	1,302	1,319	1,336	28%	72%	76%	24%
57	20612	Lower Canadian River - 2	327	328	332	336	339	343	347	70%	30%	89%	11%
58	20620	Middle Canadian River	1,053	1,059	1,077	1,095	1,114	1,132	1,151	43%	57%	82%	18%
59	20630	Upper Canadian River	2,176	2,188	2,229	2,270	2,311	2,352	2,393	2%	98%	18%	82%
60	20700	Deep Fork River	1,908	1,915	1,936	1,957	1,979	2,000	2,021	73%	27%	1%	99%
61	20801	Little River - 1	317	318	321	325	328	332	335	34%	66%	79%	21%
62	20802	Little River - 2	549	552	561	569	578	587	596	18%	82%	6%	94%
63	20910	Lower Cimarron River	1,377	1,385	1,413	1,441	1,469	1,497	1,525	40%	60%	100%	0%
64	20920	Middle Cimarron River	6,201	6,225	6,304	6,384	6,464	6,544	6,623	9%	91%	86%	14%
65	20930	Upper Cimarron River	3,010	3,019	3,048	3,077	3,106	3,135	3,164	8%	92%	18%	82%
66	20940	Cimarron Headwaters	792	796	809	823	836	850	863	8%	92%	0%	100%
67	21011	Lower Salt Fork of the Arkansas River - 2	170	171	175	178	182	186	190	14%	86%	38%	62%
68	21012	Lower Salt Fork of the Arkansas River - 2	96	97	100	103	106	108	111	100%	0%	0%	100%
69	21013	Lower Salt Fork of the Arkansas River - 3	147	148	153	158	163	167	172	37%	63%	27%	73%
70	21020	Upper Salt Fork of the Arkansas River	2,257	2,277	2,346	2,415	2,484	2,553	2,622	17%	83%	93%	7%
71	21100	Arkansas River - Cimarron Rivers to Keystone Lake	2,188	2,192	2,207	2,221	2,236	2,250	2,265	29%	71%	53%	47%
72	21200	Arkansas River Mainstem (To Kansas State Line)	1,492	1,496	1,509	1,523	1,536	1,550	1,563	5%	95%	95%	5%
73	21301	Bird Creek - 1	141	141	143	144	145	147	148	100%	0%	0%	0%
74	21302	Bird Creek - 2	944	947	955	963	971	980	988	100%	0%	0%	0%
75	21401	Caney River - 1	197	198	199	200	202	203	205	99%	1%	0%	100%
76	21402	Caney River - 2	1,190	1,192	1,200	1,207	1,214	1,222	1,229	100%	0%	0%	0%
77	21511	Verdigris River (To Oologah Dam) - 1	461	462	464	466	468	470	472	100%	0%	0%	0%
78	21512	Verdigris River (To Oologah Dam) - 2	491	492	495	498	502	505	509	100%	0%	0%	0%
79	21520	Verdigris River (To Kansas State Line)	1,572	1,573	1,575	1,577	1,579	1,581	1,583	100%	0%	0%	0%
80	21601	Grand (Nesho) River - 1	4,091	4,102	4,139	4,176	4,213	4,249	4,286	0%	100%	0%	100%
81	21602	Grand (Nesho) River - 2	2,208	2,221	2,262	2,303	2,344	2,385	2,426	29%	71%	0%	100%
82	21700	Illinois River	1,654	1,664	1,697	1,730	1,763	1,796	1,829	98%	2%	1%	99%
		Total	**94,087**	**94,480**	**95,792**	**97,104**	**98,416**	**99,728**	**101,040**				

Table 3-16 Crop Irrigation Sector Demand by OCWP Basin

			Provisional Demands (AFY)							Supply Source (Percent of Demand)			
Basin Number	Basin ID	Basin Name	2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
1	10100	Red River Mainstem (To Kiamichi River)	507	600	910	1,220	1,530	1,767	2,149	94%	6%	100%	0%
2	10201	Little River (McCurtain County) - 1	29	35	53	72	90	104	127	100%	0%	0%	0%
3	10202	Little River (McCurtain County) - 2	215	240	321	402	484	546	647	100%	0%	0%	0%
4	10203	Little River (McCurtain County) - 3	69	82	125	168	211	244	297	100%	0%	0%	0%
5	10301	Kiamichi River - 1	273	288	337	385	434	471	531	78%	22%	0%	100%
6	10302	Kiamichi River - 2	1,257	1,284	1,374	1,465	1,556	1,625	1,737	93%	7%	0%	100%
7	10411	Muddy Boggy River - 1	409	431	507	582	658	716	809	49%	51%	2%	98%
8	10412	Muddy Boggy River - 2	1,378	1,486	1,844	2,202	2,560	2,835	3,277	67%	33%	41%	59%
9	10420	Clear Boggy Creek	1,367	1,460	1,773	2,085	2,398	2,637	3,023	82%	18%	0%	100%
10	10500	Red River Mainstem (To Blue River)	1,308	1,321	1,365	1,409	1,452	1,486	1,540	89%	11%	0%	100%
11	10601	Blue River - 1	3,053	3,065	3,103	3,141	3,180	3,209	3,257	97%	3%	0%	100%
12	10602	Blue River - 2	2,007	2,088	2,360	2,631	2,903	3,111	3,446	36%	64%	0%	100%
13	10700	Red River Mainstem (To Washita)	10,252	10,290	10,419	10,548	10,677	10,776	10,934	68%	32%	61%	39%
14	10810	Lower Washita	4,368	4,605	5,395	6,184	6,974	7,579	8,552	40%	60%	29%	71%
15	10821	Middle Washita - 1	2,158	2,218	2,421	2,624	2,826	2,981	3,231	46%	54%	36%	64%
16	10822	Middle Washita - 2	10,702	10,861	11,392	11,923	12,453	12,861	13,515	35%	65%	4%	96%
17	10831	Upper Washita - 1	6,692	6,869	7,459	8,049	8,639	9,091	9,818	17%	83%	3%	97%
18	10832	Upper Washita - 2	15,133	15,519	16,808	18,097	19,386	20,375	21,964	1%	99%	0%	100%
19	10833	Upper Washita - 3	8,658	8,756	9,082	9,408	9,734	9,984	10,386	12%	88%	27%	73%
20	10840	Washita Headwaters	7,934	7,942	7,969	7,997	8,024	8,045	8,078	3%	97%	32%	68%
21	10900	Red River Mainstem (To Walnut Bayou)	8,570	8,797	9,553	10,309	11,065	11,645	12,577	44%	56%	28%	72%
22	11000	Walnut Bayou	1,869	1,949	2,217	2,485	2,753	2,958	3,288	0%	100%	14%	86%
23	11100	Mud Creek	657	667	698	730	762	787	826	10%	90%	1%	99%
24	11201	Beaver Creek - 1	98	101	110	119	128	135	145	100%	0%	0%	0%
25	11202	Beaver Creek - 2	2,277	2,344	2,568	2,792	3,016	3,188	3,464	17%	83%	0%	100%
26	11203	Beaver Creek - 3	267	293	380	466	553	619	726	28%	72%	11%	89%
27	11311	Cache Creek - 1	230	243	287	331	376	409	464	78%	22%	100%	0%
28	11312	Cache Creek - 2	1,297	1,329	1,437	1,544	1,652	1,735	1,868	34%	66%	3%	97%
29	11321	Deep Red River And West Cache Creek - 1	1,114	1,144	1,246	1,347	1,448	1,525	1,650	25%	75%	60%	40%
30	11322	Deep Red River And West Cache Creek - 2	1,908	1,916	1,944	1,972	2,000	2,022	2,056	58%	42%	94%	6%
31	11400	Red River Mainstem (To North Fork of Red)	4,994	5,022	5,116	5,210	5,304	5,376	5,491	9%	91%	100%	0%
32	11511	Lower North Fork Red River - 1	7,625	7,659	7,771	7,884	7,997	8,083	8,222	9%	91%	100%	0%
33	11512	Lower North Fork Red River - 2	12,984	13,055	13,292	13,528	13,765	13,946	14,238	65%	35%	99%	1%
34	11513	Lower North Fork Red River - 3	7,444	7,494	7,661	7,828	7,996	8,124	8,330	30%	70%	41%	59%
35	11514	Lower North Fork Red River - 4	44	44	46	47	48	49	51	0%	100%	0%	100%
36	11521	Upper North Fork Red River - 1	3,226	3,392	3,946	4,500	5,054	5,479	6,161	1%	99%	100%	0%
37	11522	Upper North Fork Red River - 2	7,604	7,605	7,606	7,608	7,609	7,610	7,612	2%	98%	43%	57%
38	11601	Salt Fork Red River - 1	70,108	70,670	72,545	74,420	76,296	77,735	80,046	62%	38%	35%	65%
39	11602	Salt Fork Red River - 2	1,053	1,112	1,310	1,507	1,705	1,856	2,100	0%	100%	31%	69%
40	11701	Prairie Dog Town Fork Red River - 1	16,319	16,421	16,761	17,102	17,443	17,704	18,124	7%	93%	45%	55%
41	11702	Prairie Dog Town Fork Red River - 2	28,052	28,274	29,016	29,758	30,499	31,069	31,983	0%	100%	25%	75%
42	11801	Elm Fork Red River - 1	2,065	2,316	3,153	3,989	4,826	5,468	6,499	5%	95%	89%	11%
43	11802	Elm Fork Red River - 2	662	716	896	1,076	1,256	1,395	1,617	0%	100%	68%	32%
44	20101	Poteau River - 1	2,144	2,144	2,146	2,147	2,148	2,149	2,150	100%	0%	0%	0%
45	20102	Poteau River - 2	3,645	3,743	4,071	4,400	4,728	4,979	5,384	72%	28%	0%	100%
46	20201	Lower Arkansas River - 1	7,647	7,724	7,983	8,242	8,501	8,700	9,020	38%	62%	98%	2%
49	20202	Lower Arkansas River - 1	9,904	9,941	10,065	10,190	10,314	10,409	10,562	74%	26%	100%	0%
47	20300	Canadian River (To North Canadian River)	5,773	6,035	6,907	7,780	8,653	9,323	10,398	84%	16%	78%	22%
48	20400	Middle Arkansas River	7,428	7,472	7,618	7,765	7,911	8,024	8,204	14%	86%	96%	4%
50	20510	Lower North Canadian River	5,421	5,570	6,067	6,564	7,061	7,443	8,055	37%	63%	39%	61%
51	20520	Middle North Canadian River	7,433	7,471	7,596	7,721	7,846	7,942	8,096	8%	92%	83%	17%

Table 3-16 Crop Irrigation Sector Demand by OCWP Basin

			Provisional Demands (AFY)							Supply Source (Percent of Demand)			
Basin Number	Basin ID	Basin Name	2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
52	20531	Upper North Canadian River - 1	9,304	9,310	9,329	9,348	9,368	9,383	9,406	2%	98%	68%	32%
53	20532	Upper North Canadian River - 2	26,487	26,854	28,075	29,297	30,519	31,456	32,962	1%	99%	23%	77%
54	20533	Upper North Canadian River - 3	16,642	17,150	18,841	20,533	22,225	23,523	25,609	0%	100%	4%	96%
55	20540	North Canadian Headwaters	234,934	236,750	242,806	248,861	254,917	259,564	267,028	1%	99%	1%	99%
56	20611	Lower Canadian River - 1	2,638	2,893	3,740	4,588	5,435	6,086	7,130	28%	72%	76%	24%
57	20612	Lower Canadian River - 2	772	776	788	800	812	821	836	70%	30%	89%	11%
58	20620	Middle Canadian River	7,468	7,541	7,781	8,021	8,261	8,445	8,741	43%	57%	82%	18%
59	20630	Upper Canadian River	14,863	15,070	15,760	16,450	17,140	17,670	18,520	2%	98%	18%	82%
60	20700	Deep Fork River	6,051	6,083	6,187	6,292	6,397	6,477	6,606	73%	27%	1%	99%
62	20801	Little River - 1	371	392	464	535	607	662	750	34%	66%	79%	21%
61	20802	Little River - 2	349	368	433	497	562	611	691	18%	82%	6%	94%
63	20910	Lower Cimarron River	3,377	3,382	3,400	3,418	3,436	3,450	3,472	40%	60%	100%	0%
64	20920	Middle Cimarron River	26,820	27,010	27,643	28,276	28,910	29,395	30,176	9%	91%	86%	14%
65	20930	Upper Cimarron River	30,864	31,067	31,744	32,421	33,098	33,618	34,452	8%	92%	18%	82%
66	20940	Cimarron Headwaters	15,419	15,758	16,886	18,014	19,142	20,008	21,399	8%	92%	0%	100%
69	21011	Lower Salt Fork of the Arkansas River - 2	2,280	2,280	2,280	2,280	2,280	2,280	2,280	14%	86%	38%	62%
70	21012	Lower Salt Fork of the Arkansas River - 2	592	592	592	592	592	592	592	100%	0%	0%	100%
68	21013	Lower Salt Fork of the Arkansas River - 3	1,162	1,162	1,162	1,162	1,162	1,162	1,162	37%	63%	27%	73%
67	21020	Upper Salt Fork of the Arkansas River	6,777	6,888	7,258	7,628	7,999	8,283	8,739	17%	83%	93%	7%
71	21100	Arkansas River - Cimarron Rivers to Keystone Lake	2,202	2,217	2,264	2,311	2,357	2,394	2,451	29%	71%	53%	47%
72	21200	Arkansas River Mainstem (To Kansas State Line)	2,261	2,278	2,334	2,391	2,448	2,491	2,561	5%	95%	95%	5%
73	21301	Bird Creek - 1	2,600	2,629	2,729	2,828	2,927	3,003	3,126	100%	0%	0%	0%
74	21302	Bird Creek - 2	672	683	722	760	799	828	876	100%	0%	0%	0%
75	21401	Caney River - 1	504	518	564	611	657	693	750	99%	1%	0%	100%
76	21402	Caney River - 2	769	843	1,089	1,335	1,581	1,770	2,074	100%	0%	0%	0%
77	21511	Verdigris River (To Oologah Dam) - 1	6,099	6,101	6,105	6,109	6,113	6,116	6,121	100%	0%	0%	0%
78	21512	Verdigris River (To Oologah Dam) - 2	1,022	1,049	1,139	1,230	1,320	1,389	1,501	100%	0%	0%	0%
79	21520	Verdigris River (To Kansas State Line)	165	207	348	489	630	738	912	100%	0%	0%	0%
80	21601	Grand (Nesho) River - 1	1,597	1,771	2,351	2,931	3,510	3,955	4,670	0%	100%	0%	100%
81	21602	Grand (Nesho) River - 2	632	661	758	854	951	1,025	1,143	29%	71%	0%	100%
82	21700	Illinois River	2,750	2,821	3,057	3,294	3,531	3,712	4,004	98%	2%	1%	99%
		Total	**736,074**	**745,210**	**775,661**	**806,112**	**836,562**	**859,932**	**897,464**				

Table 3-19 Oil and Gas Sector Demand by OCWP Basin

Basin Number	Basin ID	Basin Name	Demands (AFY)							Supply Source (Percent of Demand)			
			2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
1	10100	Red River Mainstem (To Kiamichi River)	0	0	0	0	0	0	0	100%	0%	0%	0%
2	10201	Little River (McCurtain County) - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
3	10202	Little River (McCurtain County) - 2	0	0	0	0	1	1	1	100%	0%	0%	0%
4	10203	Little River (McCurtain County) - 3	3	4	9	14	22	30	40	100%	0%	0%	0%
5	10301	Kiamichi River - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
6	10302	Kiamichi River - 2	65	94	162	237	330	440	565	100%	0%	0%	0%
7	10411	Muddy Boggy River - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
8	10412	Muddy Boggy River - 2	3,403	4,941	9,524	6,775	5,159	2,940	119	48%	52%	0%	100%
9	10420	Clear Boggy Creek	304	439	810	656	592	492	357	100%	0%	0%	0%
10	10500	Red River Mainstem (To Blue River)	3	4	6	8	10	13	15	100%	0%	0%	0%
11	10601	Blue River - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
12	10602	Blue River - 2	1	2	3	4	5	7	8	44%	56%	0%	100%
13	10700	Red River Mainstem (To Washita)	3	4	6	7	9	11	14	100%	0%	0%	0%
14	10810	Lower Washita	1,320	1,894	3,274	3,006	3,059	3,032	2,922	81%	19%	47%	53%
15	10821	Middle Washita - 1	338	477	683	928	1,213	1,537	1,901	93%	7%	32%	68%
16	10822	Middle Washita - 2	577	813	1,150	1,549	2,010	2,533	3,118	82%	18%	16%	84%
17	10831	Upper Washita - 1	11	15	21	29	37	46	57	45%	55%	0%	100%
18	10832	Upper Washita - 2	49	70	109	158	216	284	361	17%	83%	0%	100%
19	10833	Upper Washita - 3	295	429	722	1,096	1,550	2,085	2,699	78%	22%	5%	95%
20	10840	Washita Headwaters	927	1,313	1,916	2,642	3,492	4,466	5,564	66%	34%	32%	68%
21	10900	Red River Mainstem (To Walnut Bayou)	975	1,421	2,732	2,235	2,072	1,803	1,428	89%	11%	0%	100%
22	11000	Walnut Bayou	907	1,317	2,534	1,808	1,383	798	54	80%	20%	0%	100%
23	11100	Mud Creek	36	51	82	88	100	113	126	100%	0%	0%	0%
24	11201	Beaver Creek - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
25	11202	Beaver Creek - 2	340	480	686	932	1,217	1,542	1,907	83%	17%	0%	100%
26	11203	Beaver Creek - 3	3	4	6	9	11	14	18	100%	0%	0%	0%
27	11311	Cache Creek - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
28	11312	Cache Creek - 2	21	29	40	54	69	86	105	53%	47%	0%	100%
29	11321	Deep Red River And West Cache Creek - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
30	11322	Deep Red River And West Cache Creek - 2	8	12	22	36	52	72	94	100%	0%	0%	0%
31	11400	Red River Mainstem (To North Fork of Red)	19	29	53	85	124	171	225	0%	100%	100%	0%
32	11511	Lower North Fork Red River - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
33	11512	Lower North Fork Red River - 2	2	2	3	4	5	6	7	100%	0%	0%	0%
34	11513	Lower North Fork Red River - 3	395	588	1,094	1,752	2,564	3,528	4,644	75%	25%	0%	100%
35	11514	Lower North Fork Red River - 4	1	1	2	3	3	4	5	100%	0%	0%	0%
36	11521	Upper North Fork Red River - 1	0	0	0	0	0	0	0	100%	0%	0%	0%
37	11522	Upper North Fork Red River - 2	339	478	681	922	1,202	1,520	1,877	39%	61%	31%	69%
38	11601	Salt Fork Red River - 1	4	5	7	9	11	14	17	14%	86%	0%	100%
39	11602	Salt Fork Red River - 2	0	0	0	0	1	1	1	100%	0%	0%	0%
40	11701	Prairie Dog Town Fork Red River - 1	19	29	60	100	151	211	280	85%	15%	0%	100%
41	11702	Prairie Dog Town Fork Red River - 2	0	0	0	0	0	0	0	100%	0%	0%	0%
42	11801	Elm Fork Red River - 1	2	3	4	5	7	8	10	100%	0%	0%	0%
43	11802	Elm Fork Red River - 2	0	0	0	0	0	0	0	100%	0%	0%	0%
44	20101	Poteau River - 1	144	220	457	770	1,159	1,625	2,167	96%	4%	0%	100%
45	20102	Poteau River - 2	685	1,023	1,937	3,130	4,603	6,355	8,386	99%	1%	0%	100%
46	20201	Lower Arkansas River - 1	519	782	1,561	2,465	3,611	4,977	6,560	98%	2%	0%	100%
49	20202	Lower Arkansas River - 1	71	106	205	334	494	685	906	100%	0%	0%	0%
47	20300	Canadian River (To North Canadian River)	7,005	10,212	19,569	16,732	16,289	15,248	13,608	87%	13%	2%	98%
48	20400	Middle Arkansas River	74	107	181	276	390	525	680	100%	0%	0%	0%
50	20510	Lower North Canadian River	214	314	556	830	1,172	1,576	2,041	54%	46%	2%	98%

Table 3-19 Oil and Gas Sector Demand by OCWP Basin

			Demands (AFY)							Supply Source (Percent of Demand)			
Basin Number	Basin ID	Basin Name	2007	2010	2020	2030	2040	2050	2060	Surface Water	Ground-water	Alluvial Ground-water	Bedrock Ground-water
51	20520	Middle North Canadian River	952	1,379	2,616	1,923	1,534	990	292	52%	48%	6%	94%
52	20531	Upper North Canadian River - 1	119	169	244	334	440	560	695	31%	69%	49%	51%
53	20532	Upper North Canadian River - 2	482	691	1,075	1,551	2,119	2,780	3,534	15%	85%	11%	89%
54	20533	Upper North Canadian River - 3	252	379	734	1,200	1,777	2,464	3,262	10%	90%	1%	99%
55	20540	North Canadian Headwaters	696	994	1,512	2,149	2,905	3,781	4,776	5%	95%	0%	100%
56	20611	Lower Canadian River - 1	219	317	546	606	722	849	987	99%	1%	100%	0%
57	20612	Lower Canadian River - 2	55	77	111	150	197	249	308	67%	33%	40%	60%
58	20620	Middle Canadian River	1,342	1,944	3,672	2,766	2,283	1,598	709	71%	29%	57%	43%
59	20630	Upper Canadian River	540	780	1,292	1,763	2,366	3,065	3,860	40%	60%	38%	62%
60	20700	Deep Fork River	697	1,012	1,679	2,525	3,549	4,753	6,136	82%	18%	0%	100%
62	20801	Little River - 1	41	60	109	171	248	339	444	100%	0%	0%	0%
61	20802	Little River - 2	120	179	338	545	801	1,106	1,458	45%	55%	0%	100%
63	20910	Lower Cimarron River	378	548	903	1,353	1,896	2,534	3,267	93%	7%	16%	84%
64	20920	Middle Cimarron River	1,273	1,812	2,823	3,388	4,174	5,046	6,003	65%	35%	76%	24%
65	20930	Upper Cimarron River	779	1,099	1,558	2,103	2,733	3,448	4,249	76%	24%	37%	63%
66	20940	Cimarron Headwaters	13	19	26	35	45	56	68	0%	100%	0%	100%
69	21011	Lower Salt Fork of the Arkansas River - 2	105	148	210	282	365	460	566	99%	1%	0%	100%
70	21012	Lower Salt Fork of the Arkansas River - 2	13	18	24	32	40	50	60	70%	30%	0%	100%
68	21013	Lower Salt Fork of the Arkansas River - 3	25	35	50	68	89	113	141	95%	5%	0%	100%
67	21020	Upper Salt Fork of the Arkansas River	410	590	933	1,361	1,875	2,474	3,158	86%	14%	64%	36%
71	21100	Arkansas River - Cimarron Rivers to Keystone Lake	445	631	935	1,303	1,736	2,235	2,798	100%	0%	0%	100%
72	21200	Arkansas River Mainstem (To Kansas State Line)	139	196	279	379	494	625	773	98%	2%	0%	100%
73	21301	Bird Creek - 1	5	7	12	18	26	35	45	100%	0%	0%	0%
74	21302	Bird Creek - 2	219	307	421	552	701	867	1,051	100%	0%	0%	0%
75	21401	Caney River - 1	36	50	74	102	136	174	217	100%	0%	0%	0%
76	21402	Caney River - 2	246	345	473	621	789	977	1,185	100%	0%	0%	0%
77	21511	Verdigris River (To Oologah Dam) - 1	60	88	149	227	321	433	561	100%	0%	0%	0%
78	21512	Verdigris River (To Oologah Dam) - 2	46	67	112	168	237	317	409	100%	0%	0%	0%
79	21520	Verdigris River (To Kansas State Line)	267	376	524	697	897	1,121	1,371	100%	0%	0%	0%
80	21601	Grand (Nesho) River - 1	51	72	104	142	186	237	294	0%	100%	0%	100%
81	21602	Grand (Nesho) River - 2	0	0	0	0	1	1	1	100%	0%	0%	0%
82	21700	Illinois River	0	0	0	1	1	1	1	100%	0%	0%	0%
		Total	**29,107**	**42,107**	**74,403**	**78,202**	**90,080**	**102,536**	**115,570**				

Table 3-23 Total Demands by Basin for 2007 through 2060

Basin Number	Old Basin ID	Basin Name	Total 2007 Demand (AFY)	Total 2010 Demand (AFY)	Total 2020 Demand (AFY)	Total 2030 Demand (AFY)	Total 2040 Demand (AFY)	Total 2050 Demand (AFY)	Total 2060 Demand (AFY)
1	10100	Red River Mainstem (To Kiamichi River)	2,728	2,862	3,275	3,664	4,044	4,356	4,808
2	10201	Little River (McCurtain County) - 1	1,480	1,510	1,596	1,667	1,732	1,796	1,866
3	10202	Little River (McCurtain County) - 2	5,961	6,032	6,324	6,709	7,092	7,484	7,922
4	10203	Little River (McCurtain County) - 3	1,227	1,255	1,346	1,433	1,520	1,600	1,700
5	10301	Kiamichi River - 1	8,880	9,163	10,127	11,167	12,323	13,588	15,012
6	10302	Kiamichi River - 2	4,130	4,245	4,577	4,923	5,297	5,680	6,127
7	10411	Muddy Boggy River - 1	1,459	1,499	1,621	1,735	1,852	1,954	2,092
8	10412	Muddy Boggy River - 2	22,563	24,757	31,619	31,336	32,396	33,026	33,468
9	10420	Clear Boggy Creek	6,933	7,285	8,316	8,809	9,397	9,892	10,497
10	10500	Red River Mainstem (To Blue River)	2,166	2,195	2,271	2,333	2,399	2,456	2,532
11	10601	Blue River - 1	4,161	4,200	4,316	4,437	4,557	4,669	4,800
12	10602	Blue River - 2	7,262	7,509	8,219	8,953	9,688	10,360	11,170
13	10700	Red River Mainstem (To Washita)	13,792	13,947	14,384	14,843	15,303	15,733	16,231
14	10810	Lower Washita	21,816	22,897	25,794	26,980	28,469	29,776	31,400
15	10821	Middle Washita - 1	5,903	6,177	6,816	7,486	8,192	8,901	9,748
16	10822	Middle Washita - 2	19,176	19,716	20,972	22,250	23,564	24,816	26,376
17	10831	Upper Washita - 1	12,948	13,311	14,547	15,840	17,210	18,531	20,221
18	10832	Upper Washita - 2	16,330	16,746	18,102	19,460	20,826	21,903	23,586
19	10833	Upper Washita - 3	15,725	16,070	16,939	17,839	18,813	19,768	20,936
20	10840	Washita Headwaters	10,873	11,291	11,976	12,777	13,702	14,743	15,921
21	10900	Red River Mainstem (To Walnut Bayou)	21,046	22,021	28,693	30,388	32,442	34,311	36,487
22	11000	Walnut Bayou	5,521	6,071	8,168	7,884	7,899	7,704	7,484
23	11100	Mud Creek	3,464	3,518	3,985	4,090	4,207	4,329	4,472
24	11201	Beaver Creek - 1	705	711	732	748	764	784	809
25	11202	Beaver Creek - 2	6,876	7,196	7,774	8,334	8,930	9,519	10,260
26	11203	Beaver Creek - 3	2,629	2,681	2,827	2,941	3,060	3,170	3,331
27	11311	Cache Creek - 1	543	560	611	659	707	747	805
28	11312	Cache Creek - 2	18,243	19,631	21,049	22,272	23,371	24,369	25,380
29	11321	Deep Red River And West Cache Creek - 1	3,751	3,979	4,242	4,465	4,664	4,824	5,015
30	11322	Deep Red River And West Cache Creek - 2	3,351	3,378	3,448	3,513	3,580	3,644	3,731
31	11400	Red River Mainstem (To North Fork of Red)	6,401	6,448	6,595	6,741	6,894	7,035	7,232
32	11511	Lower North Fork Red River - 1	7,886	7,922	8,044	8,164	8,284	8,377	8,524
33	11512	Lower North Fork Red River - 2	16,111	16,255	16,671	17,055	17,413	17,701	18,081
34	11513	Lower North Fork Red River - 3	12,326	12,667	13,606	14,722	15,987	17,374	19,014
35	11514	Lower North Fork Red River - 4	269	271	276	281	285	290	295
36	11521	Upper North Fork Red River - 1	3,601	3,771	4,336	4,900	5,467	5,904	6,600
37	11522	Upper North Fork Red River - 2	10,372	10,572	10,948	11,385	11,860	12,372	12,942
38	11601	Salt Fork Red River - 1	73,037	73,638	75,622	77,630	79,622	81,163	83,563
39	11602	Salt Fork Red River - 2	1,315	1,376	1,577	1,778	1,980	2,137	2,385
40	11701	Prairie Dog Town Fork Red River - 1	16,937	17,064	17,476	17,894	18,317	18,669	19,186

Table 3-23 Total Demands by Basin for 2007 through 2060

Basin Number	Old Basin ID	Basin Name	Total 2007 Demand (AFY)	Total 2010 Demand (AFY)	Total 2020 Demand (AFY)	Total 2030 Demand (AFY)	Total 2040 Demand (AFY)	Total 2050 Demand (AFY)	Total 2060 Demand (AFY)
41	11702	Prairie Dog Town Fork Red River - 2	28,988	29,228	29,984	30,754	31,524	32,122	33,064
42	11801	Elm Fork Red River - 1	2,587	2,843	3,686	4,524	5,370	6,021	7,062
43	11802	Elm Fork Red River - 2	1,305	1,367	1,570	1,774	1,980	2,144	2,393
44	20101	Poteau River - 1	3,691	3,799	4,126	4,530	5,011	5,568	6,207
45	20102	Poteau River - 2	17,875	18,650	21,001	23,712	26,805	30,200	34,169
46	20201	Lower Arkansas River - 1	19,359	20,030	22,060	24,267	26,713	29,336	32,320
49	20202	Lower Arkansas River - 2	136,299	139,668	152,089	166,685	182,778	200,607	220,461
47	20300	Lower Canadian River (To Eufaula)	36,918	40,847	52,439	51,742	53,540	54,656	55,637
48	20400	Middle Arkansas River	98,057	100,612	107,159	112,888	117,947	122,733	127,857
50	20510	Lower North Canadian River	70,274	72,428	77,183	81,178	84,662	87,626	90,938
51	20520	Middle North Canadian River	21,258	22,107	24,560	25,002	25,695	26,192	26,652
52	20531	Upper North Canadian River - 1	12,907	13,010	13,235	13,466	13,707	13,983	14,287
53	20532	Upper North Canadian River - 2	37,742	38,358	40,132	42,091	44,069	45,908	48,356
54	20533	Upper North Canadian River - 3	18,368	19,004	21,058	23,226	25,489	27,485	30,391
55	20540	North Canadian Headwaters	257,680	260,003	267,583	276,583	285,676	293,507	304,241
56	20610	Lower Canadian River	30,036	31,229	35,018	38,778	42,818	46,918	51,754
57	20611	Lower Canadian River - 1	3,299	3,422	3,770	4,134	4,502	4,885	5,286
58	20620	Middle Canadian River	34,085	35,603	39,864	41,346	43,165	44,663	46,193
59	20630	Upper Canadian River	21,755	22,280	23,662	24,996	26,449	27,843	29,657
60	20700	Deep Fork River	61,339	63,305	67,820	71,925	75,880	79,747	83,993
62	20801	Little River - 2	1,895	1,965	2,164	2,373	2,593	2,810	3,077
61	20802	Little River - 1	31,801	32,924	35,436	37,531	39,319	40,750	42,243
63	20910	Lower Cimarron River	17,042	17,546	18,753	19,942	21,212	22,492	23,923
64	20920	Middle Cimarron River	70,797	72,539	76,633	80,090	83,533	86,704	90,357
65	20930	Upper Cimarron River	37,865	38,427	39,657	40,955	42,331	43,660	45,380
66	20940	Cimarron Headwaters	16,353	16,701	17,859	19,014	20,166	21,062	22,483
69	21001	Chickaskia River - 1	5,434	5,540	5,740	5,895	6,055	6,226	6,415
70	21002	Chickaskia River - 2	1,788	1,817	1,877	1,917	1,956	1,996	2,039
68	21101	Salt Fork Arkansas River - 2	1,672	1,690	1,726	1,758	1,792	1,830	1,871
67	21102	Salt Fork Arkansas River - 1	12,599	12,940	13,785	14,697	15,677	16,697	17,973
71	21201	Arkansas River Mainstem (To Kansas State Line) - 1	26,538	27,482	29,505	31,509	33,535	35,324	37,186
72	21202	Arkansas River Mainstem (To Kansas State Line) - 2	59,733	61,530	67,021	72,687	78,890	85,715	93,337
73	21301	Bird Creek - 1	30,046	30,826	32,617	34,040	35,095	35,921	36,780
74	21302	Bird Creek - 2	11,298	11,639	12,403	13,044	13,608	14,134	14,714
75	21401	Caney River - 1	11,440	11,770	12,546	13,187	13,701	14,140	14,604
76	21402	Caney River - 2	14,431	14,823	15,689	16,268	16,911	17,517	18,287
77	21511	Verdigris River (To Oologah Dam) - 1	18,659	19,102	20,502	21,891	23,303	24,796	26,423
78	21512	Verdigris River (To Oologah Dam) - 2	32,767	33,873	37,588	41,579	45,860	50,527	55,704
79	21520	Verdigris River (To Kansas State Line)	5,721	6,013	6,737	7,495	8,262	9,036	9,919
80	21601	Grand (Neosho) River - 1	24,239	25,116	27,826	30,700	33,693	36,655	40,031
81	21602	Grand (Neosho) River - 2	11,812	12,181	13,210	14,217	15,275	16,364	17,520
82	21700	Illinois River	12,379	12,731	13,848	15,228	16,612	17,943	19,401
		Total	1,770,031	1,819,370	1,960,933	2,070,104	2,187,267	2,299,896	2,432,597