minnesota power
AN ALLETE COMPANY

January 9, 2024

VIA E-FILING

Debbie-Anne Reese, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Subject: Little Falls Hydroelectric Project (FERC Project No. 2532)
Sylvan Hydroelectric Project (FERC Project No. 2454)
Pillager Hydroelectric Project (FERC Project No. 2663)
Revised Study Plan

Dear Secretary Reese:

ALLETE, Inc., doing business as Minnesota Power (MP or Licensee), the Licensee of the Little Falls Hydroelectric Project (Little Falls Project) (FERC No. 2532), Sylvan Hydroelectric Project (Sylvan Project) (FERC No. 2454), and Pillager Hydroelectric Project (Pillager Project) (FERC No. 2663), herein collectively referred to as the "Projects," electronically files with the Federal Energy Regulatory Commission (Commission or FERC) the Revised Study Plan (RSP) for the relicensing of the Projects in accordance with the requirements of 18 Code of Federal Regulation (CFR) Part 5. The FERC licenses for Projects expire on March 31, 2028. The Licensee is using the Commission's Integrated Licensing Process (ILP) to relicense the Projects. Due to the proximity of the Projects to each other, the Licensee is conducting the relicensing processes concurrently, and is submitting a single RSP for the Projects. In accordance with 18 CFR §5.15 of FERC's regulations, MP is filing the RSP with FERC describing the studies that the Licensee is proposing to conduct in support of relicensing the Projects.

The Little Falls Project is a 4.72-megawatt (MW) run-of-river (ROR) facility located on the Mississippi River in Morrison County, Minnesota. The Sylvan Project is a 1.8-MW ROR facility located on the Crow Wing River in Cass, Crow Wing, and Morrison counties, Minnesota. The Pillager Project is a 1.52-MW ROR facility located on the Crow Wing River in Cass and Morrison counties, Minnesota.

On March 30, 2023, MP filed a Pre-Application Document (PAD) and associated Notice of Intent (NOI) with FERC to initiate the ILP. FERC issued Scoping Document 1 (SD1) for the Projects on

May 26, 2023. On June 21, 2023 and June 22, 2023, FERC held public scoping meetings in Little Falls, Minnesota. A public site visit of the Projects was conducted on June 21, 2023. Stakeholders were provided a 60-day period to request studies and provide comments on the PAD and SD1. The comment period concluded on July 25, 2023. During the comment period, a total of seven letters were received providing comments on the PAD and SD1, and/or study requests. FERC issued Scoping Document 2 (SD2) on September 8, 2023. SD2 includes the ILP Process Plan and Schedule for the relicensing of the Projects.

The Licensee filed a Proposed Study Plan (PSP) on September 8, 2023. Additional information requested by the Commission was also included in the PSP. The Licensee held a Study Plan Meeting on October 11, 2023. In accordance with the ILP Process Plan and Schedule, comments on the PSP were due by December 10, 2023. On November 13, 2023, the Minnesota Indian Affairs Council (MIAC) sent an email indicating that they will formally provide comments following receipt of the RSP. On November 22, 2023, Minnesota Office of State Archaeologist (OSA) provided comments on the PSP. On December 8, 2023, the Commission provided comments on the PSP. On December 18, 2023, Minnesota State Historic Preservation Office (SHPO) provided comments on the PSP.

Revised Study Plan

MP has evaluated study requests and comments submitted by the stakeholders. The purpose of the RSP is to present the studies that are being proposed by MP and to address the study requests submitted. Additionally, MP provided in the RSP site-specific information related to fish passage feasibility at the Little Falls Project requested by FERC for their National Environmental Policy Act (NEPA) analysis. The RSP provides details of MP proposed studies. MP is proposing to conduct the following studies as described in detail in the RSP:

Little Falls Project

- Water Quality Study
- Desktop Fish Entrainment and Impingement Study
- Cultural Resources Study

Sylvan Project

- Water Quality Study
- Desktop Fish Entrainment and Impingement Study
- Recreation Use and Facility Inventory Study
- Cultural Resources Study

Pillager Project

- Desktop Fish Entrainment and Impingement Study
- Recreation Use and Facility Inventory Study
- Cultural Resources Study

Please direct any questions pertaining to the Projects to me by phone at (218) 355-3191 or e-mail at gprom@allete.com.

Best Regards,

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Attachments: Distribution List
Revised Study Plan for the Little Falls Project (FERC P-2532), Sylvan Project (FERC P-2454), and Pillager Project (FERC P-2663)

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Revised Study Plan for the Little Falls Project (FERC P-2532), Sylvan Project (FERC P-2454), and Pillager Project (FERC P-2663)

Revised Study Plan

Little Falls Hydroelectric Project
FERC P-2532

Sylvan Hydroelectric Project
FERC P-2454

Pillager Hydroelectric Project
FERC P-2663

Prepared for:
ALLETE, Inc.

Prepared by:
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January 2024

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DEFINITIONS OF TERMS, ACRONYMS, AND ABBREVIATIONS

APE	Area of Potential Effects
CFR	Code of Federal Regulations
Commission	Federal Energy Regulatory Commission
DLA	Draft License Application
DO	dissolved oxygen
°F	degrees Fahrenheit
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
ILP	Integrated Licensing Process
ISR	Initial Study Report
Licensee	ALLETE, Inc., doing business as Minnesota Power
Little Falls Project	Little Falls Hydroelectric Project, FERC P-2532
mg/L	milligram per liter
MIAC	Minnesota Indian Affairs Council
Minnesota DNR	Minnesota Department of Natural Resources
Minnesota PCA	Minnesota Pollution Control Agency
Minnesota SHPO	Minnesota State Historic Preservation Office
MP	Minnesota Power
MW	megawatt
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NRHP	National Register of Historic Places
OSA	Office of State Archaeologist
O&M	Operation and maintenance
PAD	Pre-Application Document
PCB	Poly-chlorinated biphenyl
Pillager Project	Pillager Hydroelectric Project, FERC P-2663
Project Vicinity	The area within ½ mile of the associated FERC Project Boundary
PSP	Proposed Study Plan
ROR	run-of-river
RSP	Revised Study Plan
SD1	Scoping Document 1
Sylvan Project	Sylvan Hydroelectric Project, FERC P-2454
TCP	Traditional Cultural Property

THPO	Tribal Historic Preservation Office
USGS	U.S. Geological Survey

1.0 INTRODUCTION

ALLETE, Inc, doing business as Minnesota Power (MP), is the Licensee, owner, and operator of the Little Falls Hydroelectric Project (P-2532) (Little Falls Project), Sylvan Hydroelectric Project (P-2454) (Sylvan Project), and Pillager Hydroelectric Project (P-2663) (Pillager Project), herein collectively referred to as the "Projects." The Little Falls Project is a 4.72-megawatt (MW) run-of-river (ROR) facility located on the Mississippi River in Morrison County, Minnesota. The Sylvan Project is a 1.80 MW ROR facility located on the Crow Wing River in Cass, Crow Wing, and Morrison counties, Minnesota. The Pillager Project is a 1.52 MW ROR facility located on the Crow Wing River in Cass and Morrison counties, Minnesota.

The Projects are licensed by the Federal Energy Regulatory Commission (FERC or Commission). There are no federal lands associated with the Projects. The Little Falls Project FERC license was issued October 27, 1993.[1] The Sylvan Project FERC license was issued October 29, 1993.[2] The Pillager Project FERC license was issued April 27, 1998.[3] The current operating licenses for each of the Projects expire on March 31, 2028. In accordance with FERC's regulations at 18 Code of Federal Regulations (CFR) §16.9(b), the Licensee must file its applications for new licenses for the Projects with FERC no later than March 31, 2026. The Licensee is using the Commission's Integrated Licensing Process (ILP) for the relicensing of the Projects.

On March 30, 2023, the Licensee filed with the Commission a Pre-Application Document (PAD) and three Notice of Intents (NOIs) for the Projects. The NOIs and PAD were distributed to Federal and state resource agencies, local governments, Native American tribes, non-governmental organizations, and others likely to be interested in the relicensing proceeding. FERC issued Scoping Document 1 (SD1) on May 26, 2023. FERC held two scoping meetings, on June 21 and 22, 2023. Visits to the Projects were held on June 21, 2023. FERC provided agencies and interested parties an opportunity to file comments on the PAD and the SD1 and request studies by July 28, 2023.

Initial comments and/or study requests were received from Nienow Cultural Consultants LLC in a letter dated July 19, 2023, Sylvan Township on July 20, 2023, the Crow Wing County Historical Society in a letter dated July 21, 2023, the Minnesota State Historic Preservation Office (Minnesota SHPO) on July 24, 2023, the Friends of Old Crow Wing on July 25 and 27, 2023, the Commission on July 27, 2023, and Minnesota Department of Natural Resources (Minnesota DNR) on July 28,

[1] 65 ¶ 62,084 (1993).
[2] 65 ¶ 62,094 (1993).
[3] 83 ¶ 62,073 (1998).

2023. Minnesota Power held a meeting with Minnesota SHPO to discuss the agency's study requests on August 30, 2023 (Appendix A).

FERC issued Scoping Document 2 (SD2) on September 8, 2023. SD2 includes the ILP Process Plan and Schedule for the relicensing of the Projects.

The Licensee filed a Proposed Study Plan (PSP) on September 8, 2023. Additional information requested by the Commission was also included in the PSP. The Licensee held a Study Plan Meeting on October 11, 2023. A summary of the October 11, 2023 Study Plan Meeting is included in Appendix A. Attendees included Minnesota Chippewa Tribe - Mille Lacs Band, Bois Forte Band of Chippewa, Bureau of Indian Affairs, Friends of Old Crow Wing, Minnesota DNR, Sylvan Township, City of Little Falls, and FERC.

In accordance with the ILP Process Plan and Schedule, comments on the PSP were due by December 10, 2023. On November 13, 2023, the Minnesota Indian Affairs Council (MIAC) sent an email indicating that they will formally provide comments following the Revised Study Plan (RSP) (Appendix A). On November 22, 2023, Minnesota Office of State Archaeologist (OSA) provided comments on the PSP (Appendix A). On December 8, 2023, the Commission provided comments on the PSP (Appendix A). On December 18, 2023, Minnesota State Historic Preservation Office (SHPO) provided comments on the PSP (Appendix A).

MP has evaluated the study requests and comments submitted by the stakeholders and has prepared this Revised Study Plan (RSP) per FERC's regulations at 18 CFR § 5.13. MP also prepared a table which lists the comments on the PSP, and MP's response to these comments (Appendix B).

2.0 PROGRESS REPORTS, STUDY REPORT, MEETINGS

The Licensee intends to conduct the studies outlined in Section 3.0 during the 2024 field season. Proposed schedules for each of the studies are described in the individual study plan proposals presented in Section 3.0.

The Licensee will meet the progress reporting dates as specified in the ILP Process Plan and Schedule available in Appendix B of FERC's SD2. The Initial Study Report (ISR) will be filed by February 7, 2025, followed by an ISR meeting as specified in the ILP Process Plan and Schedule. The ISR is anticipated to include the results of the Water Quality Study, Desktop Fish Entrainment and Impingement Study, Recreation Use and Facility Inventory Study, Historic Architectural Resources Study, and Archaeological Resources Study.

3.0 INDIVIDUAL STUDY PLAN PROPOSALS

3.1 Water Quality Study

FERC requested a water quality study to evaluate dissolved oxygen (DO) and water temperature at the Little Falls Project and Sylvan Project.

3.1.1 Goals and Objectives

The goal of the Water Quality Study is to evaluate DO and water temperature conditions both upstream and downstream of the Little Falls Project and Sylvan Project to determine if they meet state water quality standards.

The objectives of the Water Quality Study are:

a) document the DO concentration and temperature of water entering the project intakes;

b) identify the degree and timing of any stratification that may occur;

c) identify temporal variations in DO and water temperature;

d) identify any instances where DO and water temperature levels do not meet applicable state standards; and

e) identify any differences in DO and water temperature in the river downstream of each Project.

3.1.2 Known Resource Management Goals

The State of Minnesota has established water quality standards (Minnesota Statute Chapter 7050) for the protection of water resources. Water quality standards applicable to the Crow Wing and Mississippi Rivers at the Little Falls Project and Sylvan Project are included in Table 3-1.

Sections 4(e) and 10(a) of the Federal Power Act (FPA) require FERC to give equal consideration to all uses of the waterway on which a hydroelectric project is located, and what conditions should be placed on any license that may be issued. Water quality information is necessary for FERC's public interest determination as it relates to aquatic conditions at the project, and their effect on public use opportunities. Documenting current baseline water quality conditions, and identifying potential project effects, will aid in FERC's public interest determination.

Table 3-1: Water Quality Standards Applicable to the Little Falls Project and Sylvan Project

Parameter	Numeric Criteria
Dissolved Oxygen (milligram per liter [mg/L])	Daily minimum of 5.0 mg/L
Temperature (degree Fahrenheit [°F])	Temperature must not exceed three degrees Fahrenheit above natural temperature in lakes, based on monthly average of maximum daily temperature, and shall not exceed a daily average temperature of 86 degrees Fahrenheit

Source: Minnesota Rules Statute 7050.0220

3.1.3 Background and Existing Information

The PAD, Section 5.2, *Water Resources*, provides existing water quality data collected upstream and downstream of the Little Falls Project and Sylvan Project. Water quality data at the Little Falls Project and Sylvan Project were documented during 1989-1990 in support of the previous relicensing. The Minnesota Pollution Control Agency (Minnesota PCA) collected additional dissolved oxygen and temperature data upstream and downstream of the Little Falls Project during 2010-2018, and of the Sylvan Project during 2008-2020.

3.1.4 Project Nexus

The Little Falls Project and Sylvan Project impound water on the Crow Wing and Mississippi Rivers, respectively. Operations may affect water quality parameters in the rivers, including DO and water temperature, depending on factors including impoundment stratification and operating conditions.

3.1.5 Methodology

The Water Quality Study will be used to document baseline information on water quality at the Little Falls Project and Sylvan Project to further expand on the water quality information that has been previously collected. The study will employ methodologies that are similar to those used for FERC-approved studies at other hydropower projects in the region, including those used during the Grand Rapids Project (FERC P-2362)[4], Prairie River Project (FERC P-2361)[5], and Brainerd Project (FERC P-2533)[6] relicensings.

[4] FERC Accession Number 20190923-5178
[5] FERC Accession Number 20190923-5178
[6] FERC Accession Number 20181210-5189

The information collected during this study will be used to assess the Little Falls Project and Sylvan Project potential effects on water quality and provide water quality information to compare with state water quality standards. MP will monitor DO and water temperature at the Little Falls Project and Sylvan Project. Water quality monitoring locations are described below, and in Figure 3-1 and Figure 3-2.

Water quality will be documented using a handheld YSI portable DO/temperature meter, or similar. The meter will be calibrated per factory specifications in advance of sampling efforts. All water quality monitoring locations will be georeferenced using Global Positioning System and general habitat conditions will be noted. Exact monitoring locations will be finalized with consideration for safe access. Measurements will be taken biweekly (every other week) to avoid data clustering. Data collection will occur from June through September 2025.

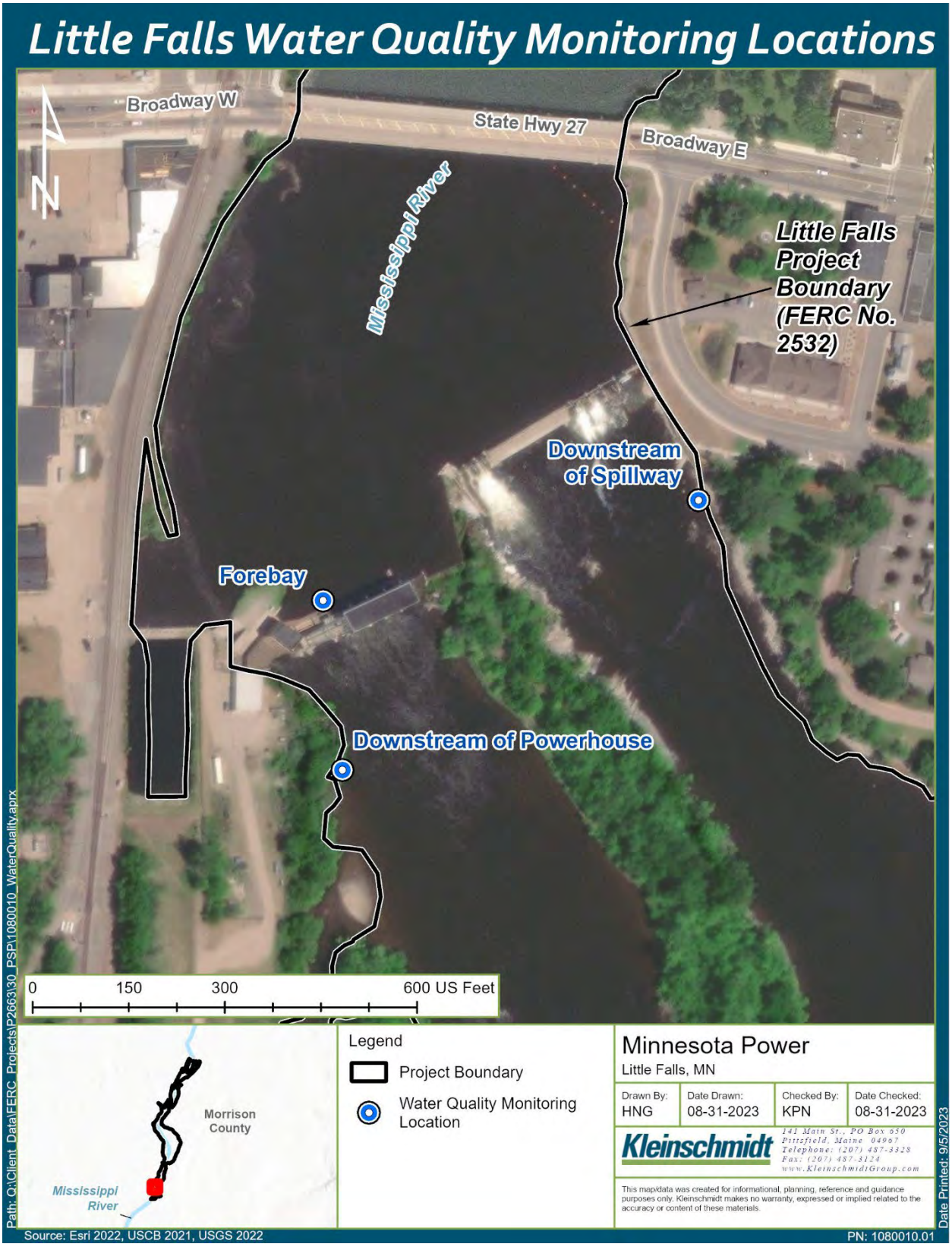
Additional information documented during the study will include:

- Discharge downstream of the Little Falls Project and Sylvan Project as recorded at United States Geological Survey (USGS) stream gage numbers 05247500 and 05267000;
- Ambient air temperature and current weather conditions; and
- Photographs of each sampling location.

3.1.5.1 Little Falls Project

DO and water temperature at the Little Falls Project will be documented at three locations: 1) forebay; 2) downstream of the spillway; and 3) downstream of the powerhouse. The Little Falls Project water quality monitoring locations are shown on Figure 3-1. Water quality data at the one upstream location will be taken at 1-meter intervals in the water column from surface to bottom. Measurements at the locations downstream of the spillway and powerhouse will be taken from the river bottom.

Figure 3-1: Little Falls Project Water Quality Monitoring Locations



3.1.5.2 Sylvan Project

DO and water temperature at the Sylvan Project will be documented at three locations: 1) upstream of the turbine intake area; 2) immediately downstream of the powerhouse; and 3) downstream of the Sylvan Project dam. The Sylvan Project water quality monitoring locations are shown on Figure 3-2. Water quality data upstream of the powerhouse will be taken at 1-meter intervals in the water column from surface to bottom. Water quality data at the powerhouse outlet will be taken from the surface, middle, and bottom of the water column. Water quality data at the downstream location will be taken from the river bottom.

Figure 3-2: Sylvan Project Water Quality Monitoring Locations

3.1.6 Consistency with Generally Accepted Scientific Practice

The proposed methods to monitor water quality are standard practice within FERC relicensings, and are consistent with accepted professional practices, including those utilized in the FERC-approved study plans for MP's Grand Rapids Project (FERC P-2362) and Prairie River Project (FERC P-2361) relicensing, and Brainerd Public Utility's Brainerd Project (FERC P-2533) relicensing.

3.1.7 Deliverables and Schedule

Water quality monitoring will occur at the Little Falls Project and Sylvan Project during June through September 2024. Reports for the Little Falls Project and Sylvan Project containing the results of the Water Quality Study will be prepared and provided in the ISR to be distributed to the relicensing parties and filed with the Commission in accordance with the Commission's ILP Process Plan and Schedule. The Water Quality Study Reports will include a descriptive summary and graphical representations of DO and water temperature data collected at all sites.

3.1.8 Cost and Level of Effort

The estimated cost of the proposed study is approximately $30,000, which includes data collection, data input and analysis, and report preparation.

3.2 Desktop Fish Entrainment and Impingement Study

FERC requested a study to assess the potential for fish entrainment and impingement at the Little Falls Project, Sylvan Project, and Pillager Project, and the potential effects of entrainment and impingement on the local fish communities.

3.2.1 Goals and Objectives

The goal of the Desktop Fish Entrainment and Impingement Study is to evaluate the potential for fish entrainment and impingement, assess survival of potentially entrained fish, and assess the effect that entrainment and impingement may have on the local fish communities.

The objectives of the Desktop Fish Entrainment and Impingement Study are:

a) Describe the physical characteristics of the Projects (i.e., intake structures and turbines), and document factors that could affect impingement, entrainment, and survival as they relate to intake dimensions, trashrack spacing, turbine specifications, intake velocity, and flow capacity;

b) Determine target fish species or family groups, and describe factors that influence their vulnerability to impingement, entrainment and turbine survival;

c) Estimate entrainment rates and turbine passage survival rates for target fish species or family groups; and

d) Describe potential effects to local fish communities from potential entrainment and impingement.

3.2.2 Known Resource Management Goals

Fish populations at the Little Falls Project, Sylvan Project, and Pillager Project support sport fisheries. Sections 4(e) and 10(a) of the FPA require FERC to give equal consideration to all uses of the waterway on which a hydroelectric project is located, and what conditions should be placed on any license that may be issued. Information on potential project effects to fish communities is necessary for FERC's public interest determination as it relates to aquatic conditions at the Projects, and their effect on public use opportunities including sport fishing. Documenting the potential for fish entrainment and potential, and identifying potential project effects, will aid in FERC's public interest determination.

3.2.3 Background and Existing Information

Existing information on the fish communities at the Pillager, Sylvan, and Little Falls Projects is summarized in PAD Section 5.3, *Fish and Aquatic Resources*. Fish assemblage surveys at the Projects have been conducted by the Minnesota DNR during recent years, and have documented abundant game fish species (e.g., smallmouth bass) and nongame species (e.g., cyprindids).

Minnesota DNR surveys in the Mississippi River at Little Falls have been conducted since 1994, with a focus on smallmouth bass. All gamefish species encountered have been documented during these surveys. Additional surveys have been conducted by the Minnesota DNR and Minnesota PCA during recent years on the reaches of the Crow Wing River that include the Pillager Project and Sylvan Project, and through the larger Crow Wing River Watershed. Multiple sampling techniques, including gill netting, trap netting, and electrofishing, have been used to document the overall fish communities. Bluegill and smallmouth bass were among the most abundant gamefish species. Walleye are also present at the Projects, and the Minnesota DNR has maintained a walleye stocking program.

3.2.4 Project Nexus

Injury or mortality from entrainment can occur when fish pass downstream through hydroelectric dam intakes. Entrainment injuries or mortality can be caused by fish coming into contact with turbine blades, or from pressure changes and cavitation associated with operations at the Projects.

3.2.5 Methodology

Fish impingement and entrainment at the Projects may occur when fish enter into the intake flow field during periods of operation and become impinged on the trashracks or entrained through the turbines. Fish that are small enough to pass through the Projects trashracks will be considered susceptible to entrainment, while those physically excluded due to size (i.e., width) will be considered as potential candidates for impingement. Not all fish species occurring in the Projects impoundments will be equally susceptible to entrainment or impingement because of their behavior and swimming abilities relative to the intake velocity.

The primary inputs for this analysis will be as follows:

- Develop an entrainment and turbine mortality database that can be applied to the Projects.
- Calculate and estimate fish entrainment rates at the Projects. Entrainment rates are defined as: number of fish/volume of water entrained.
- Characterize the species composition of potential fish entrainment.
- Apply any physical or biological filters that may influence entrainment.
- Estimate the total annual entrainment for the Projects based on normal operation.
- Estimate potential turbine mortality for fish entrainment.
- Estimate impingement mortality for fish eliminated from entrainment estimates.

These inputs are described in more detail below.

3.2.5.1 Development of an Entrainment Database

Over seventy site-specific studies of resident fish entrainment at hydroelectric sites in the United States have been reported to date, which provide order-of-magnitude estimates of annual fish entrainment (FERC 1995). Descriptive information will be gathered from available entrainment studies and will include:

- Location: geographic proximity (preference given to same river basin).
- Project size: discharge capacity and power production.
- Mode of operation: e.g., peaking, run-of-river, etc.
- Biological factors: fish species composition.
- Impoundment characteristics: impoundment size, flow regime.

This information will be assembled into a "matrix" to be used as a database for the desktop study. After review, specific studies that are most applicable to the Projects will be selected for use in the entrainment database. Key criteria to be used in acceptance of candidate studies may include:

- Similar geographic location, with preference given to projects located in the same river basin.
- Similar station hydraulic capacity.
- Similar station operation (peaking, run-of-river, etc.).
- Biological similarities (fish species, assemblage and water quality).
- Availability and type of entrainment data.

Using these criteria, the list of potential surrogate studies will be narrowed to sites with characteristics similar to the Projects.

3.2.5.2 Estimation of Fish Entrainment

Fish entrainment by species at the Little Falls Project, Sylvan Project, and Pillager Project will be estimated to provide an order-of-magnitude fish entrainment estimate. Entrainment rates will be presented in fish entrained per hour of operation and fish per volume of water passed through turbines (fish/million cubic feet). The entrainment rates from each source study will be averaged to develop a mean entrainment estimate for each of the Projects.

3.2.5.3 Species Composition Analysis

Existing site-specific fish collection data will be used to characterize the fish communities that may be susceptible to entrainment. These data will be used to calculate the relative abundance of species and length class compositions for potentially entrained fish based on their overall abundance in the Projects impoundments.

3.2.5.4 Application of Physical or Biological Filters

Adjustment of fish entrainment rates based on site-specific characteristics of the Projects may be appropriate. Factors potentially affecting entrainment rates that may warrant adjustment of estimates include:

- Trashrack spacing
- Site-specific fish community data

Project specific parameters will be used to calculate the approach velocity of water (feet per second) at the intakes. Velocity will then be compared to swimming speeds of fish that could potentially encounter the intakes to determine species or size classes of fish that are less susceptible to entrainment. Fish swimming speeds will be estimated based on existing literature for species or size specific swim speed characteristics.

3.2.5.5 Total Annual Entrainment Estimate

Total fish entrainment for the Projects will be estimated on an annual basis to provide an order of-magnitude entrainment estimate. The total fish entrainment estimate will be produced based on operations during a typical water year. Estimates of total annual entrainment will be developed by multiplying the average annual entrainment rate by the estimated monthly generation flow for the Little Falls Project, Sylvan Project, and Pillager Project. Entrainment rates will be presented in fish per volume of water passed through project turbines (fish/million cubic feet).

3.2.5.6 Turbine Mortality

As fish move through hydroelectric turbines, a percentage are killed due to turbine mortality (i.e., blade strikes, shear forces, and pressure changes, etc.). Estimates of entrainment and the rate of mortality from turbine stressors will be calculated with a blade strike analysis. Inputs for the blade strike equations will use project specific turbine parameters. The blade strike model allows for the modification of parameters such as fish size or turbine characteristics to determine the relative effect on turbine passage survival for specific size classes of fish. The calculated mortality rates will be applied to the total entrainment estimates for each of the Projects.

3.2.5.7 Impingement Estimates

Fish eliminated from entrainment estimates due to their size in relation to the trashrack spacing will be considered susceptible to impingement. Swim speed information for these species and size groups will be compared to intake velocities to estimate the potential for impingement. Those species or size groups lacking the ability to avoid impingement will be considered impinged and subsequently killed due to impingement mortality.

3.2.6 Consistency with Generally Accepted Scientific Practice

The proposed methods to assess potential fish entrainment and impingement are standard practice within FERC relicensings and are consistent with accepted professional practices. The study will employ methodologies that are similar to those used for FERC-approved studies at other hydropower projects in the region, including those used during the Grand Rapids Project (FERC P-2362)[7], Prairie River Project (FERC P-2361)[8], and Brainerd Project (FERC P-2533)[9] relicensings.

3.2.7 Deliverables and Schedule

Desktop entrainment and impingement analyses will be conducted during 2024 with an anticipated completion in September 2024. Reports containing the results of the Desktop Fish Entrainment and Impingement Study will be prepared and provided in the ISR to be distributed to the relicensing parties and filed with the Commission in accordance with the Commission's ILP Process Plan and Schedule. The reports will include a description of physical characteristics of the Projects, a description of local fish assemblages, estimates of annual fish entrainment, blade strike mortality calculations, and a description of potential project effects on the overall fish communities.

3.2.8 Cost and Level of Effort

The estimated cost of the proposed study is approximately $20,000 per Project, for a total approximate cost of $60,000. This cost estimate includes data input and analysis, and report preparation.

[7] FERC Accession Number 20190923-5178
[8] FERC Accession Number 20190923-5178
[9] FERC Accession Number 20181210-5189

3.3 Recreation Use and Facility Inventory Study

FERC requested a recreation study, including a current inventory of recreation facilities and a study to collect information on existing recreation opportunities and use at the Sylvan Project and Pillager Project.

3.3.1 Goals and Objectives

The goal of the Recreation Use and Facility Inventory Study is to gather current information on recreation facilities, recreational use, and potential project effects to determine existing and future recreation use and capacity at the Sylvan Project and Pillager Project. Because all recreation sites in the Little Falls Project vicinity are owned and operated by the City of Little Falls, the study proposed below will only be administered at the Sylvan Project and Pillager Project.

The objectives of the Recreation Use and Facility Inventory Study are:

a) inventory and identify the condition of the recreation facilities and associated amenities at the Commission-approved Sylvan Project and Pillager Project recreation sites identified in Table 3-2 and Table 3-3 (including any erosion that may exist due to recreational use);

b) identify who owns, operates, and maintains each Sylvan Project and Pillager Project recreation site and/or facility;

c) describe each Sylvan Project and Pillager Project recreation site and/or facility in relation to its associated project boundary;

d) conduct user surveys during the recreation season to determine the adequacy of the Commission-approved Sylvan Project and Pillager Project recreation sites and if modifications to the sites would be needed to meet current or future recreation needs; and

e) determine the current and projected capacity at each Commission-approved Sylvan Project and Pillager Project recreation site and/or facility.

3.3.2 Known Resource Management Goals

Sections 4(e) and 10(a) of the FPA require FERC to give equal consideration to all uses of the waterway on which a hydroelectric project is located, and what conditions should be placed on any license that may be issued. Detailed information on the condition of Sylvan Project and Pillager Project recreation facilities, current use, and whether existing access facilities in the area are meeting recreation demand would inform a decision on whether additional public access and/or facilities at the Sylvan Project and Pillager Project are necessary to meet existing and future demand at the Sylvan Project and Pillager Project. Recreation is a project purpose for the Sylvan Project and Pillager Project. Identifying effects of operations of the Sylvan Project and Pillager Project pertaining to recreation is relevant to the Commission's public interest determination in issuing new licenses for the continued operation of the Sylvan Project and Pillager Project.

3.3.3 Background and Existing Information

The PAD, Section 5.7, *Recreation and Land Use*, provides background information about recreation opportunities at the Projects. As the Licensee does not directly provide recreational facilities at the Little Falls Project, the PAD describes public recreation sites in the Little Falls Project Vicinity. For the Sylvan Project and Pillager Project, the PAD describes existing Sylvan Project and Pillager Project Commission-Approved Project Recreation Sites. These sites are listed in Table 3-2 and Table 3-3 and locations are depicted on Figure 3-3 and Figure 3-4.

Table 3-2: Sylvan Project Commission-Approved Project Recreation Sites

Site Name	Description	Operator
Wilder's Landing	Boat launch at the northwest end of the Crow Wing River. Concrete boat ramp and parking for approximately 15 vehicles.	Minnesota DNR
Fisherman's Bridge Boat Launch and Fishing Area	Located on the north end of Sylvan reservoir. Designated shorefishing area with parking for approximately five vehicles. Concrete boat launch and dock with parking for approximately 15 vehicles.	Minnesota DNR. MP leases the site to the Minnesota DNR.
Sylvan Dam Boat Access and Fishing Area	Concrete boat launch providing access to the Crow Wing River below the dam. The site provides 10 parking spaces for anglers and approximately 10 additional spaces for boaters.	Minnesota DNR. MP leases the site to the Minnesota DNR.
Canoe Portage	Portage around the dam. Located on the east side of the dam and approximately 200 yards in length.	MP

Table 3-3: Pillager Project Commission-Approved Project Recreation Sites

Site Name	Description	Operator
Alvah's Landing (Minnesota DNR Boat Launch)	Boat launch located approximately 2.5 miles upstream from the Pillager Project dam, on the south shore of the Crow Wing River. Parking for approximately 15 vehicles and a concrete boat ramp.	Minnesota DNR
Pillager Dam Public Boat Launch	Boat launch located on the north shore of Pillager reservoir, adjacent to the dam. Parking for approximately 15 vehicles and a concrete boat ramp.	Minnesota DNR and MP. (MP owns the land, and leases the land to Minnesota DNR)
Pillager Dam Public Canoe Portage and Shorefishing Access	Portage around the south end of Pillager dam. Approximately 300 feet in length.	MP
Crow Wing River Canoe Campsite	Two canoe-up primitive campsites on the north shore of the Crow Wing River, just downstream of Alvah's landing.	MP

Figure 3-3: Sylvan Project Recreation Sites

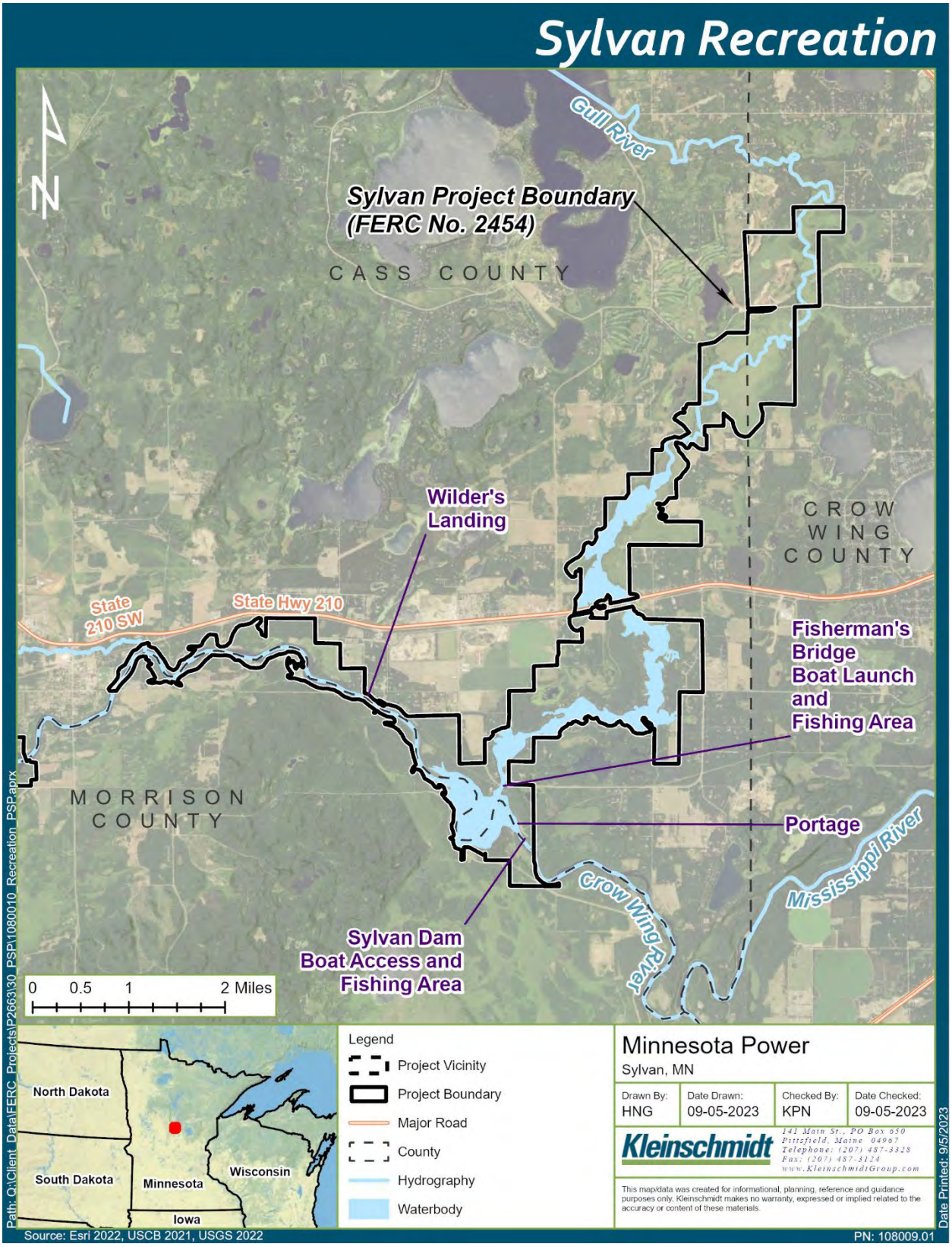
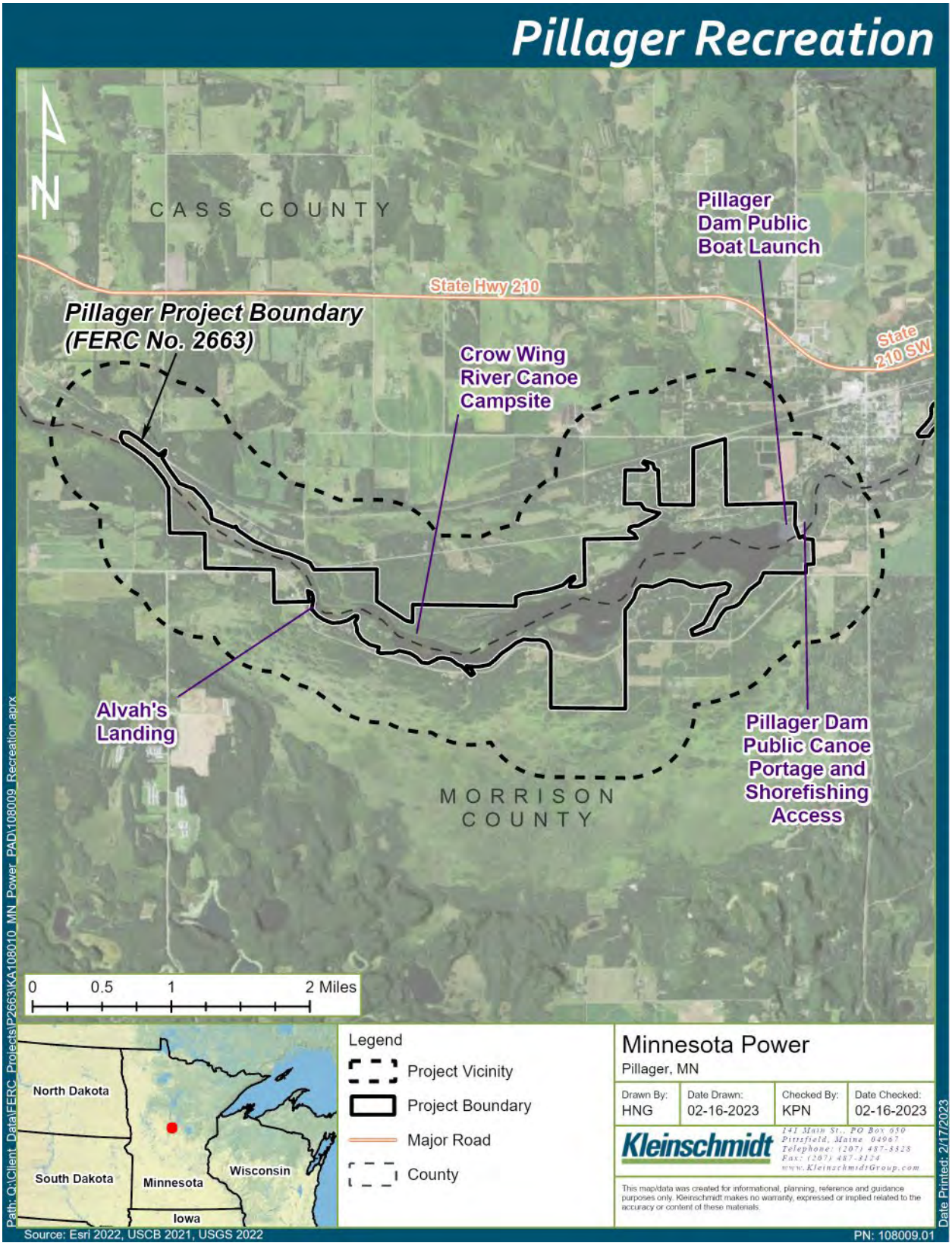


Figure 3-4: Pillager Project Recreation Sites



3.3.4 Project Nexus

Recreation is a recognized project purpose under section 10(a) of the FPA. The Licensee will undertake measures including ongoing maintenance of recreation facilities for project purposes throughout the license term. Therefore, FERC would have ongoing responsibility to ensure compliance and that those recreation facilities meet recreational demand over the term of the new license.

3.3.5 Methodology

The recreation study will include two parts: 1) a Recreation Facility Inventory and Condition Assessment, and 2) Recreation Use Assessment.

3.3.5.1 Recreation Facility Inventory and Condition Assessment

The Licensee will perform a field inventory to document the existing recreation facilities and amenities at the Commission-approved recreation sites at the Sylvan Project and Pillager Project (Table 3-2 and Table 3-3). The inventory will include the following:

1) the location of facilities in relation to the associated project boundary;
2) the types and number of amenities provided at each site and/or facility;
3) the condition of the facility/amenities;
4) the entities responsible for the operation and maintenance of each facility;
5) hours/seasons of operation; and
6) accompanying photographs.

Additionally, field investigations at each recreation site will identify areas that have characteristics of erosion, slumping, or other forms of instability. The field investigation will include photographs of areas of instability. The Recreation Facility Inventory and Condition Assessment form that will be used is available in Appendix C. The conditions of the facilities will be assessed as follows:

N = Needs replacement (Facility is non-functional or has broken or missing components)

R = Needs repair (Facility has structural damage or is in an obvious state of disrepair)

M = Needs maintenance (Facility needs maintenance, such as cleaning or painting)

G = Good condition (Facility is functional and well maintained)

3.3.5.2 Recreation Use Assessment

The Recreation Use Assessment includes recreational observations and recreation use surveys at the FERC-approved recreation sites at the Sylvan Project and Pillager Project (Table 3-2 and

Table 3-3), as described below. The Recreation Use Assessment field observations and use surveys will be conducted at each FERC-approved recreation site for two hours per site, per survey day. A surveyor will conduct the observations / spot counts and recreational use surveys over the days as outlined in Table 3-4. Each weekday and weekend day will be randomly selected. The assessment will be conducted at the site at different times of day on a rotating basis to account for time-of-day use patterns.

Table 3-4: Recreation Use Assessment Schedule

Month	Recreation Use Assessment Days
May	• Holiday weekend day (Either on Memorial Day [5/27/2024] or during the associated Memorial Day Weekend)
June	• Two weekend days • Two weekdays
July	• Two weekend or holiday days (One day will be on the Fourth of July or during the associated Fourth of July weekend) • Two weekdays
August / September	• Two weekend days (One day will be on Labor Day [9/2/2024] or during the associated Labor Day weekend) • Two weekdays

Recreational Use Surveys

MP will administer recreation use surveys directly to users at the FERC-approved recreation sites at the Sylvan Project and Pillager Project (Table 3-2 and Table 3-3). The survey form is available in Appendix C. The purpose of the recreation use survey is to gain user opinions regarding the existing recreation facilities and opportunities. The survey will record the number of people in a party, their primary reason (recreational activity) for visiting the site, their perception of level of use, and their opinions regarding the amount and types of recreation opportunities offered within the Sylvan Project boundary and Pillager Project boundary. Surveys will be administered during a 2-hour period at each site, per survey day.

The recreation use survey will be administered directly to visitors at the FERC-approved recreation sites at the Sylvan Project and Pillager Project, with the exception of the Crow Wing River Canoe Campsite at the Pillager Project. For the Crow Wing River Canoe Campsite site, a user-administered survey will be distributed and collected on-site through the use of waterproof envelopes, boxes, or other user-administered weatherproof means, such as a temporary shelter. Writing utensils will be provided. In addition to the paper user-administered surveys, a link or QR code may be provided to allow users to participate in an online version of the survey. User-

administered surveys will be collected from the site (e.g., from a secure survey collection box) approximately once per month during the study season.

Observations / Spot Counts

In conjunction with the Recreation Use Surveys, MP will conduct observations and spot counts at the FERC-approved recreation sites at the Sylvan Project and Pillager Project. The Recreational Observations / Spot Counts form is available in Appendix C. The spot count will be conducted once during each visit to the site. For the spot counts, MP will record the number of vehicles observed at a site and the number of users observed at a single time. The spot count captures a snapshot-in-time of the quantity of users and vehicles. The spot count will typically be at the beginning of the survey period, and the time of the spot count will be recorded. For the observations, the surveyor will record any observed activities during the duration of the 2-hour survey period (conducted concurrently with the 2-hour period for the Recreational Use Surveys). The Crow Wing River Canoe Campsite will be excluded from the observations / spot counts, as data from the user-administered surveys should be adequate to document recreational use figures at this site.

3.3.5.3 Report

A report summarizing the results of the recreation facilities inventory and the recreation use assessment will be prepared. The report will include a recreation facility inventory and condition assessment for the existing FERC-approved recreation sites at the Sylvan Project and Pillager Project (Table 3-2 and Table 3-3) with the information collected as proposed in Section 3.3.5.1 as well as the Recreation Use Assessment as proposed in Section 3.3.5.2.

3.3.6 Consistency with Generally Accepted Scientific Practice

Estimating use by conducting recreational observations / spot counts at recreation sites and conducting a recreation site inventory and assessment is a standard practice within FERC relicensing.

3.3.7 Deliverables and Schedule

Field work will occur May 2024 – September 2024. Reports containing the results of the Recreation Use and Facility Inventory Study will be prepared and provided in the ISR to be distributed to the relicensing parties and filed with the Commission in accordance with the Commission's ILP Process Plan and Schedule.

3.3.8 Cost and Level of Effort

The estimated cost of the proposed Recreation Use and Facility Inventory Study is approximately $90,000, which includes field investigation, travel, data input and analysis, and report preparation.

3.4 Cultural Resources Study

MP will conduct a Cultural Resources Study comprised of two components: a Historic Architectural Resources Study and an Archaeological Resources Study. The studies will focus on historic properties, which are those resources that are listed or eligible for listing in the National Register of Historic Places (NRHP).

3.4.1 Historic Architectural Resources Study

FERC and the Minnesota State Historic Preservation Office (Minnesota SHPO) requested a cultural resources study, including an inventory of historic architectural resources within the Projects' Area of Potential Effects (APEs)[10] and their NRHP eligibility.

3.4.1.1 Goals and Objectives

In accordance with 36 CFR §§ 800.4 and 800.5, the goal of the Historic Architectural Resources Study is to identify historic architectural resources within the APEs and determine the potential effects of continued hydropower operations through FERC relicensing on historic architectural resources that are listed, eligible, or potentially eligible for listing in the NRHP within the APEs at the Little Falls Project, Sylvan Project, and Pillager Project.

The objectives of the study are:

a) identify the APEs at the Projects in consultation with the Minnesota SHPO and interested tribes;

b) perform a literature review and reconnaissance survey to compile existing information and identify historic architectural resources 45 years or older that are listed, eligible, or potentially eligible for listing in the NRHP within the APEs;

c) perform updated survey and evaluation documentation of the NRHP-eligible Project dams and associated facilities at the Little Falls Project, Sylvan Project, and Pillager Project; and

d) evaluate potential Projects effects on historic architectural resources that are listed, eligible, or potentially eligible for listing in the NRHP within the APEs.

3.4.1.2 Known Resource Management Goals

Sections 4(e) and 10(a) of the FPA require that the Commission give equal consideration to all uses of the waterway on which a project is located. When reviewing a proposed action, the Commission must consider the environmental, recreational, fish and wildlife, and other non-developmental values of the project, as well as power generation and other developmental values.

[10] The APE is the geographic area within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist.

Cultural resources are resources of particular interest to the public. Preserving and protecting cultural resources provides a venue for understanding our Nation's past and respecting the various cultures of this country. Project operation and maintenance may affect the value and integrity of National Register-eligible historic properties in the vicinity of the Projects. Ensuring that potential measures associated with cultural resources are analyzed is relevant to the Commission's public interest determination.

Pursuant to Section 106 of the National Historic Preservation Act (Section 106), the licensing of the proposed Projects would be a federal undertaking and licenses issued by the Commission would permit activities that may "…cause changes in the character or use of historic properties, if any such historic properties exist…" (see 36 CFR § 800.16(d) of the regulations implementing Section 106). The Commission must, therefore, comply with Section 106, which requires the head of any federal department or independent agency having authority to license an undertaking to take into account the effect of the undertaking on historic properties. In the case of these proposed Projects, assessment of historic properties would be conducted in consultation with the Commission, Minnesota SHPO, any tribes which express an interest in the Projects, and other interested parties. In the case of these proposed Projects, assessment of historic properties would be conducted in consultation with FERC, Minnesota SHPO, any tribes which express an interest in the Projects, and other interested parties.

3.4.1.3 Background and Existing Information

The PAD, Section 5.9, *Cultural Resources*, provides background information on historic architectural resources at the Little Falls Project, Sylvan Project, and Pillager Project. The Minnesota SHPO confirmed in their July 22, 2023, letter that the Licensee accurately described the currently recorded historic status of dams and associated facilities in the PAD (Table 3-5):

Table 3-5: Currently Identified Historic Architectural Properties at the Projects

Name	Description
Little Falls Hydroelectric Facilities [MO-LFC-00130]	A historic property determined eligible for listing in the in the NRHP in 1991 as part of the Little Falls Project's previous federal relicensing Section 106 review.
Sylvan Hydroelectric Power Plant Facilities [CA-SLV-003]	A historic property determined eligible for listing in the in the NRHP in 1991 as part of the Sylvan Project's previous federal relicensing Section 106 review.
Pillager Hydroelectric Generating Plant [CA-PLC-002]	A historic property determined eligible for listing in the in the NRHP in 1992 as part of the Pillager Project's previous federal relicensing Section 106 review.

3.4.1.4 Project Nexus

Section 106 requires that federal agencies take into account the effect of proposed undertakings on any district, site, building, structure, or object that is included in or eligible for the NRHP. The study will identify potential adverse effects to historic properties resulting from continued operations of the Projects and help facilitate the Section 106 consultation process.

3.4.1.5 Methodology

The following methodology is consistent with a Reconnaissance or Phase 1 Survey and will be used for the Historical Architectural Resources Study.

MP proposes to use the existing FERC Project Boundary for the Projects' APEs (Figure 3-5, Figure 3-6 , and Figure 3-7), which are further defined in Table 3-6. Pursuant to the implementing regulations of Section 106 at 36 CFR § 800.4(a), MP will consult with the Minnesota SHPO and interested tribes to finalize the APEs for the Projects.

Table 3-6: Projects' Proposed Area of Potential Effects

Project	Proposed Area of Potential Effects (APE)
Little Falls Project	The proposed APE encompasses the existing FERC approved Project Boundary as depicted in Figure 3-5. As defined in the 1996 Cultural Resources Management Plan (CRMP), this includes the Little Falls reservoir and its marginal fee or flowage lands above and below the Little Falls dam, including the hydroelectric facilities and Mill Island, a rocky escarpment that anchors the dam at mid-channel (IMA 1996a). • Includes the floor of the reservoir (including submerged tracts), the present shorelines of both the reservoir and discharge pools, and parcels adjoining the electrical generation facilities, including Mill Island (IMA 1996a).
Sylvan Project	The proposed APE encompasses the existing FERC approved Project Boundary as depicted in Figure 3-6. As defined in the 1996 CRMP, this includes the Sylvan reservoir and its marginal fee and flowage lands, other areas subject to Sylvan Project flooding or erosion above and below the Sylvan dam[11], and the hydroelectric facilities (IMA 1996b). • Includes the floor of the reservoir (including submerged tracts), the present shorelines of both the reservoir and discharge pool, the various wetland, floodplain, and upland areas adjoining the reservoir to which MP has fee or flowage rights, and in some rare instances, areas extending beyond the limits of MP-associated lands to the Sylvan Project "flood line" (IMA 1996b).

[11] The Sylvan Project APE includes the lease lots located within the Sylvan Project Boundary.

Project	Proposed Area of Potential Effects (APE)
Pillager Project	The proposed APE encompasses the existing FERC approved Project Boundary as depicted in Figure 3-7. As defined in the 1999 CRMP, this includes the Pillager reservoir and its marginal fee and flowage lands and other areas subject to Pillager Project flooding or erosion above and below the Pillager dam[12], including the hydroelectric facilities (IMA 1999). • Includes the floor of the reservoir (including submerged or partly submerged tracts), the present shorelines of both the reservoir and discharge pool, and the various areas adjoining the reservoir to which MP has fee or flowage rights (IMA 1999).

MP will coordinate with a qualified professional to perform a literature review to compile existing information and identify historic architectural resources within the APEs. The literature review will consider the potential for historic districts and require background research and report preparation. Tasks include, but are not limited to:

- Review of Minnesota's SHPO Statewide Inventory Database[13] to identify previously recorded historic architectural resources 45 years or older within the APEs and review their NRHP eligibility status (NRHP listed, NRHP eligible, NRHP ineligible, and inventoried/recorded, but unevaluated, properties).
- Review of historic maps, aerial photographs, relevant documents from construction of the Projects, information from local repositories, historical accounts, etc. to gather history related to development and settlement patterns of the Projects and their associated APEs.

A reconnaissance survey will be performed of the APEs to determine if unrecorded historic architectural resources are present. In addition, the reconnaissance survey will include a field visit to previously inventoried, but unevaluated properties within the APEs. Inventory forms will be completed in accordance with Minnesota SHPO's *Historic and Architectural Survey Manual* for historic architectural resources that meet the minimum inventory criteria[14]. The resulting report of the reconnaissance survey will summarize historic architectural resources identified and contain recommendations on NRHP eligibility and/or recommendations for subsequent field investigation[15].

[12] The Pillager Project APE includes the lease lots located within the Project Boundary.

[13] Minnesota SHPO's Database supplements the National Register of Historic Places Database and includes properties that have not been evaluated for nomination to the NRHP.

[14] Minnesota uses MnSHIP GIS application to manage data for above-ground resources. All inventory forms for newly recorded properties will be prepared consistent with MnSHIP requirements.

[15] Minnesota SHPO's *Historic and Architectural Survey Manual* notes that a reconnaissance survey is intended to characterize the properties in relation to historic contexts and makes recommendations for additional intensive survey work. Reconnaissance level surveys completed for Review and Compliance projects often make preliminary eligibility recommendations.

Because the continued operation and maintenance of the Projects directly affects the Projects' facilities, MP will complete updated survey and evaluation of documentation for the NRHP-eligible Little Falls Project, Sylvan Project, and Pillager Project dams and associated facilities using the Secretary of the Interior's Standards for Identification and Evaluation and the Minnesota's SHPO current survey guidelines (outlined in Minnesota SHPO's *Historic and Architectural Survey Manual*).

Results of the Historic Architectural Resources Study will be summarized in the ISR and presented in the ISR meeting. Potential Projects' effects (i.e., operations and maintenance) on historic architectural resources that are listed, eligible, or potentially eligible for listing in the NRHP within the APEs will be summarized. The need for subsequent survey or documentation of historic architectural resources, if necessary, will be determined in consultation with interested stakeholders.

Figure 3-5: Little Falls Project Proposed Area of Potential Effects

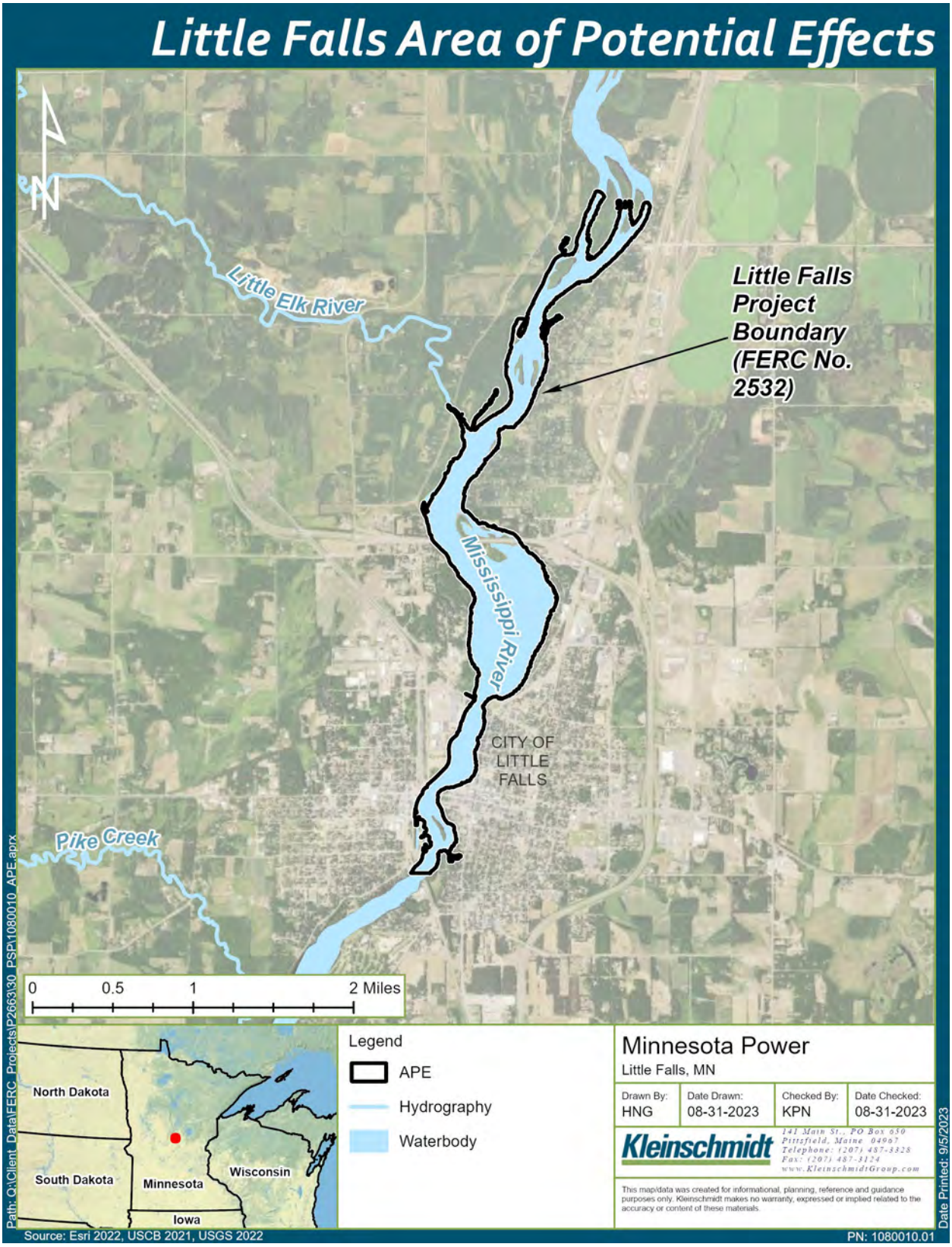


Figure 3-6: Sylvan Project Proposed Area of Potential Effects

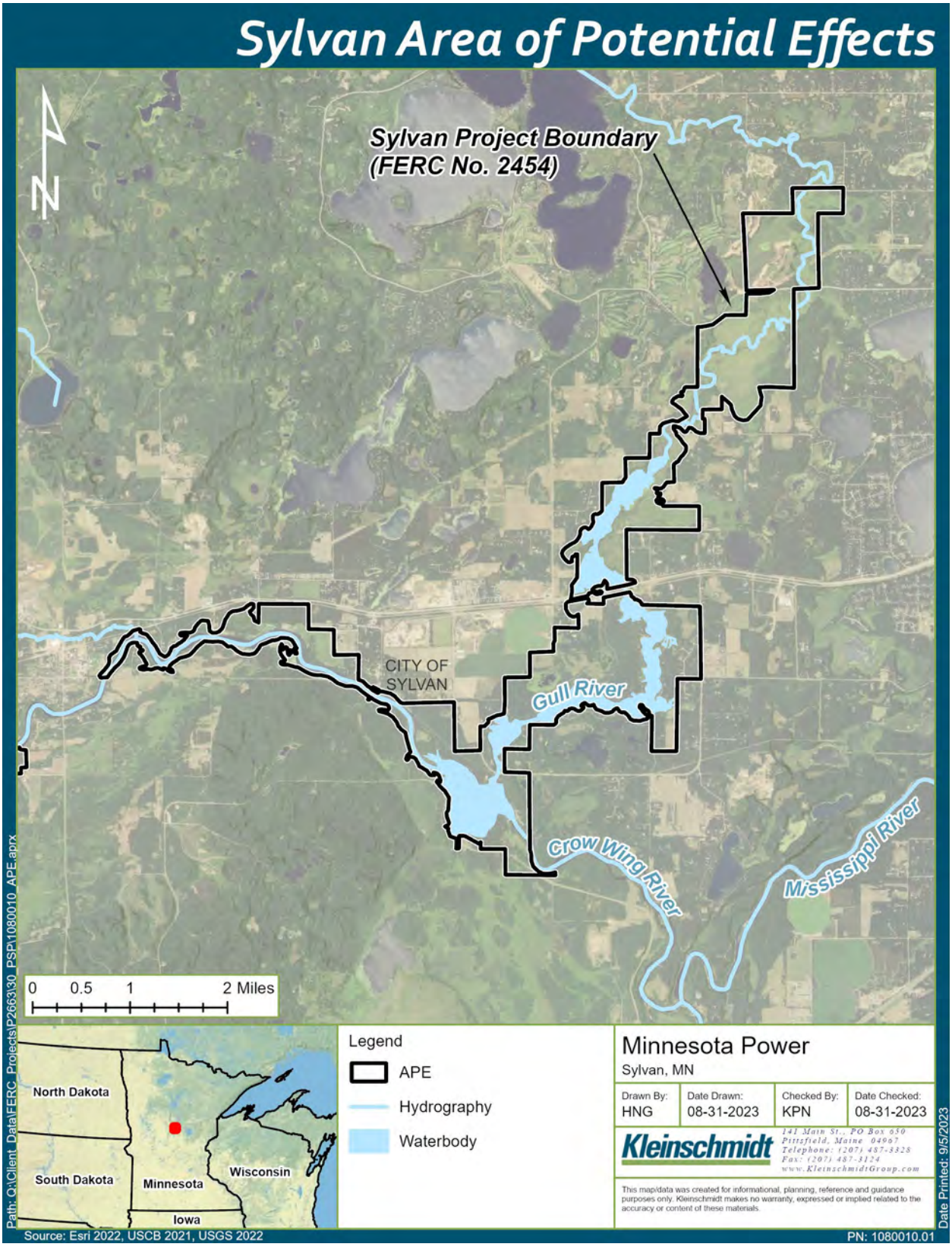
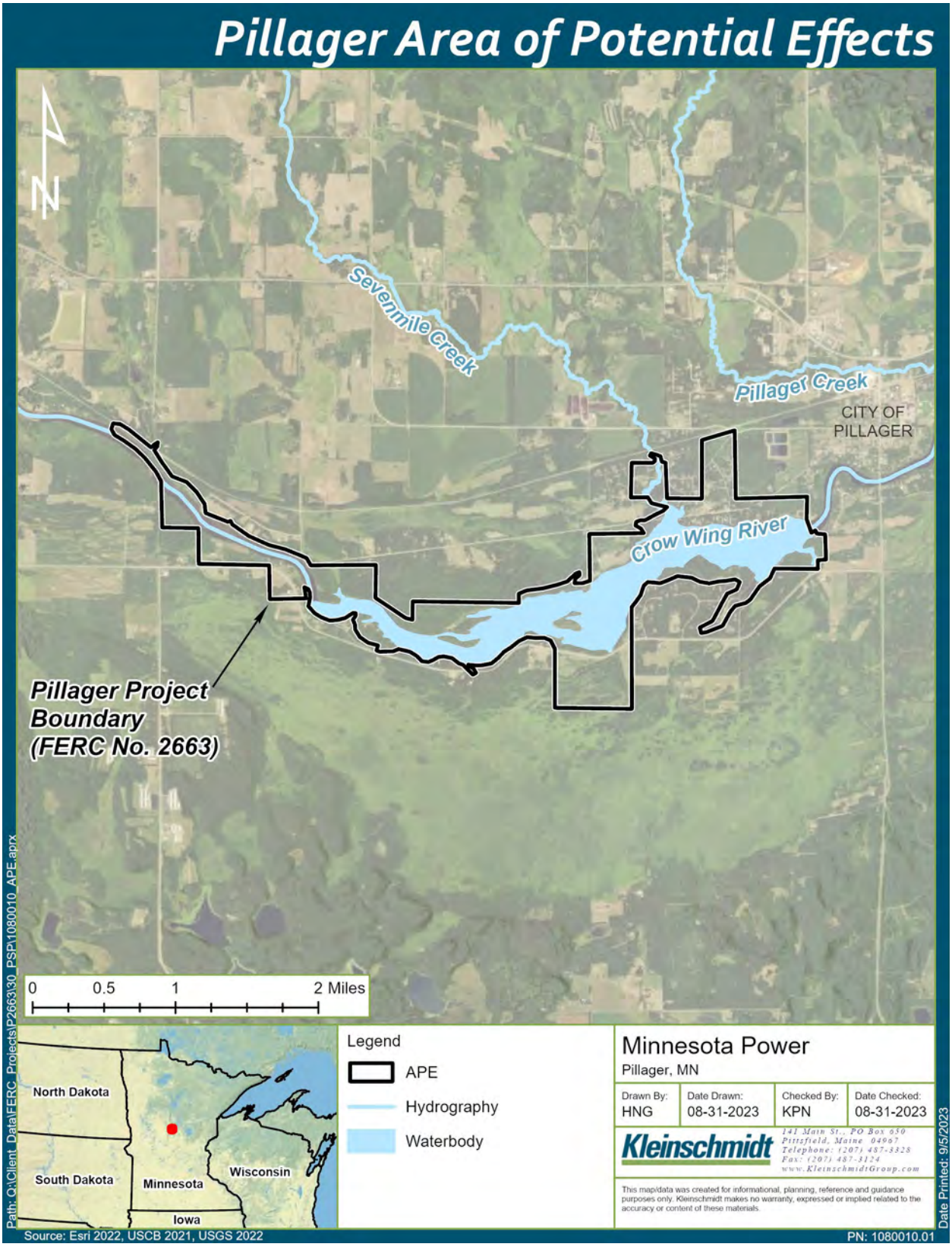


Figure 3-7: Pillager Project Proposed Area of Potential Effects



3.4.1.6 Consistency with Generally Accepted Scientific Practice

The proposed methods for this study are consistent with accepted professional practices commonly used in FERC relicensing proceedings.

3.4.1.7 Deliverables and Schedule

The Historic Architectural Resources Study will be conducted during 2024 with an anticipated completion in September 2024. Reports containing the results of the Historic Architectural Resources Study will be prepared and provided in the ISR to be distributed to the relicensing parties and filed with the Commission in accordance with the Commission's ILP Process Plan and Schedule. Separate reports will be prepared for each of the Projects.

3.4.1.8 Cost and Level of Effort

The estimated cost of the proposed study is approximately $25,000 per Project for a total of $75,000, which includes literature review, field investigation (to complete updated documentation and evaluation of the Project dams and associated facilities), and report preparation.

3.4.2 Archaeological Resources Study

FERC and the Minnesota SHPO requested a cultural resources study, including a current inventory of archaeological resources within the Projects' Area of Potential Effects (APEs) and their NRHP eligibility. The Friends of the Old Crow Wing requested a re-evaluation of resources on the Chippewa Agency Historic District.

3.4.2.1 Goals and Objectives

In accordance with 36 CFR §§ 800.4 and 800.5, the goal of the Archaeological Resources Study is to identify archaeological resources within the APEs and determine the potential effects of continued hydropower operations through FERC relicensing on archaeological resources that are listed, eligible, or recommended eligible for listing in the NRHP within the APEs at the Little Falls Project, Sylvan Project, and Pillager Project.

The objectives of the study are:

a) identify the APE at the Little Falls Project, Sylvan Project, and Pillager Project in consultation with the Minnesota SHPO and interested tribes;

b) perform a desktop archaeological resources survey to compile existing information on archaeological resources within the APEs;

c) perform a conditions assessment (field visit) to document the current condition of archaeological resources that are listed or eligible for listing in the NRHP within the APEs;

d) conduct a reconnaissance survey of the Projects' APEs to determine if unrecorded archaeological resources are present; and

e) evaluate the potential effects the Projects would have on archaeological resources that are listed, eligible, or recommended eligible for listing in the NRHP within the APEs.

3.4.2.2 Known Resource Management Goals

Sections 4(e) and 10(a) of the FPA require that the Commission give equal consideration to all uses of the waterway on which a project is located. When reviewing a proposed action, the Commission must consider the environmental, recreational, fish and wildlife, and other non-developmental values of the project, as well as power generation and other developmental values.

Cultural resources are resources of particular interest to the public. Preserving and protecting cultural resources provides a venue for understanding our Nation's past and respecting the various cultures of this country. Project operation and maintenance may affect the value and integrity of National Register-eligible historic properties in the vicinity of the projects. Ensuring that potential measures associated with cultural resources are analyzed is relevant to the Commission's public interest determination.

Pursuant to Section 106 of the National Historic Preservation Act (Section 106), the licensing of the proposed Projects would be a federal undertaking and a license issued by the Commission would permit activities that may "…cause changes in the character or use of historic properties, if any such historic properties exist…" (see 36 CFR § 800.16(d) of the regulations implementing Section 106). The Commission must, therefore, comply with Section 106, which requires the head of any federal department or independent agency having authority to license an undertaking to take into account the effect of the undertaking on historic properties. In the case of these proposed Projects, assessment of historic properties would be conducted in consultation with the Commission, Minnesota SHPO, any tribes which express an interest in the Projects, and other interested parties. In the case of these proposed Projects, assessment of historic properties would be conducted in consultation with FERC, Minnesota SHPO, any tribes which express an interest in the Projects, and other interested parties.

3.4.2.3 Background and Existing Information

The PAD, Section 5.9, *Cultural Resources*, provides background information on cultural resources at the Projects. Archaeological surveys were conducted at the Little Falls Project, Sylvan Project, and Pillager Project in the 1990's during previous relicensing efforts and included literature reviews followed by field investigation for recommended sites. Since that time, literature reviews and field investigations were performed in selected areas prior to timber harvests and literature reviews were performed of lease lots at the Sylvan Project and Pillager Project. In addition, MP

submits annual reports to SHPO and FERC on all cultural resource management activities for the previous field season, including results of annual monitoring of the reservoir shorelines at the Projects.

3.4.2.4 Project Nexus

Section 106 requires that federal agencies take into account the effect of proposed undertakings on any district, site, building, structure, or object that is included in or eligible for the NRHP. The study will identify potential adverse effects to archaeological resources resulting from continued operations of the Projects and help facilitate the Section 106 consultation process.

3.4.2.5 Methodology

The following methodology is consistent with a Reconnaissance or Phase 1 Survey and will be used for the Archaeological Resources Study.

MP proposes to use the existing FERC Project Boundary for the Projects' APEs (further defined in Section 3.4.1.5). Pursuant to the implementing regulations of Section 106 at 36 CFR § 800.4(a), MP will consult with the Minnesota SHPO and interested tribes to finalize the APEs for the Projects.

MP will coordinate with a qualified professional to perform a desktop archaeological resources survey to compile existing information and identify archaeological resources and Traditional Cultural Properties (TCPs)[16] within the APEs. Literature reviews are often used to assess the need for field survey, determine known sites within a project area, develop site locational models, determine areas of previous terrain disturbance to guide survey, provide historic context background to help evaluate site significance, provide background information for developing survey research designs and data recovery plans, and to provide sufficient background information for National Register nominations (Minnesota SHPO 2005). The desktop archaeological resources survey will consider the potential for historic districts and cultural landscapes and require background research and report preparation. Tasks include, but are not limited to:

- Review of Minnesota's SHPO Statewide Inventory Database to identify previously recorded archaeological resources within the APE and review their NRHP eligibility status (NRHP listed, NRHP eligible, NRHP ineligible, and inventoried/recorded, but unevaluated, properties).
- Review of the Office of State Archaeologist (OSA)'s data portal to identify previously recorded archaeological resources within the APE and review their NRHP eligibility status.

[16] A Traditional Cultural Property is a property that is eligible for inclusion in the NRHP based on its associations with cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community.

- Review relevant sources mentioned in the Minnesota's SHPO Archaeological Survey Guidelines such as *The Minnesota Archaeologist* (journal published by the Minnesota Archaeological Society), the Minnesota Historical Society, and the University of Minnesota's Anthropology Department.
- Review of manuscripts, research files, historic maps, and relevant documents from local repositories (i.e., municipal libraries, county courthouses, and county historical societies) to gather information on the Contact and Post-Contact Periods associated with the Projects.
- Review relevant sources for the environmental context (i.e., physiography, bedrock geology, soils, climate, plant/animal communities, topography, hydrology, etc.) and prehistoric background information of the Project APEs.
- Consult with relevant Tribal Historic Preservation Offices (THPO) to determine if there are TCPs located within the APEs.

Using the results of the desktop archaeological resources survey, a qualified professional will perform a conditions assessment (field visit) to document the current condition of archaeological resources that are listed or eligible for listing in the NRHP within the APEs. The conditions assessments would include the NRHP-listed Chippewa Agency Historic District[17] at the Sylvan Project. A reconnaissance survey will be performed using Minnesota's SHPO current survey guidelines (outlined in Minnesota *SHPO Manual for Archaeological Projects in Minnesota*) of the Projects' APEs to determine if unrecorded archaeological resources are present. If archaeological material is observed, the boundaries of the site will be delineated and recorded. Inventory forms will be completed in accordance with Minnesota SHPO's *Historic and Architectural Survey Manual* for newly identified archaeological resources and for previously recorded sites where significant information is gathered (e.g., expanded site limits, additional context definition). The reconnaissance survey will also include a field visit to previously inventoried, but unevaluated properties within the APEs. In addition, MP will consult with relevant THPOs to determine if TCPs are located within the Projects' APEs. The resulting report of the reconnaissance study will summarize archaeological resources and TCPs identified and contain recommendations on NRHP eligibility (e.g., recommended eligible, recommended not eligible, isolated find, or not evaluated) and/or recommendations for subsequent field investigation.

Results of the Archaeological Resources Study will be summarized in the ISR and presented in the ISR meeting. Potential Projects' effects (i.e., operations and maintenance) on archaeological resources and TCPs that are listed, eligible, or recommended eligible for listing in the NRHP within the APEs will be summarized. Privileged information will be redacted from the public version of

[17] The Friends of Old Crow Wing (non-profit) requested MP to reevaluate the archaeological resource known as the Chippewa Agency Historic District at the Sylvan Project. Nienow Cultural Consultants filed a letter of support regarding the study request. The Chippewa Agency District is located on the north shore of the Sylvan reservoir. The site is a multi-component site that was listed on the NRHP in 1972 (site #21CA55).

the ISR and be distributed to appropriate entities only. The need for subsequent survey or documentation of archaeological resources, if necessary, will be determined in consultation with interested stakeholders.

3.4.2.6 Consistency with Generally Accepted Scientific Practice

The proposed methods for this study are consistent with the *SHPO Manual for Archaeological Projects in Minnesota* and accepted practices commonly used in FERC relicensing proceedings.

3.4.2.7 Deliverables and Schedule

The Archaeological Resources Study will be conducted during 2024 with an anticipated completion in September 2024. Reports containing the results of the Archeological Resources Study will be prepared and provided in the ISR to be distributed to the relicensing parties and filed with the Commission in accordance with the Commission's ILP Process Plan and Schedule. Separate reports will be prepared for each of the Projects.

3.4.2.8 Cost and Level of Effort

The estimated cost of the proposed study is approximately $45,000 for the Little Falls Project, $100,000 for Sylvan Project, and $70,000 for the Pillager Project for a total of $215,000, which includes the Archaeological Resources Study as described in Section 3.4.2.5 and report preparation.

4.0 REQUESTED STUDIES NOT ADOPTED

As required by 18 C.F.R. § 5.13(a), if the Licensee does not adopt a requested study, an explanation of why the request was not adopted, with reference to the criteria set forth in 18 C.F.R. § 5.9(b) must be included in the RSP. There are two requested studies not being adopted, as described below.

4.1 Fish Passage Feasibility Study

4.1.1 Background

The Commission requested a Fish Passage Feasibility Study at the Little Falls Project in their letter dated July 27, 2023. FERC staff reiterated this request in comments on the PSP in their letter dated December 8, 2023, stating that information about the feasibility of fish passage would be needed for staff to properly conduct its National Environmental Policy Act (NEPA) evaluation. MP also understands that the Minnesota DNR and the City of Little Falls have interest in the potential installation of fish passage facilities at the Little Falls Project. Minnesota DNR provided written comments dated July 28, 2023, which described that although there are no particular species of concern, general aquatic system health stands to benefit from migration potential. Minnesota DNR also suggested that invasive carp are not currently an issue at the Little Falls Project. In the October 11, 2023 Study Plan Meeting, Minnesota DNR stated that it would recommend fish passage for potential biological benefits and the City of Little Falls expressed interest in fish passage for potential recreational benefits. MP understands that FERC needs additional site-specific information on the potential feasibility and costs associated with installation and maintenance of a fishway, as well as associated loss in generation capabilities from water diversions to conduct their NEPA analysis. MP is providing the additional information requested herein.

4.1.2 Fish Passage Options Evaluation

4.1.2.1 Nature-Like Fishway

The Minnesota DNR has previously proposed development of a nature-like fishway (NLF) in the former Hennepin Paper Mill canal footprint. The canal was previously used for hydromechanical power and was closed in 1998. An approximate layout of the Minnesota DNR proposed NLF is outlined in Figure 4-1. Under this proposed scenario, the entrance on the downstream end of the NLF would be located approximately 1,100 feet downstream of the powerhouse tailrace, with the NLF channel placed in the former canal bed. Estimated maximum head differential would be approximately 25 feet with a normal differential of 23.5 feet, depending on tailwater fluctuations associated with river flow. The Minnesota DNR layout proposed a 1,300-foot-long, 60-foot-wide

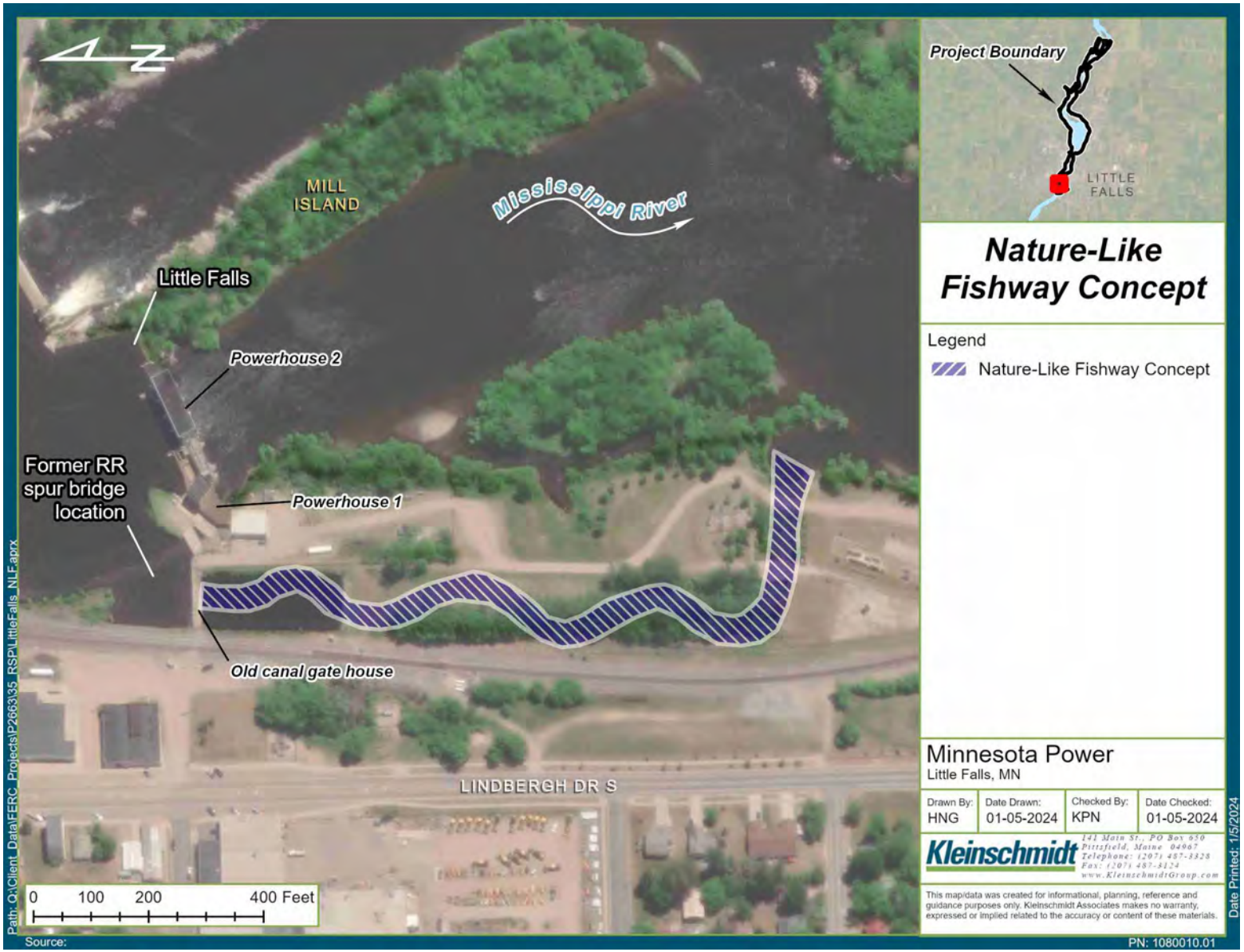
trapezoidal shaped NLF channel with a 46-foot-wide thalweg and sloping sides. The expected slope of the NLF would be approximately 2 percent with an approximate 25-feet of total head at the entrance location.

For the purpose of this theoretical NLF option evaluation, bedding material used for a NLF at this location would largely consist of 24-inch D50 stone, or similar, which would require a placement thickness exceeding 36 inches for stability considerations. Any boulders within the NLF would need to be bedded in the 24-inch D50 stone and could require a thicker stone layer. Fine grained material beneath the NLF bedding material would need to be removed and replaced with coarse common borrow foundation material or underlain with geotextiles to protect the fine-grained base from erosion.

The paper mill canal was originally constructed on top of bedrock and excavated for the mill building and powerhouses. Bedrock excavation would likely be required upstream of the mill foundation, within the paper mill canal, for a distance upstream until the NLF profile rises above the native bedrock elevation. A FERC approved blasting plan would need to be developed and approved if blasting is required, and adjacent structures would require monitoring and reporting.

Depending on the status and condition of the paper mill canal headgate system, a cofferdam would possibly need to be constructed prior to NLF construction. Details of a potential cofferdam would vary based on bathymetric details and depth of overburden.

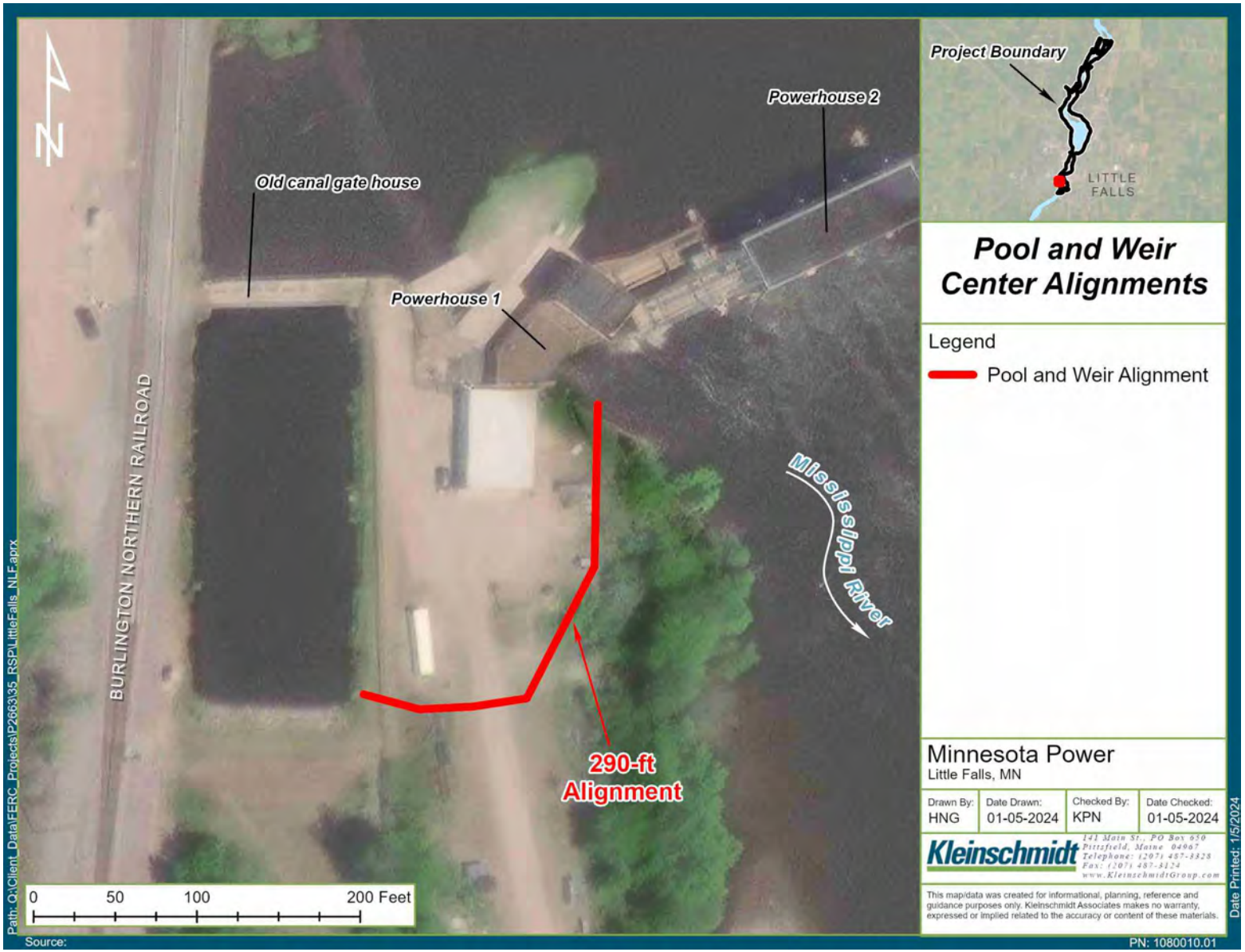
Figure 4-1: Nature-Like Fishway Concept



4.1.2.2 Pool and Weir

FERC requested evaluation of at least one other fishway alternative. A pool and weir fishway option could theoretically fit in the footprint immediately downstream of Powerhouse #2, unlike some other fishway options (e.g., rock ramp) that would take up considerably more space in the area immediately downstream of the Little Falls Project. Additionally, the footprint for this option could theoretically avoid affecting existing spillways. Spillway capacity would likely be affected for other theoretical fishway options that would utilize the existing dam face. MP has developed a high-level assessment of a theoretical pool and weir fishway in the area of Powerhouse #1 that connects the tailrace to the existing paper mill canal entrance. A theoretical approximate layout option (approximately 290-foot alignment) is outlined in Figure 4-2. U.S. Fish and Wildlife Service (USFWS) guidance limits the slope of pool and weir fishways to a maximum of 10 percent and limits the drop per weir to a maximum of 1 foot (USFWS 2017), so the theoretical fishway would be a minimum of 235 feet long and the ladder would require a minimum of 24 pools. Attraction water would have to be supplied from the powerhouse or from a new intake along the existing canal entrance. The grade and location of the fishway would need to be selected to minimize bedrock excavation and allow for construction on existing rock as possible.

Figure 4-2: Pool and Weir Centerline Alignments



4.1.3 Construction Costs

The exact extent of bedrock excavation that would be needed for the construction of a NLF is not known. However, the paper mill canal would have been constructed with a water depth to match the original canal headgates which were 10.7 feet tall. Therefore, the original paper mill canal likely had a water depth of at least 11 feet. It is possible that 15 feet of rock may need to be cut towards the downstream end of a NLF. If 13,000 cubic yards of rock had to be removed at $100 per cubic yard, the cost of rock removal would come out to $1.3 million. Based on known costs for similar projects, construction costs of a NLF at the Little Falls Project would likely be within the $2 million to $5 million range. Factors that could affect the final construction cost include the extent of required bedrock removal, contaminated soil remediation, source location of bedding materials, cofferdam construction, and maintenance to the canal headgate structure.

A pool and weir fishway would need to be constructed in a constrained location beneath the existing transmission line and behind the shop and garage, climbing in elevation along the existing paper mill canal wall with consideration for interferences with existing utilities. Published cost guidelines for pool and weir fishways of this theoretical size include order of magnitude costs between $2 million and $3.5 million. These costs do not consider contaminated soil remediation, issues with attraction flows, conflicts with existing utilities, or costs associated with construction of a small bridge that would be required for access across the fishway and along the canal access road.

The disturbance, disposal, and/or remediation associated with contaminated soils could increase fishway construction costs. Previous soil investigations and remediation conducted during the paper mill decommissioning and development of the existing park resulted in the documented removal of chemical waste, asbestos, lead paint, and other hazardous materials (MPCA 2005; MCPA 2006). Soil studies following remediation have documented areas of soil with petroleum contamination and poly-chlorinated biphenyl (PCB) contamination. Previous contaminated soil remediation at the former paper mill site has included the removal of 639 tons of mixed PCB and mineral oil contaminated soils, 172 tons of mineral contaminated soils, and 18 tons of PCB contaminated concrete. Existing mineral soils have been documented at a depth of 7-13 feet below the ground surface (MPCA 2005; MCPA 2006). Numerous excavations at this depth range would occur as part of any fishway construction (e.g., down to bedrock in some areas) and levels of soil contamination have not been documented throughout all of the potentially excavated reaches. Previous remediation efforts exceeded $1 million in funds during the early 2000's.

4.1.4 Operation and Maintenance

USFWS guidance generally suggests a flow of at least 5 percent of total station hydraulic capacity for fishways (USFWS 2017). The combined maximum hydraulic capacity for the 6 units at the Little

Falls Project is 3,780 cubic feet per second (cfs), which would result in a 5 percent flow of approximately 189 cfs. Previous Minnesota DNR recommendations have suggested approximately 200 cfs for diversion through a NLF. Both theoretical fishway scenarios described herein assume a flow of 200 cfs.

Hydrology data for the Little Falls Project was assessed using the downstream USGS gage at Royalton, MN (USGS gage 05267000) for the period of record from 1924-2023, and 2000-2023. Annual flow duration curves are provided in Figure 4-3. Figure 4-4 presents the flow duration curve for an assumed fish passage season of May through October, where 5 to 95 percent of the flow range varies between 1,224 cfs and 16,681 cfs. Table 4-1 summarizes the flow exceedance values for the fishway operation requirements for this range. The hydraulic capacity of the Little Falls Project would be exceeded approximately 57 percent of the time during the entire year, and 65 percent of the time during a May through October fish passage season. Flow would need to be diverted to a NLF from generation approximately 43 percent of the time annually. A pool and weir fishway, or similar structure operated for a May through October fish passage season, would require flows to be diverted from generation approximately 35 percent of the time. A majority of Little Falls Project spill occurs on the east side of Mill Island, which may act as attraction flow, and could reduce effectiveness of fishway structures located on the west bank of the river. Prioritization of spill using spillway no.'s 1 and 2 (located directly adjacent to Powerhouse #1) may reduce the percentage of time that river flows are diverted to the east side of the river during the spring months but could require spillway modifications, such as installation of pneumatic control for the existing 2.5-foot-high timber flashboard.

Table 4-1: Fishway Flow Operation Range

	Annual Period 2000-2023	Fish Passage Period May through October 2000-2023
95% Exceedance	1,540 cfs	1,224 cfs
Median	4,333 cfs	5,049 cfs
5% Exceedance	15,694 cfs	16,681 cfs

A spreadsheet calculation for energy was performed using the energy value of water volume, the minimum and maximum hydraulic capacity of the Little Falls Project's hydraulic units, and the inflow data from the flow duration tables. Diversion of water at the Little Falls Project for fish passage would result in approximately 699 megawatt hours (MWh) in lost generation with 200 cfs diverted seasonally (May through October) and approximately 943 MWh in lost generation with 200 cfs diverted year-round. This equates to an annual loss of generation revenue of $83,880 for seasonal diversion and $113,160 for year-round diversion based on the Minnesota 2022 rate of

12 cents per kilowatt hour calculated by the U.S. U.S. Energy Information Administration (EIA) (EIA 2022).

A fishway would require regular maintenance by MP staff to operate as designed. Anticipated operation and maintenance (O&M) activities for the NLF include headgate and canal debris management after spring freshet, high flow cleanout, debris management at the gatehouse, occasional repairs after flood damage, and inspection after high flows. Anticipated O&M activities for a pool and weir structure include spring cleanup, removal of debris, high flow cleanout, site inspections, and end of season shutdown, dewatering, and cleanup. MP estimates an annual O&M cost of $37,000 for a NLF and $155,000 for a pool and weir structure.

Figure 4-3: Annual Flow Duration Curves at the Little Falls Project

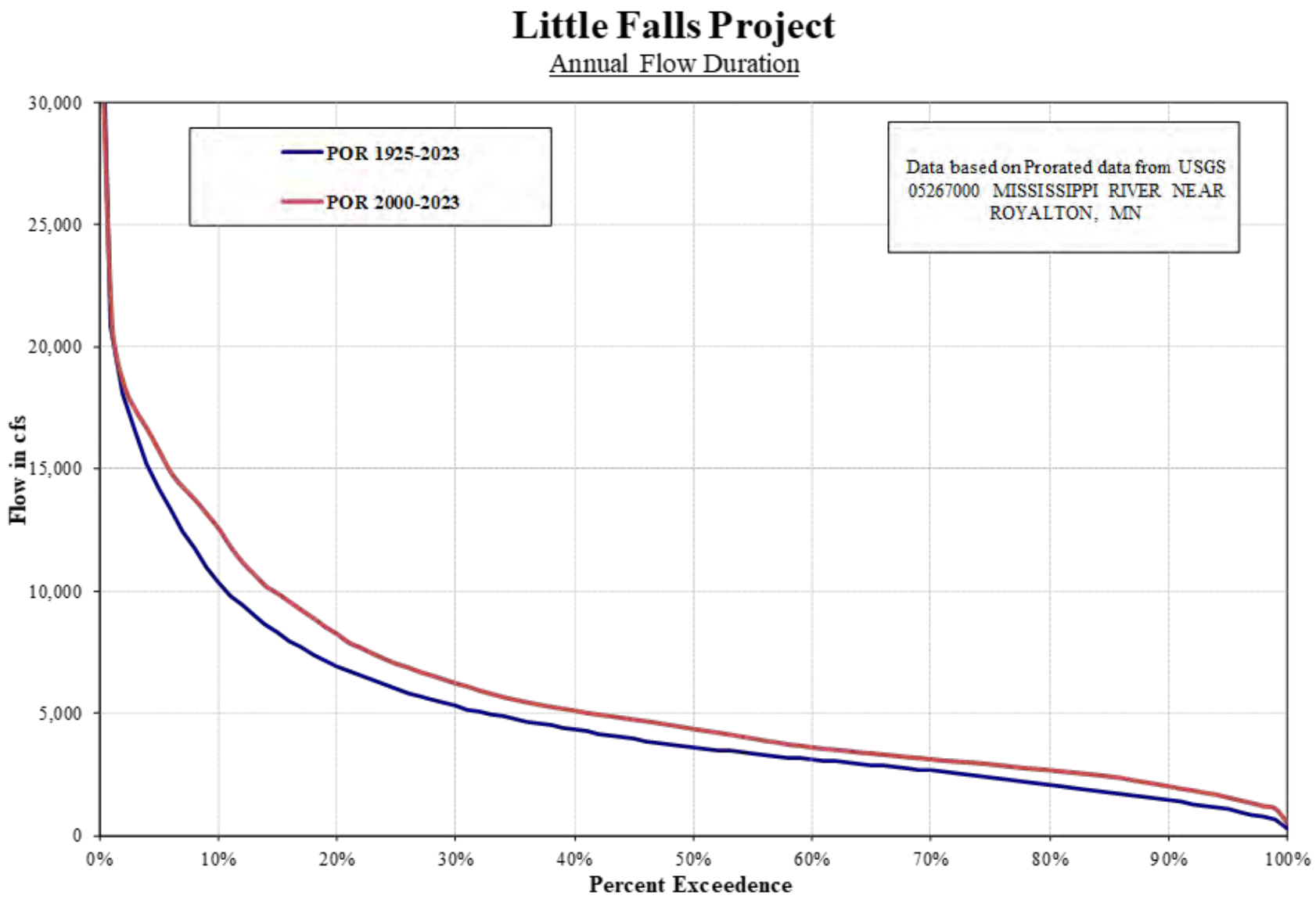
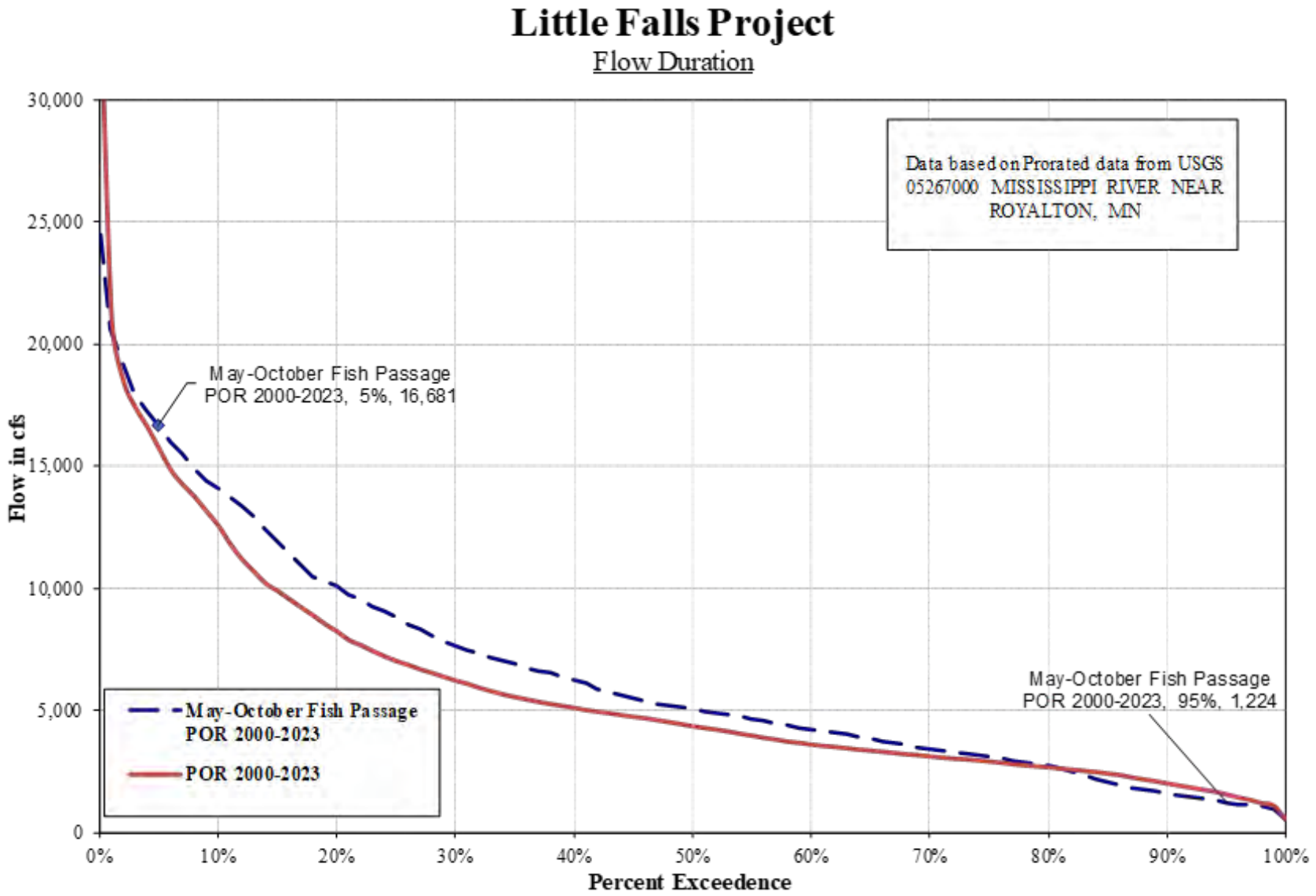


Figure 4-4: Seasonal Flow Duration Curves (May-October) at the Little Falls Project



4.1.5 Biological Resources

MP maintains that there has not been a demonstrated biological need for fish passage at the Little Falls Project. Information on fish assemblage at the Little Falls Project is provided in the PAD. The Minnesota DNR has noted that similar and diverse fish species compositions exist both upstream and downstream of the Little Falls Project. Smallmouth bass (*Micropterus dolomieu*) and muskellunge (*Esox masquinongy*) are common in both the upstream and downstream reaches. Nongame species that have been documented throughout both the upstream and downstream reaches include common shiner (*Luxilus cornutus*), hornyhead chub (*Nocomis biguttatus*), logperch (*Percina caprodes*), silver redhorse (*Moxostoma anisurum*), and shorthead redhorse (*Moxostoma macrolepidotum*) (Minnesota DNR 2009a, Minnesota DNR 2009b, Minnesota DNR 2009c). As described in detail in the PAD, more than 30 fish species have been documented both downstream and upstream of the Little Falls Project in the Mississippi River, with at least 37 fish species in the downstream reach between Little Falls and Blanchard, and at least 41 fish species in the upstream reach between Little Falls and Brainerd. The nine-mile reach downstream of the Little Falls Project (between the Little Falls and Blanchard Dams) supports angling opportunities for walleye, smallmouth bass, and muskellunge. No lack of suitable habitat has been documented as a factor that limits the presence of these popular sportfish species in this reach. These popular sportfish species are also caught in the 40-mile upstream reach between the Little Falls and Brainerd dams (Minnesota DNR 2009a, Minnesota DNR 2009b, Minnesota DNR 2009c). Populations for gamefish species are self-sustaining both upstream and downstream of the Little Falls Project and negative impacts to migratory species have not been identified at the Little Falls Project.

A majority of documented mussel species also occur both upstream and downstream of the Little Falls Project (Table 4-2), including two state species of special concern, creek heelsplitter (*Lasmigona compressa)* and black sandshell (*Ligumia recta)*. Individuals aged 0-5, and individuals aged 6 and older, have been documented for all species. Host fish species for creek heelsplitter include yellow perch (*Perca flavescens*), black crappie (*Pomoxis nigromaculatus*), and spotfin shiner (*Cyprinella spiloptera*). Host fish species for black sandshell include bluegill (*Lepomis macrochirus*), white crappie (*Pomoxis annularis* p.), sauger (*Sander canadensis*), and largemouth bass (*Micropterus salmoides*) (Minnesota DNR 2023a, Minnesota DNR 2023b). In addition to documented presence of these two mussel species both upstream and downstream of the Little Falls Project, occurrences of some host fish species for each mussel have been documented from both reaches (Minnesota DNR 2009a, Minnesota DNR 2009b, Minnesota DNR 2009c).

Table 4-2: Mussel Species Documented in the Mississippi River Upstream and Downstream of the Little Falls Project

Species	Upstream	Downstream
Black Sandshell	X	X
Creek Heelsplitter	X	X
Creeper	X	
Fatmucket	X	X
Giant Floater	X	X
Plain Pocketbook	X	X
White Heelsplitter	X	X

Sources: Minnesota DNR 2003; Minnesota DNR 2007.

The installation of a fish passage facility could allow for the spread of current or future invasive species. Current invasive species of concern include silver and bighead carp. Both species are prolific breeders and can outcompete multiple lifestages of native fish species for food and available habitat. Both silver and bighead carp have been documented in downstream reaches of the Mississippi River and eDNA surveys have documented the potential presence of silver carp upstream of the Coon Rapids dam, approximately 95 miles downstream of the Little Falls Project. There is potential for these species to expand their range upstream in the Mississippi River drainage. The potential future presence of silver or bighead carp is a significant concern when considering risks associated with the installation of a fish passage facility.

4.1.6 Conclusion

MP assessed theoretical fish passage options for the Little Falls Project, including an evaluation of the feasibility and cost of converting the former power canal into a NLF and development of a pool and weir fishway. A list of some general advantages and disadvantages of a NLF and pool and weir fish passage options are summarized in Table 4-3.

Table 4-3: General Advantages and Disadvantages of Nature-Like Fishway and Pool and Weir Fish Passage Options

	Nature-Like Fishway	Pool and Weir
General Advantages	• Creation of additional aquatic habitat within the NLF; • Year-round connectivity for fish species upstream and downstream of Little Falls Project; • Could be used by most resident fish species; • Potential benefit as a feature at Mill Park to increase recreational use.	• Minimal construction footprint; • Connectivity to upstream reach during Spring spawning period for fish downstream of Little Falls Project.
General Disadvantages	• Potential to disturb contaminated soils; • Spillway flows may attract fish away from downstream entrance and reduce effectiveness; • Opens up potential invasive carp passage if species expand ranges • Reduced renewable energy power generation year-round; • O&M for inspections, cleaning, and repairs following flood conditions.	• Potential to disturb contaminated soils; • Flows in east channel may attract fish away from fishway entrance and reduce effectiveness; • Opens up potential invasive carp passage if species expand their ranges; • May not pass all resident species; • Reduced renewable energy power generation during spring passage season; • O&M for seasonal shutdowns, cleaning, inspections, repairs and upkeep.

This evaluation provided site-specific information on potential feasibility and costs associated with installation and maintenance of a fishway, and associated loss in generation capabilities from water diversions. A summary of estimated costs for a NLF and a pool and weir fishway over the course of a 40-year license term are outlined in Table 4-4.

Table 4-4: Estimated Fish Passage Costs

	NLF	Pool and Weir
Construction*	$2 - $5 million	$2 - $3.5 million
Lost Generation (40-year period)	$3.4 - $4.5 million	$3.4 – $4.5 million
Operations and Maintenance (40-year period)	$1.5 million	$6.2 million
Total Cost (40-year period)	**$6.9 - $11 million**	**$11.6 - $14.2 million**

* Costs do not include potential contaminated soil remediation or disposal, which could be significant.

The cost of installation and continued maintenance of a fish passage facility and associated loss in generation from water diversions would add a significant financial burden, challenging the economic viability of the Little Falls Project. The available information indicates that there is not a cost-effective and reasonable manner in which the installation of fish passage is justifiable at the Little Falls Project, and MP does not intend to pursue the installation of fish passage facilities at the site. MP believes that the evaluation presented provides sufficient site-specific information for FERC's NEPA analysis.

Although MP understands that the Minnesota DNR has expressed interest in general aquatic connectivity in the Mississippi River system, fish assemblage and mussel survey data do not indicate a biological need for fish passage at the Little Falls Project. Additionally, there are inherent future biological risks from the installation and operation of a fish passage facilities, including the facilitation of aquatic invasive species due to the prospect of future continued expansion of aquatic invasive species in the Mississippi River system. The theoretical fishway evaluation presented herein demonstrates that the costs of the installation, maintenance, and lost generation from fish passage facilities at the Little Falls Project are not reasonable or justifiable compared to limited biological benefits. For these reasons, MP does not to propose additional studies on feasibility of fish passage at the Little Falls Project.

4.2 Re-evaluation of the Chippewa Agency Historic District Site

The Friends of Old Crow Wing requested a study to re-evaluate resources of the Chippewa Agency Historic District and determine if this parcel is necessary for Sylvan Project purposes. MP's proposed study to evaluate Cultural Resources, which includes the Chippewa Agency Historic District, is included in Section 3.4. As outlined in more detail in Section 3.4.2, MP will evaluate the Project Boundary for each of the Projects, which will include thoughtful consideration of the parcel which contains the Chippewa Agency Historic District.

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APPENDIX A

CONSULTATION DOCUMENTATION

Little Falls (P-2532), Sylvan (P-2454), and Pillager (P-2663) Hydroelectric Projects

Proposed Study Plan Meeting

Date and Time: October 11, 2023, 9:00 – 11:00 AM Central Time

Meeting Location: Virtual Meeting, Microsoft Teams

Purpose of the meeting:

- Review the Proposed Study Plan (PSP)
- Share any additional information or responses to proposed studies
- Discuss outstanding issues with respect to the PSP

Attendees:

- Jay Summers, Federal Energy Regulatory Commission (FERC)
- Colleen Corballis, FERC
- Michael Davis, FERC
- Patrick Ely, FERC
- Dave Graefe, FERC
- Paul Makowski, FERC
- Carrie Ng, FERC
- Shane Drift, Bois Forte Band of Chippewa
- Mary Manydeeds, Bureau of Indian Affairs
- Greg Kimman, City of Little Falls, MN
- Jon Radermacher, City of Little Falls, MN
- Jeremy Jackson, Friends of Old Crow Wing
- Bryan Johnson, Friends of Old Crow Wing
- Don Wedll, Friends of Old Crow Wing
- Susan Klapel, Minnesota Chippewa Tribe - Mille Lacs Band
- Eric Altena, Minnesota Department of Natural Resources (Minnesota DNR)
- Dan O'Shea, Minnesota DNR
- Bryan Johnson, Sylvan Township, MN
- Jenna Ruggles, Sylvan Township, MN
- Greg Prom, Minnesota Power (MN Power)
- Matthew Radzak, MN Power
- Nora Rosemore, MN Power
- Lesley Brotkowski, Kleinschmidt Associates (Kleinschmidt)
- Elizabeth Krchnavek, Kleinschmidt
- Jared Porter, Kleinschmidt

Meeting Summary

1) **Meeting Kickoff and Introductions**
   - Greg Prom (MN Power) kicked off the meeting.
   - Attendees introduced themselves and stated the entity they are representing.
2) **FERC Schedule Review**
   - Greg Prom described the licensing schedule, including completed milestones and immediate next steps.
3) **Purpose of Proposed Study Plan Meeting**
   - Greg Prom described the purpose of the Proposed Study Plan (PSP) meeting.
4) **Projects Overview**
   - Greg Prom provided an overview of the Little Falls Project (P-2532), Sylvan Project (P-2454), and the Pillager Project (P-2663), collectively known as the "Projects."
   - Jenna Ruggles (Sylvan Township) explained that the Pillager Project is in the Sylvan Township. There is no Pillager Township. Greg Prom responded that this will be corrected in future documents.
5) **Proposed Studies**
   - Lesley Brotkowski (Kleinschmidt) provided an overview of the studies proposed and proposed timing.
   - Water Quality Study
     - Jared Porter (Kleinschmidt) described the proposed study.
   - Desktop Fish Entrainment and Impingement Study
     - Jared Porter described the proposed study.
   - Recreation Use and Facility Inventory Study
     - Lesley Brotkowski described the proposed study.
   - Historic Architectural Resources Study
     - Lesley Brotkowski described the proposed study.
   - Archaeological Resources Study
     - Lesley Brotkowski described the proposed study.
6) **Requested Studies Not Adopted**
   - Lesley Brotkowski described reasonings provided in the PSP regarding not including the specific request of re-evaluation of the Chippewa Agency Historic District Site. She explained that that the area within the FERC Project Boundary, including the parcel of this site, will be studied in the Archaeological Resources Study using the methods proposed in the PSP.
   - Jared Porter explained the reasoning that MN Power is not proposing to conduct a fish passage feasibility study at the Little Falls Project as MN Power does not believe that there has been a demonstrated biological need for fish passage at the Little Falls Project, there are biological risks associated with fish passage, and MN Power does not believe that the costs of the installation and maintenance of fish passage facilities at the Little Falls Project are reasonable or justifiable.
7) **Additional Information Requested**
   - Lesley Brotkowski explained that FERC requested additional information, which was provided in the PSP or will be provided in the Initial Study Report (ISR).

8) **Overview of Next Steps**
   - Lesley Brotkowski provided an overview of the next steps and reminded the group that PSP comments are due on December 10, 2023.
9) **Questions and Discussion**
   - Don Wedll (Friends of Old Crow Wing)
     - Don stated that he doesn't believe there is adequate protection of the Chippewa Agency Historic District Site.
   - Dan O'Shea (Minnesota DNR)
     - Regarding the fish passage feasibility study, Dan O'Shea stated that the justification given in the PSP are the perspective of MN Power, and that the Minnesota DNR does not agree with the reasons given for not evaluating fish passage.
   - Patrick Ely (FERC)
     - Regarding the fish passage feasibility study, stated that it is likely that the Minnesota DNR will request fish passage. Stated that for FERC's evaluation, a cost estimate for fish passage installation and maintenance of a fish passage facility will be needed for FERC's National Environmental Policy Act (NEPA) review.
   - Jon Radermacher (City of Little Falls, MN)
     - Stated that the City of Little Falls rejects the justification included in the PSP for not studying fish passage feasibility at Little Falls.
   - Greg Kimman (City of Little Falls, MN)
     - Agreed with Jon Radermacher and reiterated that the City of Little Falls rejects the justification included in the PSP for not studying fish passage feasibility at Little Falls. Also added that fish passage is needed for improving recreation in the area. Lesley Brotkowski asked that he expand on this comment. Greg Kimman explained that he believes fish passage will improve fishing opportunities at Mill Park and in the area. Jon Radermacher added that they have begun community engagement to provide feedback to inform a master plan of the Mill Park area, which is being developed, and that part of that engagement has been looking at interest in fish passage at Mill Park.
   - Bryan Johnson (Sylvan Township, MN)
     - Asked about the possibility of decommissioning and what would be the impacts of decommissioning (including water levels).
     - Greg Prom responded that MN Power is currently proposing to relicense and continue operations of the Projects. He explained that if there were proposed decommissioning, this would go through a separate FERC process, which would involve NEPA analysis as well as public input.
   - David Graefe (FERC)
     - Provided comments and questions on the proposed Recreation Study.
       - Regarding the proposed duration of time for the user survey, David Graefe asked if besides allowing time for a single surveyor to conduct surveys during a single day, is there additional justification for limiting the standard time?

- Lesley explained that additionally, based on the current level of use of the sites, MN Power anticipates that the proposed amount of time will be adequate to survey users at the sites.

  - Stated that although the study season is proposed in the PSP to occur in 2025, it could be helpful to conduct this during the first season (2024).
  - Regarding the survey questionnaire for the canoe campsite, David Graefe asked if there is a reason why the form requests names of the respondents. Lesley Brotkowski stated that the purpose of this to avoid duplicity of parties if multiple members of the party respond, that can be difficult to tease out during analysis. Lesley Brotkowski stated that MN Power can look at alternative ways to obtain this information without requesting names. David Graefe suggested potentially only having one member of each party fill out the form.
  - Commented that in regard to the Spot Count form, there is no space to record the number of vehicles.
  - Stated that additional minor comments will be provided in written PSP comments.

- Dan O'Shea (Minnesota DNR)
  - Regarding the Desktop Fish Entrainment and Impingement Study, he stated that it is important to know if any of the studies have been done on the upper Mississippi River (especially in Northern or Central Minnesota). Jared Porter explained that he knows that there have been studies in the basin, but he is not sure if the other parameters of the projects and studies line up; this will be assessed in the proposed study.

10) End of Meeting

- Greg Prom thanked everyone for their time and provided contact information. Meeting ended at 10:01 AM.

Little Falls, Sylvan, Pillager Hydroelectric Projects

FERC P-2532, P-2454, P-2663

Proposed Study Plan Meeting

October 11, 2023

*Meeting will be recorded

Agenda

1) Meeting Kickoff and Introductions
2) FERC Schedule Review
3) Purpose of PSP Meeting
4) Proposed Studies
5) Requested Studies Not Adopted
6) Additional Information Requested
7) Overview of Next Steps
8) Questions and Discussion

Kickoff and Introductions

- Introduction of meeting participants
- Reminder to please turn camera on, if available, and mute speaker if not speaking
- Please note that the meeting will be recorded

FERC Licensing Schedule Overview

- Relicensing of the Little Falls Project (P-2532), Sylvan Project (P-2454), Pillager Project (P-2663)
- FERC Licenses expire 3/31/2028
- Using FERC's Integrated Licensing Process (ILP)
- FERC relicensing 5 – 5.5 year long process:

  Year 1: Pre-Application Document (PAD) and Notice of Intent (NOI), Public Meeting, Study Requests

  Years 2 – 3: Studies

  Year 3: Submit Draft and Final License Applications

  Years 4 – 5: FERC Application Review and NEPA Process

  Year 5: License Issuance

FERC Licensing Schedule Overview

- 3/30/2023 – Filed the Notices of Intent (NOIs) and Pre-Application Document (PAD)
- 5/26/2023 – FERC issued Scoping Document 1 (SD1)
- 6/21 and 6/22/2023 – Scoping Meetings and Site Visit
- 7/28/2023 – Due date for Study Requests and PAD/SD1 Comments
- 9/8/2023 – Proposed Study Plan (PSP) submitted
- 9/8/2023 – FERC issued Scoping Document 2 (SD2)
  - Includes ILP Process Plan and Schedule
- 10/11/2023 – PSP Meeting

Next Steps

FERC Licensing Schedule Overview

- **12/10/2023 – PSP Comments Due**
- 1/9/2024 – Revised Study Plan (RSP) will be filed
- 1/24/2024 – RSP Comments Due
- 2/8/2024 – FERC will issue a Study Plan Determination (SPD)

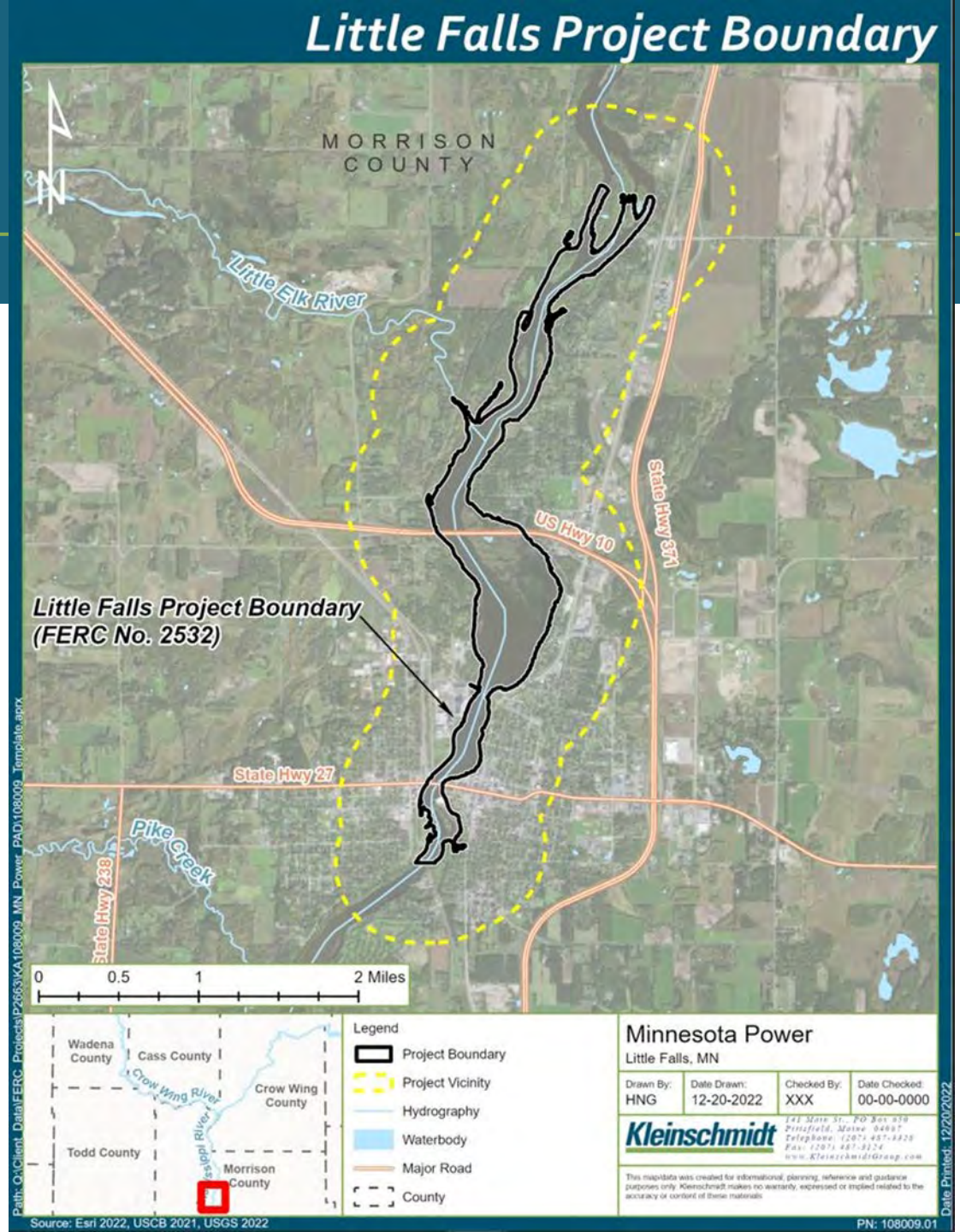
Purpose of PSP Meeting

- Review the Proposed Study Plan (PSP)
- Share any additional information or responses to proposed studies
- Discuss outstanding issues with respect to the PSP

Projects Overview

Little Falls Project (P-2532)

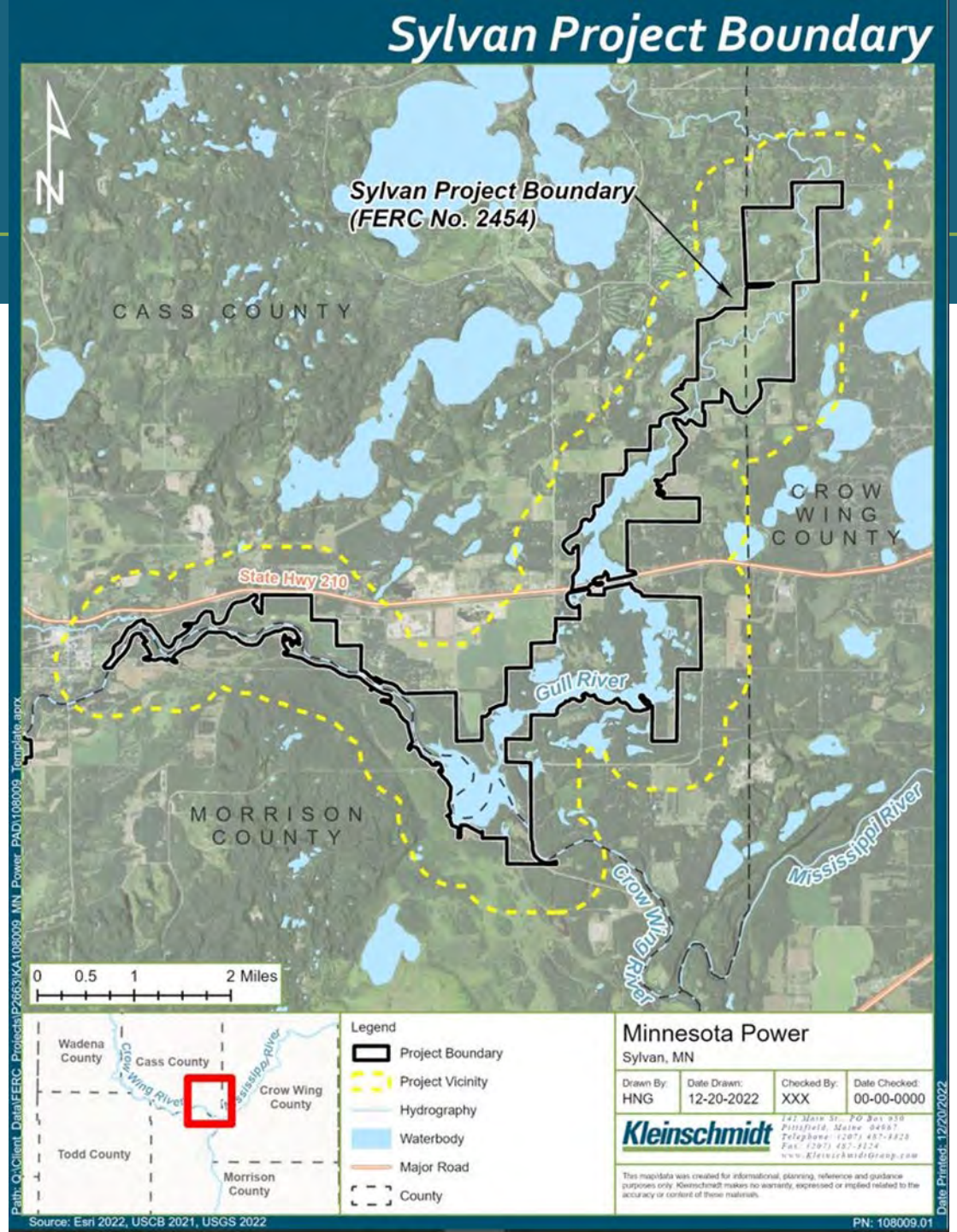
- Location: Little Falls, MN (Morrison County)
- Mississippi River
- 4.72 megawatt existing project
- Run-of-river operations
- No federal lands



Projects Overview

Sylvan Project (P-2454)

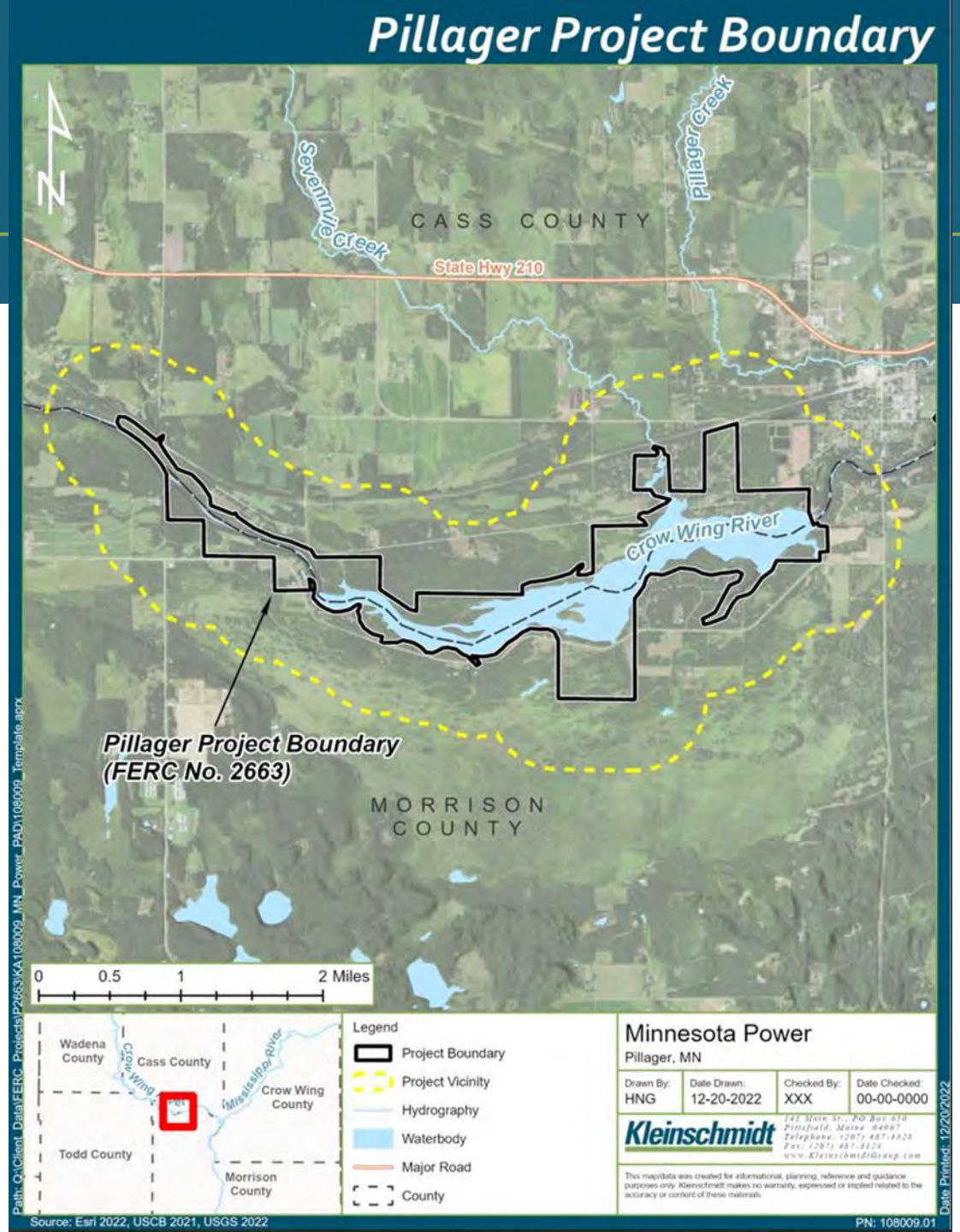
- Location: Sylvan Township, MN (Cass, Crow Wing, and Morrison Counties)
- Crow Wing River and Gull River
- 1.8 megawatt existing project
- Run-of-river operations
- No federal lands



Projects Overview

Pillager Project (P-2663)

- Location: Pillager Township, MN (Cass and Morrison Counties)
- Crow Wing River
- 1.52 megawatt existing project
- Run-of-river operations
- No federal lands



Proposed Studies

Proposed Study	Estimated Start Date	Estimated Completion Date
Water Quality Study	June 2025	October 2025
Desktop Fish Entrainment and Impingement Study	May 2024	September 2024
Recreation Use and Facility Inventory Study	May 2025	October 2025
Historic Architectural Resources Survey	May 2024	September 2024
Archaeological Resources Survey	May 2024	September 2024

Water Quality Study

Methods:

- Monitor dissolved oxygen (DO) and water temperature at the Little Falls Project and Sylvan Project, biweekly sample collection with handheld DO/temperature meter.

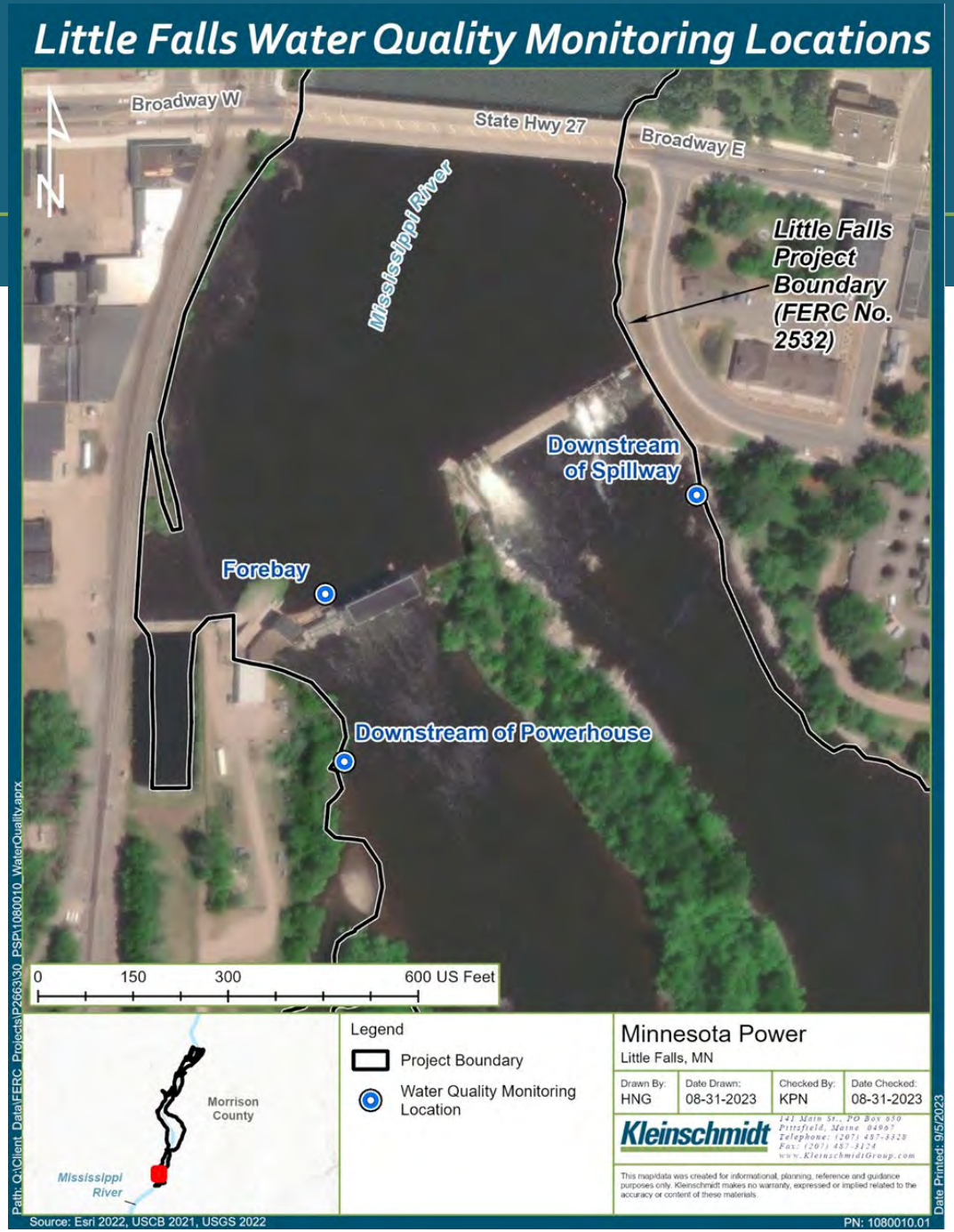
Objectives:

- Document the DO concentration and temperature of water entering the intakes;
- Identify the degree and timing of any stratification that may occur;
- Identify temporal variations in DO and water temperature;
- Identify instances where and when DO and water temperature levels may not meet applicable state standards; and
- Identify differences in DO and water temperature in the river downstream.

Water Quality Study

Little Falls Project Monitoring Locations

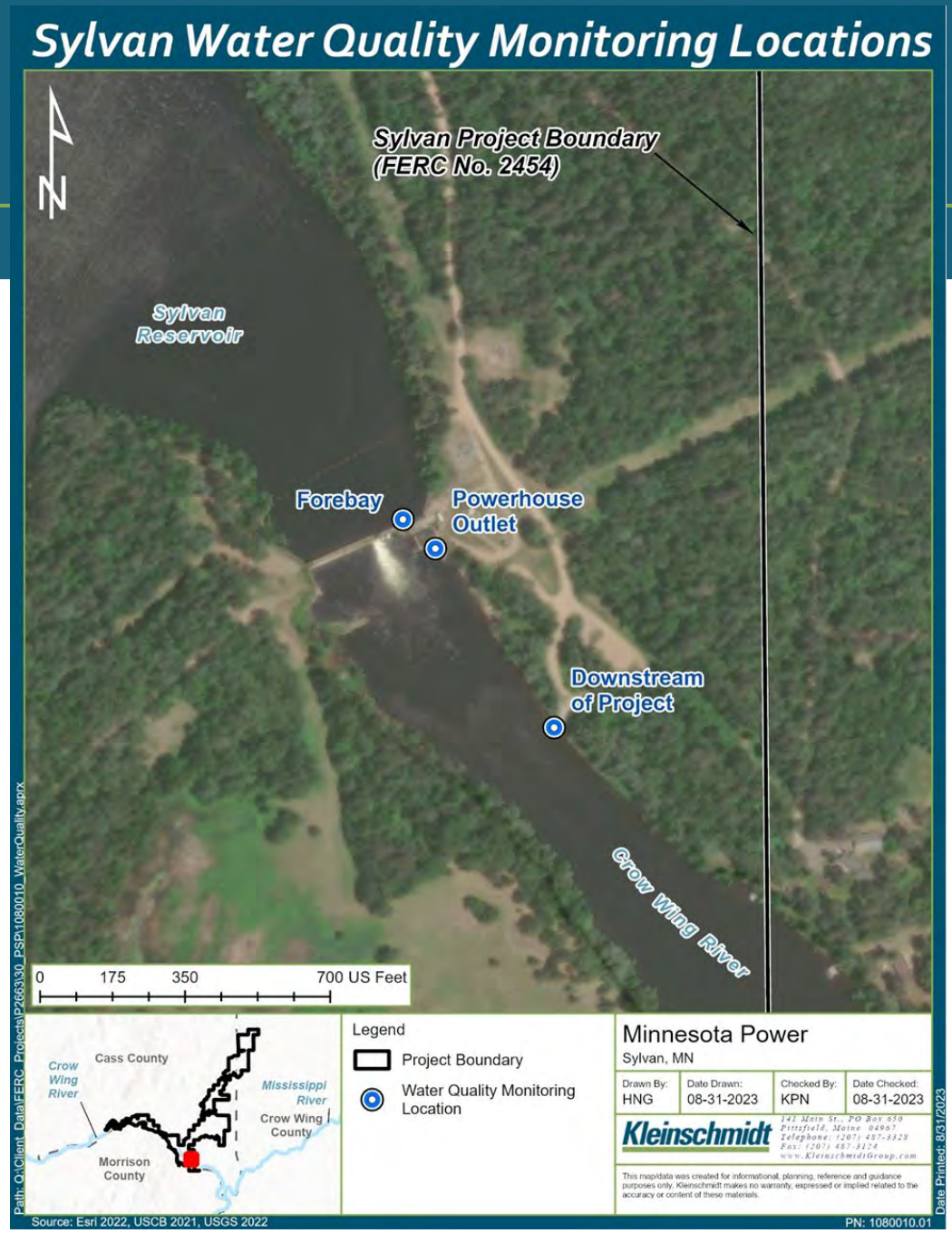
1. Forebay
   - Collected at 1-meter intervals in the water column from surface to bottom
2. Downstream of the spillway
   - Collected from the river bottom
3. Downstream of the powerhouse
   - Collected from the river bottom



Water Quality Study

Sylvan Project Monitoring Locations

1. Upstream of the turbine intake area
   - Collected at 1-meter intervals in the water column from surface to bottom
2. Immediately downstream of the powerhouse
   - Collected from the surface, middle, and bottom of the water column
3. Downstream of the Sylvan Project dam
   - Collected from the river bottom



Desktop Fish Entrainment and Impingement Study

Objectives:

- Describe the physical characteristics of the Projects (i.e., intake structures and turbines), and document factors that could affect impingement, entrainment, and survival as they relate to intake dimensions, trashrack spacing, turbine specifications, intake velocity, and flow capacity;
- Determine target fish species or family groups, and describe factors that influence their vulnerability to impingement, entrainment and turbine survival;
- Estimate entrainment rates and turbine passage survival rates for target fish species or family groups; and
- Describe potential effects to local fish communities from potential entrainment and impingement.

Desktop Fish Entrainment and Impingement Study

Methods:

- Develop an entrainment and turbine mortality database that can be applied to the Projects.
- Calculate and estimate fish entrainment rates at the Projects. Entrainment rates are defined as: number of fish/volume of water entrained.
- Characterize the species composition of potential fish entrainment.
- Apply any physical or biological filters that may influence entrainment.
- Estimate the total annual entrainment for the Projects based on normal operation.
- Estimate potential turbine mortality for fish entrainment based on turbine mortality estimates from similar project studies.
- Estimate impingement mortality for fish eliminated from entrainment estimates.

Recreation Use and Facility Inventory Study

Objectives:

- Inventory and identify the condition of the recreation facilities and associated amenities at the Commission-approved Sylvan Project and Pillager Project recreation sites (including any erosion that may exist due to recreational use);
- Identify who owns, operates, and maintains each Sylvan Project and Pillager Project recreation site and/or facility;
- Describe each Sylvan Project and Pillager Project recreation site and/or facility in relation to its associated project boundary;
- Conduct user surveys during the recreation season to determine the adequacy of the Commission-approved Sylvan Project and Pillager Project recreation sites and if modifications to the sites would be needed to meet current or future recreation needs; and
- Determine the current and projected capacity at each Commission-approved Sylvan Project and Pillager Project recreation site and/or facility.

Recreation Use and Facility Inventory Study

Methods:

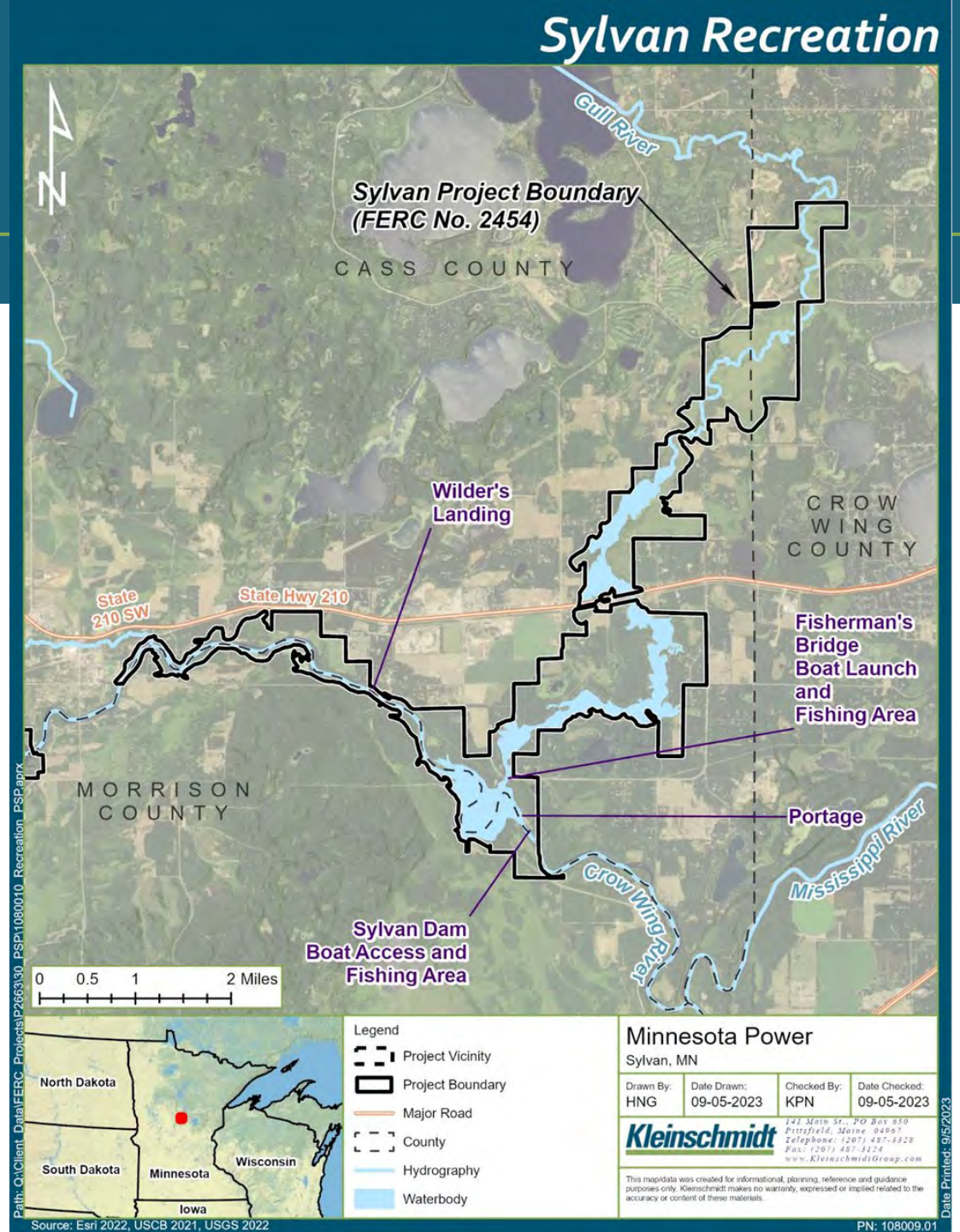
Two parts: 1) a Recreation Facility Inventory and Condition Assessment, and 2) Recreation Use Assessment at the Sylvan Project and Pillager Project.

1. **Recreation Facility Inventory and Condition Assessment**
    - Conduct a field inventory to document the existing recreation facilities and amenities at the Sylvan Project and Pillager Project recreation sites
    - Draft form available in PSP

Recreation Use and Facility Inventory Study

Sylvan Project recreation sites

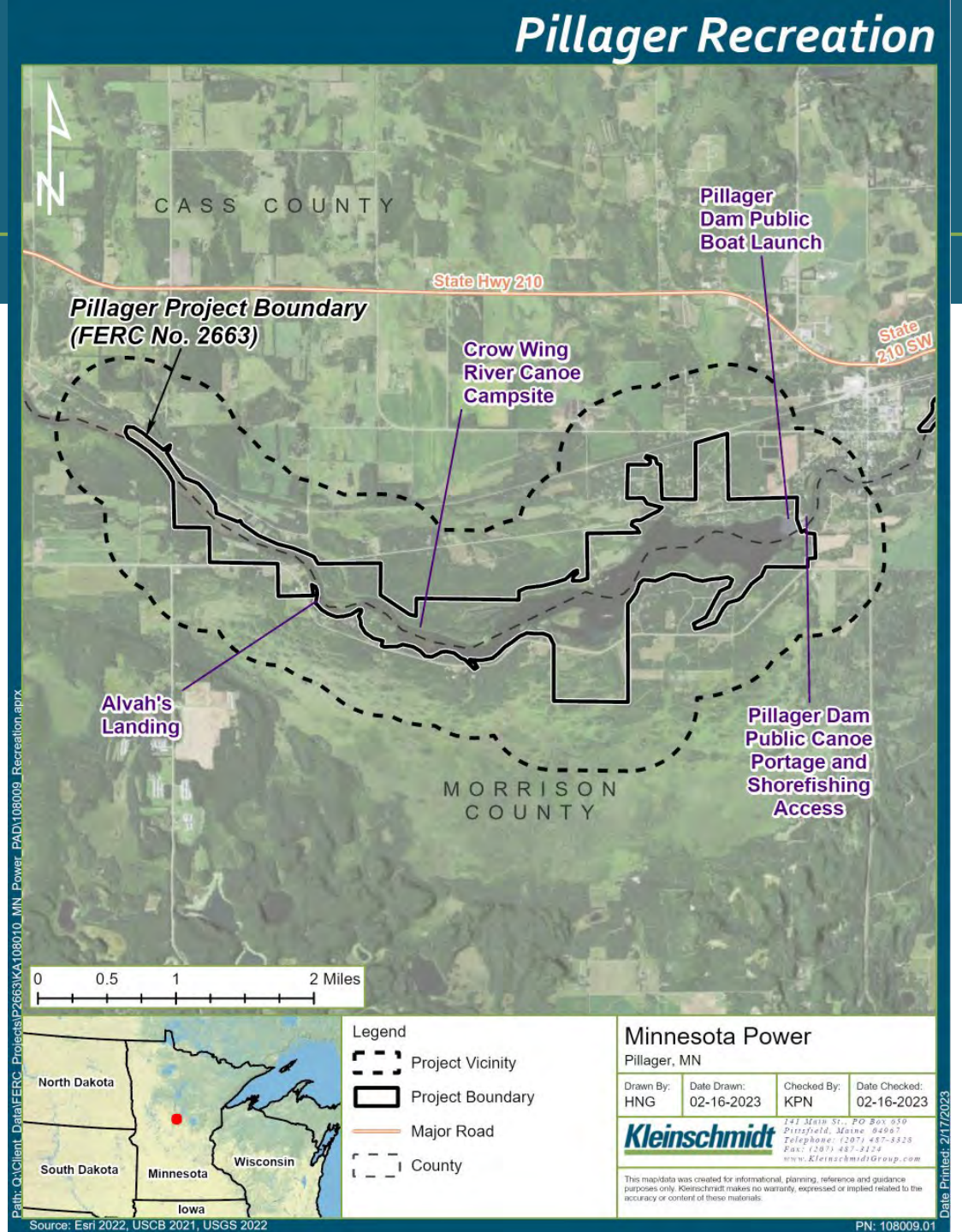
- Wilder's Landing
- Fisherman's Bridge Boat Launch and Fishing Area
- Sylvan Dam Boat Access and Fishing Area
- Canoe Portage



Recreation Use and Facility Inventory Study

Pillager Project recreation sites

- Alvah's Landing (Minnesota DNR Boat Launch)
- Pillager Dam Public Boat Launch
- Pillager Dam Public Canoe Portage and Shorefishing Access
- Crow Wing River Canoe Campsite



Recreation Use and Facility Inventory Study

2. Recreation Use Assessment

- Spot Counts
  - At the Sylvan Project and Pillager Project recreation sites, except for the Crow Wing River Canoe Campsite.
- Recreational Use Surveys
  - In-person at the Sylvan Project and Pillager Project recreation sites.
  - User-administered survey (from collection box) at the Crow Wing River Canoe Campsite.
- Draft forms available in PSP

Month	Recreation Use Assessment Days
May	• Holiday weekend day (Either on Memorial Day [5/26/2025] or during the associated Memorial Day Weekend)
June	• Two weekend days • Two weekdays
July	• Two weekend or holiday days (One day will be on the Fourth of July or during the associated Fourth of July weekend) • Two weekdays
August / September	• Two weekend days (One day will be on Labor Day [9/1/2025] or during the associated Labor Day weekend) • Two weekdays

Historic Architectural Resources Study

Objectives / Methods:

- Identify the Area of Potential Effects (APE) at the Projects
  - Proposed to be the FERC Projects Boundaries
  - Consult with SHPO and Tribes on the proposed APEs
- Perform a literature review to identify historic architectural resources 45 years or older listed or eligible for listing in the National Register of Historic Places (NRHP) within the APEs
- Perform updated survey and evaluation documentation of the NRHP-eligible historic architectural resources at the Projects' dams and associated facilities
- Evaluate potential Projects effects on historic architectural resources that are listed or eligible for listing in the NRHP within the APEs

Archaeological Resources Study

Objectives / Methods:

- Identify the APEs at the Projects
  - Proposed to be the FERC Projects Boundaries
  - Consult with SHPO and Tribes on the proposed APEs
- Perform a desktop archaeological resources survey to compile existing information and identify known archaeological resources listed or eligible for listing in the NRHP within the APEs

Archaeological Resources Study

Objectives / Methods:

- Perform a conditions assessment (field visit) to document the current condition of archaeological resources listed or eligible for listing in the NRHP within the APEs
- Conduct a reconnaissance Phase I survey of the Projects' APEs to determine if unrecorded archaeological resources are present
- Evaluate the potential effects the Projects would have on archaeological resources that are listed or eligible for listing in the NRHP within the APEs

Requested Studies Not Adopted

- Fish Passage Feasibility Study at the Little Falls Project
- Re-evaluation of the Chippewa Agency Historic District Site

Additional Information Requested

- Updated Environmental Justice information - provided
- Aquatic Resources references - provided
- Recreation user information at Little Falls - Minnesota Power to provide in the Initial Study Report

Overview of Next Steps

- **12/10/2023 – PSP Comments Due**
- 1/9/2024 – Revised Study Plan (RSP) will be filed
- 1/24/2024 – RSP Comments Due
- 2/8/2024 – FERC will issue a Study Plan Determination (SPD)

File comments on FERC's website: https://ferconline.ferc.gov/LogIn.aspx

Questions / Discussion

Greg Prom
Senior Environmental Compliance Specialist
Minnesota Power / ALLETE, Inc.
218-355-3191
gprom@allete.com

Lesley Brotkowski
Senior Licensing Coordinator
Kleinschmidt Associates
715-318-3729
Lesley.Brotkowski@kleinschmidtgroup.com

From: Reynolds, John (MIAC) <John.Reynolds@state.mn.us>
Sent: Friday, October 13, 2023 11:28 AM
To: Gregory Prom (MP) <gprom@mnpower.com>
Cc: Cerda, Melissa (MIAC) <melissa.cerda@state.mn.us>
Subject: [EXTERNAL MAIL] MIAC Review, Request for Information

Hello,

MIAC has attempted to complete review of the proposed Little Falls, Sylvan, Pillager Hydroelectric Projects. Unfortunately, we were not able to access the attached documents in order to complete the review. Can you provide the OSA Review Form, and any other pertinent information? For any questions, please do not hesitate to reply.

Thanks.

From: Gregory Prom (MP) <gprom@mnpower.com>
Sent: Friday, October 13, 2023 2:23 PM
To: Reynolds, John (MIAC) <John.Reynolds@state.mn.us>
Cc: Cerda, Melissa (MIAC) <melissa.cerda@state.mn.us>; 'Lesley Brotkowski' <Lesley.Brotkowski@kleinschmidtgroup.com>
Subject: RE: [EXTERNAL MAIL] MIAC Review, Request for Information

John,

I have attached the OSA review form and project location maps. Also attached is the link to the Proposed Study Plan that was filed with the Federal Energy Regulatory Commission (FERC) on September 8, 2023. The electronic files can be downloaded through FERC's website using this link: https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230908-5158

Please let me know if you have any additional questions,

Sincerely,

Greg Prom

Senior Environmental Compliance Specialist
Minnesota Power/ALLETE
30 West Superior Street
Duluth, Minnesota 55802

Office: 218-355-3191
Cell: 218-461-6856
Email: gprom@allete.com

From: Reynolds, John (MIAC) <John.Reynolds@state.mn.us>
Sent: Friday, October 20, 2023 2:49 PM
To: Gregory Prom (MP) <gprom@mnpower.com>
Cc: Cerda, Melissa (MIAC) <melissa.cerda@state.mn.us>
Subject: RE: [EXTERNAL MAIL] MIAC Review, Request for Information

Greg,

I am reviewing the provided information. So, can you explain precisely what is needed in a "relicensing," and more information on the cultural resource study? Will any ground disturbance at occur during this? For the study, who is compiling it, and when will it be complete? Can our office review it?

Thanks.

From: Gregory Prom (MP) <gprom@mnpower.com>
Sent: Monday, October 23, 2023 9:40 AM
To: Reynolds, John (MIAC) <John.Reynolds@state.mn.us>
Cc: Cerda, Melissa (MIAC) <melissa.cerda@state.mn.us>; 'Lesley Brotkowski' <Lesley.Brotkowski@kleinschmidtgroup.com>
Subject: RE: [EXTERNAL MAIL] MIAC Review, Request for Information

John,

Minnesota Power (MP) is following the Federal Energy Regulatory Commission (FERC) integrated licensing process (ILP) for the three hydro facilities (Little Falls, Sylvan, and Pillager). As described in the power point that was sent to you, the ILP has a phased approach taking up to 5.5 years to apply for relicensing of these facilities. Here is a hyperlink to the FERC process - https://www.ferc.gov/industries-data/hydropower/licensing/licensing-processes/integrated-licensing-process-ilp.

MP already filed a pre-application document (PAD) that describes the current facilities and a notice of intent (NOI) application that states MP intends to relicense these facilities. FERC issued two scoping documents that describes the schedule and process for these projects. They can be found on the FERC elibrary website under the FERC project numbers for each facility (Little Falls P-2532, Sylvan P-2454, and Pillager P-2663).

As part of the relicensing, the process requires consultation through the Section 106 of the National Historic Preservation Act (NHPA) as amended. MP developed draft proposed study plans (PSP) and solicited comments and discussion to develop historic architectural and archeological review in the area of potential effect (APE) for the projects. The PSP was e-filed in the FERC elibrary and can be download for review and comments. Comments are due by Dec 10, 2023, on the PSP. A revised study plan will be filed with FERC following comments that are received. A short period of time is available to provide additional comments on the revised study plan by January 24, 2024. FERC issues the final study plan determination (SPD) on February 8, 2024.

When the final SPD has been issued, MP will solicit bids from qualified archaeologist and architectural historians to perform the surveys and research. Significant surveys have already been performed for these projects, including shovel

testing in certain areas. Additional shovel testing may be performed as part of the archaeological study, if deemed necessary, to identify a potential eligible site. The study seasons starts next year (2024) and has a second study season (2025) to complete if needed.

The studies will be available for review when complete, however, the archaeological studies are typically restricted from general public review to protect potentially sensitive areas.

I hope this answers your questions, if you have any additional questions please let me know.

Sincerely,

Greg Prom

From: Reynolds, John (MIAC) <John.Reynolds@state.mn.us>
Sent: Monday, November 13, 2023 10:22 AM
To: Gregory Prom (MP) <gprom@mnpower.com>
Cc: Cerda, Melissa (MIAC) <melissa.cerda@state.mn.us>; 'Lesley Brotkowski' <Lesley.Brotkowski@kleinschmidtgroup.com>
Subject: RE: [EXTERNAL MAIL] MIAC Review, Request for Information

Hello,

Thank you again for responding to the previous request for additional project information. Following review of the provided materials and staff emails, the Minnesota Indian Affairs Council Cultural Resource personnel have decided to await completion of the final Study Plan. Formal project review and recommendation and/or from the Council will be based on the final Study Plan. For any remaining questions regarding this project, please contact our office.

Thank you.

From: Gregory Prom (MP) <gprom@mnpower.com>
Sent: Monday, November 13, 2023 11:25 AM
To: 'Reynolds, John (MIAC)' <John.Reynolds@state.mn.us>
Cc: Cerda, Melissa (MIAC) <melissa.cerda@state.mn.us>; Lesley Brotkowski <Lesley.Brotkowski@kleinschmidtgroup.com>
Subject: RE: [EXTERNAL MAIL] MIAC Review, Request for Information

Thanks for your reply John,

This correspondence will be part of the records for the proposed study plan.

Have a good day,

Greg Prom

DEPARTMENT OF ADMINISTRATION
STATE ARCHAEOLOGIST

PROJECT REVIEW FORM

Please complete all the fields marked with an asterisk (*).

This form is a fillable document. After completing this form, please send your request to:
OSA.Project.Reviews.adm@state.mn.us

REVIEW INFORMATION

1. **PROJECT NAME*:** Little Falls (FERC P-2532), Sylvan (FERC P-2454), Pillager (FERC P-2663) Hydroelectric Projects Relicensings
2. **PROJECT ID:** Click or tap here to enter text.
3. **REASON FOR REVIEW*:** **FERC Relicensing**
4. **REVIEW TYPE*: Review Request**
5. **FUNDING*: Private**
6. **ORGANIZATION NAME:** **ALLETE, Inc., doing business as Minnesota Power**
7. **SUBMITTING ORGANIZATION TYPE: Private**

PROJECT INFORMATION

8. **PROJECT DESCRIPTION*:** Minnesota Power filed with the FERC a Proposed Study Plan (PSP) for the Little Falls Project, Sylvan Project, and Pillager Project hydropower relicensing process. The PSP includes a proposed cultural resources study.
9. **ARCHAEOLOGICAL SITE NUMBERS (if known – if not, leave blank)** (Separate counties with commas)**:** Click or tap here to enter text.
10. **COUNTY***(Add multiples by separating with a comma)**:** Morisson, Crow Wing, Cass

11. BACKGROUND RESEARCH DONE (Check the appropriate box if any research has been completed or is in progress. If no research has been done, leave blank):

☐OSA Portal Query

☐MnDOT GIS

☐MnModel

☐Legacy Historic cemeteries

12. KNOWN RESOURCES ADJACENT TO REVIEW AREA (if known – if not, leave blank):

☐Cemeteries

☐Burials

☐Archaeological Sites

13. ADDITIONAL INFORMATION: FERC has designated Allete as the non-federal representative for Section 106 consultation

LOCATION INFORMATION* (If there are additional PLSS entries, please add a continuation sheet)

14. LOCATION INFORMATION (Complete this or Project Address if PLSS is not known):

Little Falls Hydroelectric Project:

PLSS - Township:130 Range:29 Range Direction (E or W):W Section:5, 32, 33

PLSS - Township:41 Range:32 Range Direction (E or W):W Section:13, 14, 23, 26, 27, 34, 35

PLSS - Township:40 Range:32 Range Direction (E or W):W Section:8, 18

PLSS - Township:129 Range:29 Range Direction (E or W):W Section:5, 6, 7, 8, 17, 18, 19

Sylvan Hydroelectric Project:

PLSS - Township:134 Range:29 Range Direction (E or W):W Section:21, 27, 28, 33, 34

PLSS - Township: 133 Range:29 Range Direction (E or W):W Section:3, 4, 5, 8, 9, 16, 17, 18, 19, 20, 21, 30, 31, 32

PLSS - Township:133 Range:30 Range Direction (E or W):W Section:13, 14, 15, 16, 21, 15, 24, 25

Pillager Hydroelectric Project:

PLSS - Township:133 Range:31 Range Direction (E or W):W Section:16, 21,,22, 23, 24, 25, 26, 27,

PLSS - Township:133 Range:30 Range Direction (E or W):W Section:19, 20, 29, 30

PLSS - Township: Range: Range Direction (E or W): Section:

PLSS - Township: Range: Range Direction (E or W): Section:

15. ADDRESS (if PLSS is not known, please enter your project address):
Address Line 1: Click or tap here to enter text.
Address Line 2: Click or tap here to enter text.
City: Click or tap here to enter text.
State: Click or tap here to enter text.
Zip Code: Click or tap here to enter text.

16. Maps of the project locations and proposed Area of Potential Effects/FERC project boundaries are attached.

REQUESTOR INFORMATION

17. REQUESTED BY* (name): Greg Prom

18. REQUESTOR's EMAIL ADDRESS*: gprom@allete.com

19. REQUESTOR's PHONE NUMBER: 218-355-3191

20. REQUESTOR's PHYSICAL ADDRESS:
Address Line 1: 30 West Superior Street
City: Duluth
State: MN
Zip Code: 55802-2093

21. Please also copy Allete's relicensing consultant on correspondence:

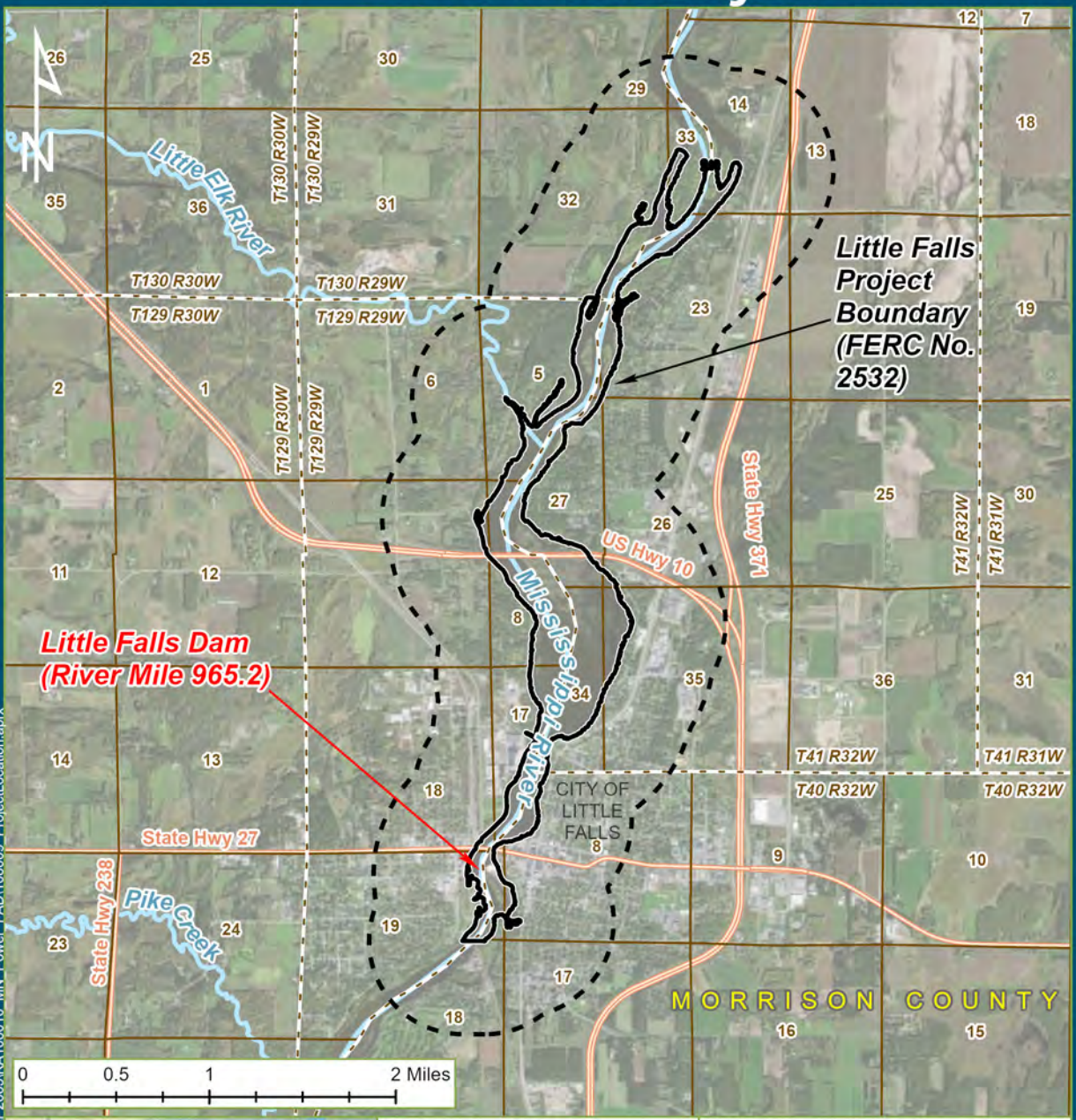
Lesley Brotkowski
Senior Licensing Coordinator
Kleinschmidt Associates
233403 Stettin Ridge Court
Wausau, WI 54401
Lesley.brotkowski@kleinschmidtgroup.com
715-318-3729

ADDITIONAL INFORMATION AND ATTACHMENTS

Please add and attach any pertinent photos, maps, or documents that will help us complete the review.

Maps of the project locations and proposed Area of Potential Effects/FERC project boundaries are attached. A link to the Proposed Study Plan is provided in the email text.

Little Falls Project Location



Legend

- Project Boundary
- Project Vicinity
- Section
- Township/Range
- Hydrography
- Major Road
- County

Minnesota Power

Little Falls, MN

Drawn By:	Date Drawn:	Checked By:	Date Checked:
HNG	02-16-2023	KPN	02-16-2023

Kleinschmidt
141 Main St., PO Box 650
Pittsfield, Maine 04967
Telephone: (207) 487-3328
Fax: (207) 487-3124
www.KleinschmidtGroup.com

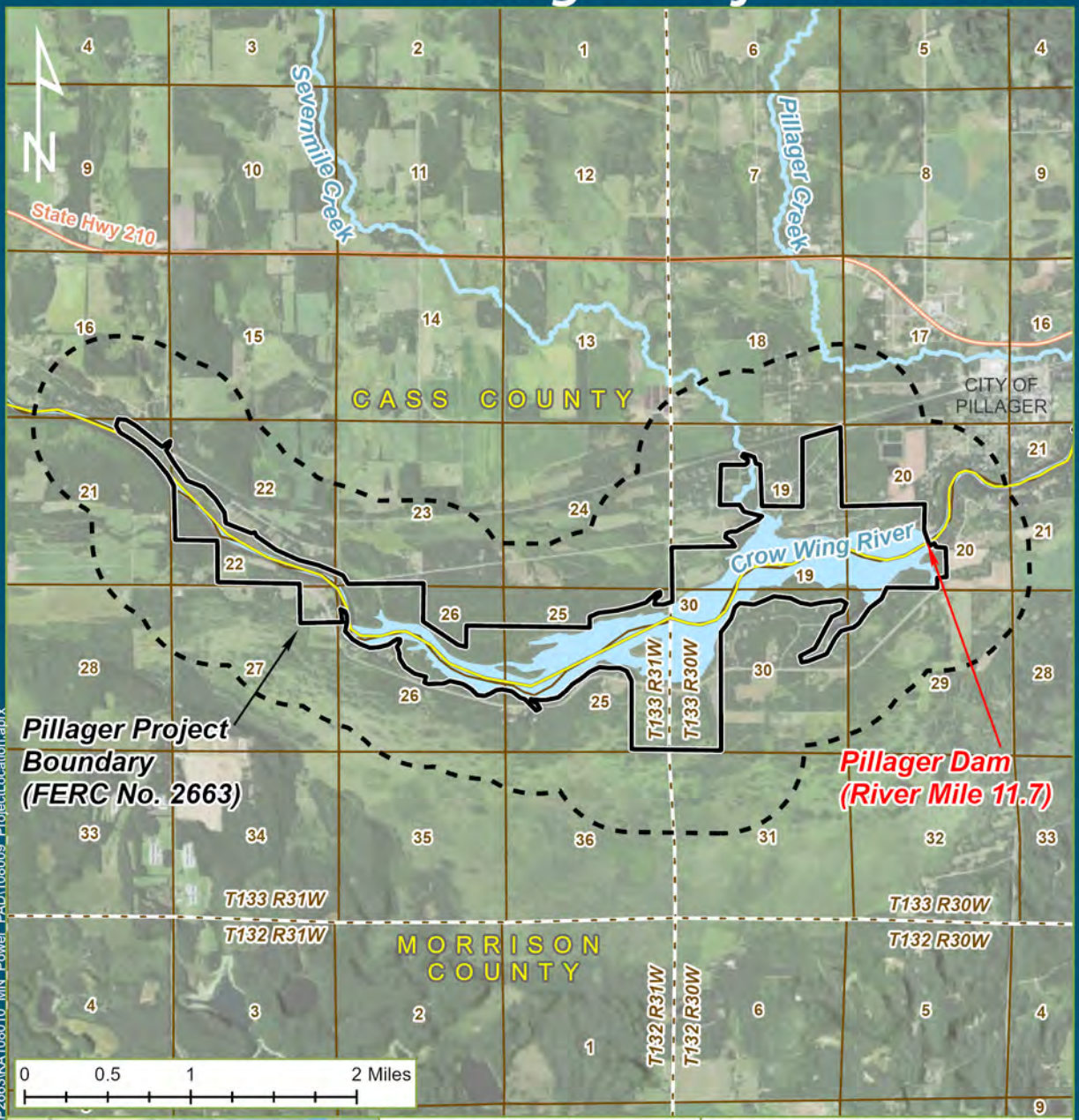
Path: O:\Client Data\FERC Projects\P2663\KA108010_MN Power_PAD\108009_ProjectLocation.aprx

Date Printed: 3/23/2023

Source: Esri 2022, MNDNR 2023, USCB 2021, USGS 2022

PN: 108009.01

Pillager Project Location



Legend

- Project Boundary
- Project Vicinity
- Township/Range
- Section
- Hydrography
- Waterbody
- Major Road
- County

Minnesota Power

Pillager, MN

Drawn By:	Date Drawn:	Checked By:	Date Checked:
HNG	02-16-2023	KPN	02-16-2023

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Pittsfield, Maine 04967
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Fax: (207) 487-3124
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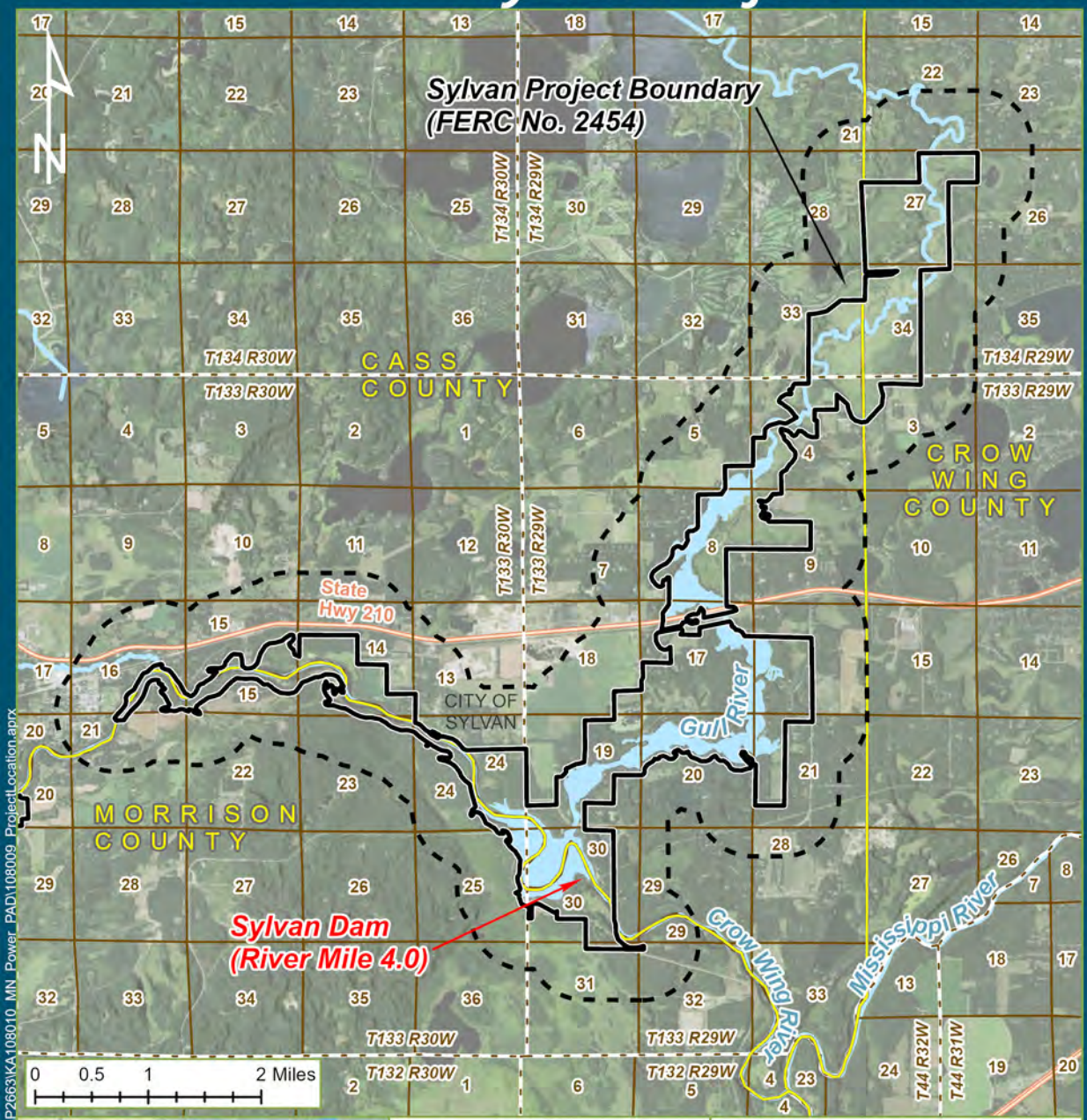
Path: O:\Client Data\FERC Projects\P2663\KA108010_MN Power PAD\108009_ProjectLocation.aprx

Date Printed: 3/23/2023

Source: Esri 2022, MNDNR 2023, USCB 2021, USGS 2022

PN: 108009.01

Sylvan Project Location



Legend

- Project Boundary
- Project Vicinity
- Section
- Township/Range
- Hydrography
- Waterbody
- Major Road
- County

Minnesota Power

Sylvan, MN

Drawn By:	Date Drawn:	Checked By:	Date Checked:
HNG	02-16-2023	KPN	02-16-2023

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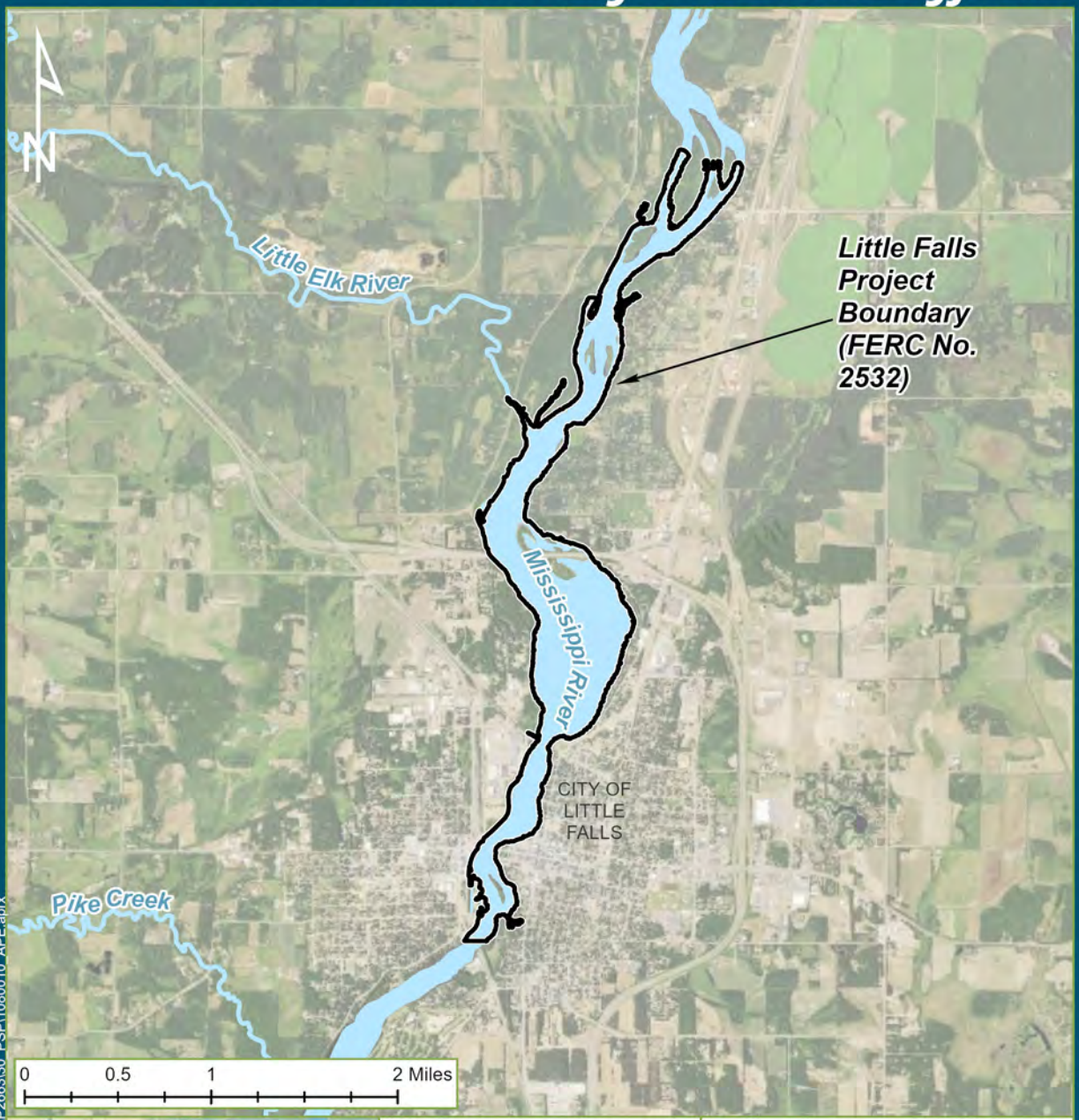
Path: Q:\Client Data\FERC Projects\P2663\KA108010_MN Power_PAD\108009_ProjectLocation.aprx

Date Printed: 3/23/2023

Source: Esri 2022, MNDNR 2023, USCB 2021, USGS 2022

PN: 108009.01

Little Falls Area of Potential Effects



Legend

- APE
- Hydrography
- Waterbody

Minnesota Power

Little Falls, MN

Drawn By:	Date Drawn:	Checked By:	Date Checked:
HNG	08-31-2023	KPN	08-31-2023

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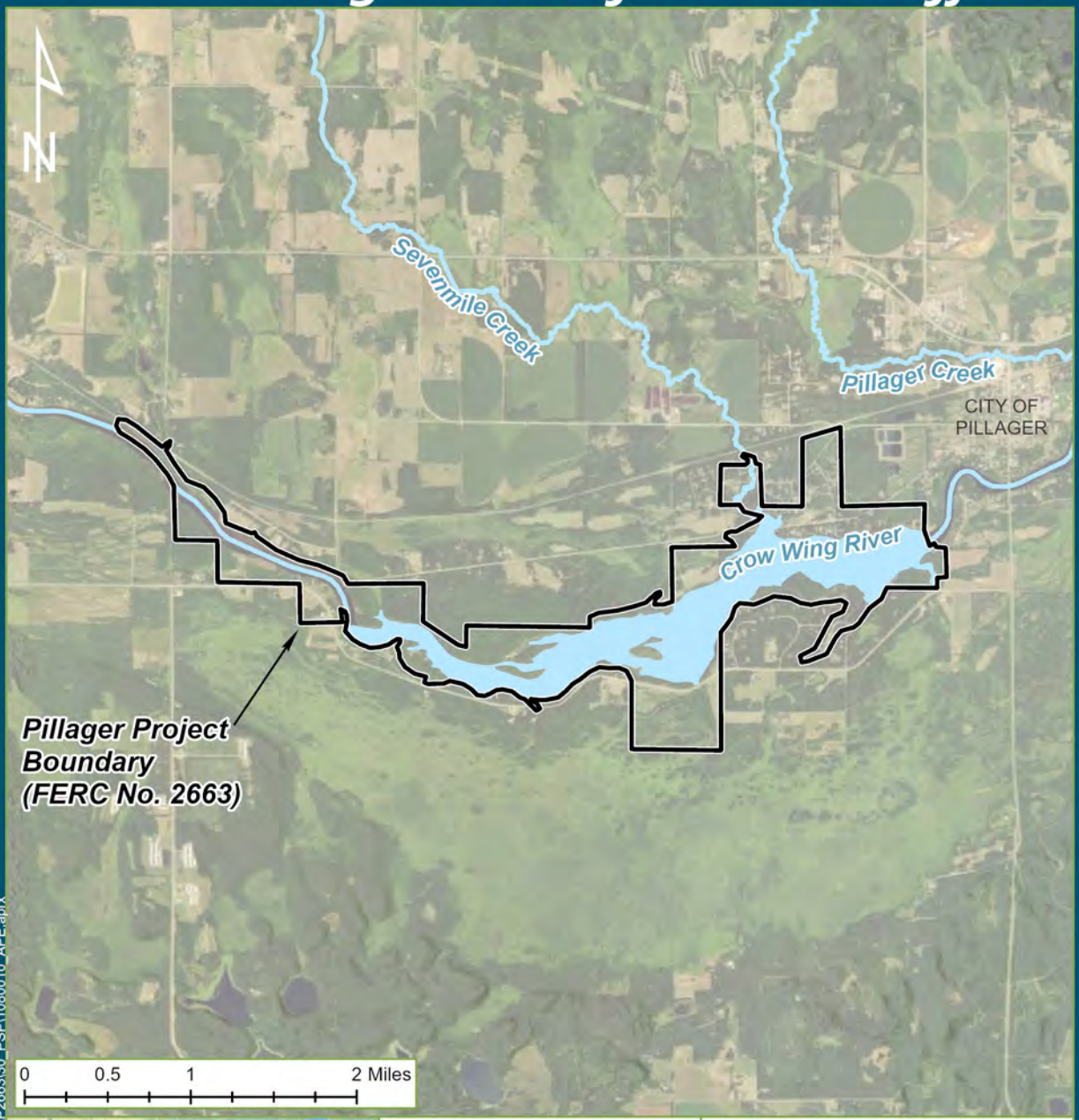
Path: O:\Client Data\FERC_Projects\P2663\30_PSP\1080010_APE.aprx

Date Printed: 9/5/2023

Source: Esri 2022, USCB 2021, USGS 2022

PN: 1080010.01

Pillager Area of Potential Effects



Legend

- APE
- Hydrography
- Waterbody

Minnesota Power
Pillager, MN

Drawn By:	Date Drawn:	Checked By:	Date Checked:
HNG	08-31-2023	KPN	08-31-2023

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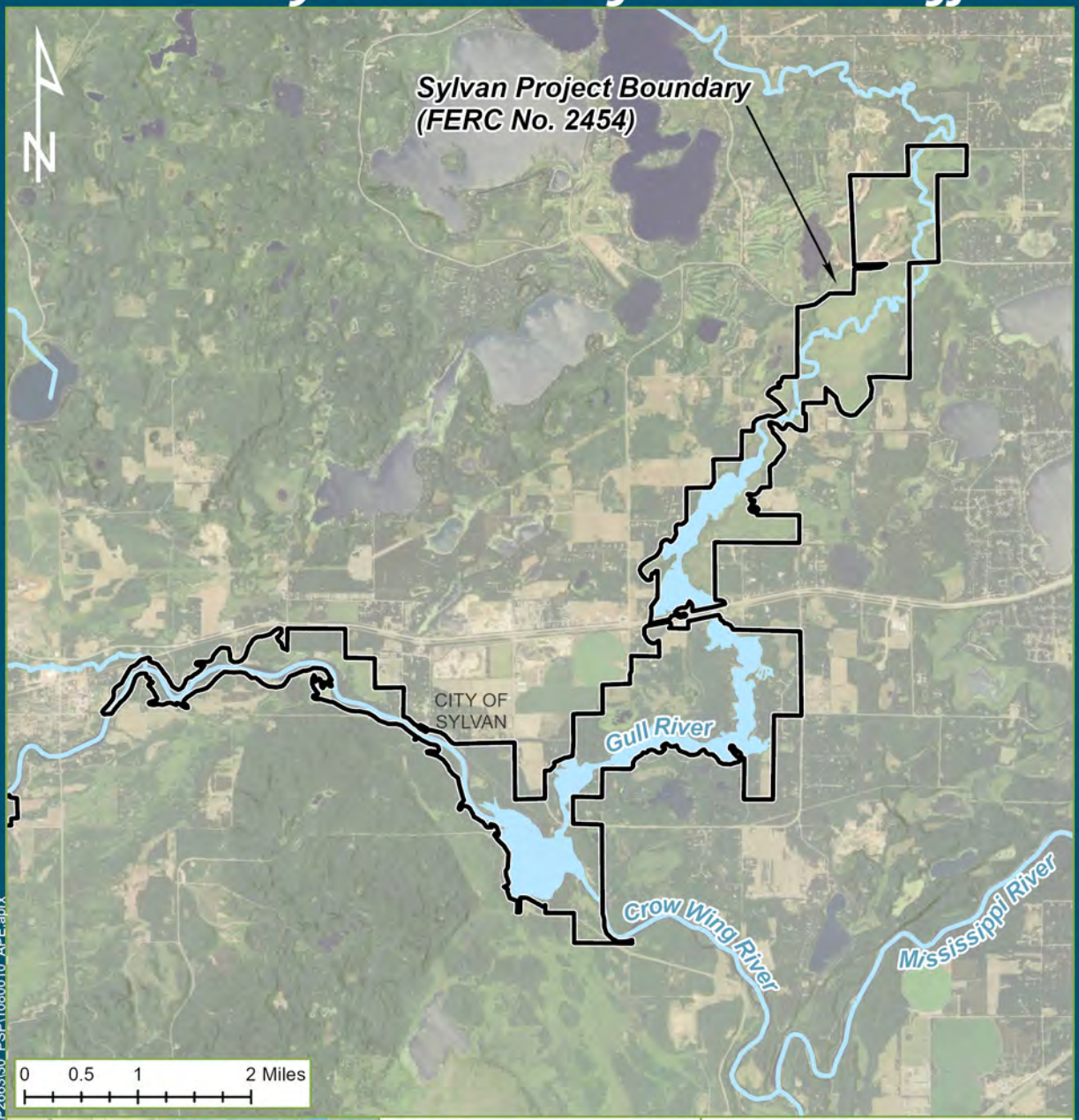
Path: O:\Client Data\FERC_Projects\P2663\30_PSP\1080010_APE.aprx

Date Printed: 9/5/2023

Source: Esri 2022, USCB 2021, USGS 2022

PN: 1080010.01

Sylvan Area of Potential Effects



Legend

- APE
- Hydrography
- Waterbody

Minnesota Power
Sylvan, MN

Drawn By:	Date Drawn:	Checked By:	Date Checked:
HNG	08-31-2023	KPN	08-31-2023

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Date Printed: 9/5/2023

Source: Esri 2022, USCB 2021, USGS 2022

PN: 1080010.01

328 West Kellogg Blvd St Paul, MN 55102
OSA.Project.Reviews.adm@state.mn.us

Date: 11/22/2023

Greg Prom
ALLETE, Inc., doing business as Minnesota Power
218-355-3191
gprom@allete.com

Project Name: Little Falls, Sylvan, Pillager Hydroelectric Projects Relicensings		**Submitter's Project ID:**	FERC P-2532, P-2454, & P-2663

Known or Suspected Cemeteries
☒ Platted Cemeteries - T41 R32 S35 SW NE, SE NW; T133 R29 S17 SW NW; T133 R30 S14 SE NE; T133 R30 S16 NW SE; T133 R30 S20 NW SW
☒ Unplatted Cemeteries - T130 R29 S5 W SE NE; T41 R32 S14 NE SE; T41 R32 S14 SW NE NE; T133 R29 S18 NW NW; T133 R29 S30 N SW SW
☒ Burial File - T133 T42 T41 R30 R31 R29 S29 S2 S7 S17 request or project review
☐ Authenticated Burial
Notes/Comments
Thank you for consulting with the Office of the State Archaeologist about this project. Review of our files indicates there are a multitude of previously recorded archaeological sites, archaeological site leads, and burials in the three project areas. Additionally, the project areas all have moderate to high potential to contain previously unrecorded archaeological sites or burials. Therefore, the OSA concurs with the necessity of a cultural resource survey of the project areas. Given the size of the project area, a comprehensive phase Ia literature review conducted by qualified archaeologists is recommended, which should include an assessment of historical and pre-contact period sites, as well as the potential for submerged sites.
Recommendations

☐ Not Applicable

☐ No Concerns

☐ Monitoring

☐ Avoidance

☒ Phase Ia – Literature Review

☐ Phase I – Reconnaissance survey

☐ Phase II – Evaluation

☐ Phase III – Data Recovery

☒ Other - consult with MIAC and THPOs

If you require additional information or have questions, comments, or concerns please contact our office.

Sincerely,

Jennifer Tworzyanski
Assistant to the State Archaeologist
OSA
Kellogg Center 328 Kellogg Blvd W
St Paul MN 55102
651.201.2265
jennifer.tworzyanski@state.mn.us

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
December 8, 2023

OFFICE OF ENERGY PROJECTS

Project No. 2532-094 – Minnesota
Little Falls Hydroelectric Project

Project No. 2454-085 – Minnesota
Sylvan Hydroelectric Project

Project No. 2663-064 – Minnesota
Pillager Hydroelectric Project

ALLETE, Inc.

Via FERC Service

Mr. Greg Prom
ALLETE, Inc.
30 West Superior Street
Duluth, Minnesota 55802-2093

Subject: Staff Comments on the Proposed Study Plan for the Little Falls Hydroelectric Project, P-2532; Sylvan Hydroelectric Project, P-2454; and Pillager Hydroelectric Project, P-2663

Dear Mr. Prom:

We have reviewed ALLETE, Inc.'s (ALLETE) proposed study plan for the Little Falls Hydroelectric Project, the Sylvan Hydroelectric Project, and the Pillager Hydroelectric Project (projects) filed on September 8, 2023, and attended the study plan meetings convened via teleconference on October 11, 2023. Pursuant to 18 C.F.R. § 5.12 of the Commission's regulations, we are providing staff's comments on the proposed study plan in the enclosed schedule A. We are also providing comments on requested studies not adopted in ALLETE's proposed study plan in schedule B.

We appreciate the opportunity to comment on the proposed study plan for the projects. If you have any questions, please contact Jay Summers at (202) 502-8764 or jay.summers@ferc.gov.

Sincerely,

Janet Hutzel, Chief
Midwest Branch
Division of Hydropower Licensing

Enclosure: Schedule A – Comments on the Proposed Study Plan
Schedule B – Comments on Requested Studies Not Adopted

SCHEDULE A
COMMENTS ON THE PROPOSED STUDY PLAN

General Comments

1. Table 1, *Estimated Start and Completion Dates for Proposed Studies*, indicates that the licensee intends to conduct the Recreation Use and Facility Inventory Study and the Water Quality Study during the second field season. However, applicants typically commence approved studies during the first field season. Doing so allows for timely modification of approved studies in cases where studies were not conducted as provided for in the approved study plan or where studies were conducted under anomalous environmental conditions (section 5.15(d) of the Commission's regulations). In such cases, modified studies may be completed during the second field season. In addition, commencing the studies during the first field season would enable ALLETE, Inc. (ALLETE) to provide information for stakeholder review as part of the Initial Study Report (section 5.15(c) of the Commission's regulations). Therefore, in the revised study plan (RSP), please modify the study schedule to commence the Recreation Use and Facility Inventory Study and Water Quality Study during the first field season.

Study 5.3 Recreation Use and Facility Inventory Study

2. In section 5.3.5.2, *Recreation Use Assessment,* ALLETE proposes to conduct spot counts and administer a survey with recreation users for 40 minutes per site, per day, on 13 randomly selected weekdays and weekend days during the recreation season at the Sylvan Hydroelectric Project (Sylvan Project) and Pillager Hydroelectric Project (Pillager Project). ALLETE states that it believes 40 minutes is a sufficient amount of time to make snapshot-in-time use observations and administer the recreation surveys at each recreation site at the two projects per sampling day, based on known use and available FERC Form 80 data. ALLETE further states that 40-minute intervals would allow for all recreation sites at the two projects to be visited on a single day.

   The most recent FERC Form 80 data for the projects were submitted in 2015 and are, therefore, not current. While these data may be useful for comparative purposes, current information on visitor attitudes, perceptions, and preferences would provide staff with information needed for its analysis of current and future recreation needs at the project. Although ALLETE proposes to collect such information via a user survey, conducting spot counts and administering the survey for only 40 minutes at each recreation site per sampling day may not provide adequate information for staff's analysis. For sample data to be useful for describing the characteristics of a larger population, the sample must be both representative and large enough to provide adequate information about the population.

A two-hour surveying period at each site, per sampling day, is typical for recreation studies supporting the relicensing process and is consistent with generally accepted practice in the scientific community (section 5.9(b)(6) of the Commission's regulations). It is necessary to spend an adequate amount of time conducting surveys at each site because recreational activity is temporary and dynamic. Many recreation sites serve as access points to larger, more dispersed resource areas (e.g., reservoirs, trails). Therefore, recreationists may be physically present at some sites only at the start and end of their visit to a project. Intercepting an adequate number of such visitors would require spending an adequate amount of time at each site. In addition, onsite interviewers in recreation studies should generally expect to complete only three or four interviews per hour (Vaske, 2008). Therefore, devoting only 40 minutes per site, per sampling day for the spot counts and survey administration would likely allow for only two or three completed surveys per site, per day. Because the proposed 40-minute sampling period would substantially limit the number of potential completed surveys, it presents the risk that study results would be inadequate for informing the relicensing process.

ALLETE states that the proposed 40-minute surveying period per site, per day would allow for all recreation sites to be sampled during a single day. However, ALLETE does not demonstrate that the same could not be accomplished using a longer surveying period. While a 40-minute period might allow for one interviewer to visit all sites at both projects on a single day, deploying additional interviewers could allow for a surveying period that is consistent with generally accepted practice in the scientific community.

For the reasons described above, in the RSP, please modify the sampling schedule to conduct spot counts and administer user surveys for two hours per site, per day at the Sylvan and Pillager Projects.

3. Section 5.3.5.2, *Recreation Use Assessment,* states that observers would record the number of visitors and number of vehicles present at each recreation site during the spot counts. However, the Recreational Observations / Spot Counts instrument provided in Appendix B does not include a dedicated space for recording the number of vehicles. Therefore, in the RSP, please modify the instrument to include a space to record both the number of users and the number of vehicles observed.

4. Appendix B displays a standard user survey instrument to be administered at FERC-approved recreation sites at the Sylvan and Pillager Projects and an alternative user-administered survey instrument to be used at the Crow Wing River Canoe Campsite at the Pillager Project. The proposed standard survey instrument does not request identifiable information from respondents. However, the proposed instrument for the user-administered questionnaire to be used at the Crow Wing River Canoe Campsite asks respondents to share their name and the names of other users in the party also taking the survey. Requesting names or other identifiable information from respondents could deter visitors from completing the survey. In addition,

randomly or systematically selecting only one member from a recreational group for participation in a recreation user survey is consistent with generally accepted practice in the scientific community (section 5.9(b)(6) of the Commission's regulations). Therefore, in the RSP, please modify the user-administered survey instrument to make it anonymous and employ a method to randomly or systematically select one group member for participation (*e.g.*, asking the adult member of the group with the most recent birthday to participate).

5. Appendix B, question #4, regarding the recreation user survey instruments, requests that respondents share their perception of how frequently the site is used for recreation. This may be a difficult question for respondents to interpret because they may not have enough experience with the site to confidently provide a response. Therefore, it would be useful to review and revise the survey instruments to ensure that they would result in data that would help to inform relicensing process. For example, questions about the number of other users encountered during a visit or perceptions of crowding would be more useful for assessing capacity. In addition, questions about perceptions of safety, accessibility of amenities, and/or user satisfaction would provide data that are useful for assessing the adequacy of recreation sites and amenities.

SCHEDULE B
COMMENTS ON REQUESTED STUDIES NOT ADOPTED

Study 6.1 Fish Passage Feasibility Study

6. In section 6.0, *Requested Studies Not Adopted*, ALLETE states that is does not propose to conduct a Fish Passage Feasibility Study at the Little Falls Project. ALLETE states that negative effects to migratory species have not been identified and that gamefish species are self-sustaining both upstream and downstream of the Little Falls Project. ALLETE further expresses concern that: (1) the installation of a fish passage facility could allow for the spread of current or future invasive species, such as silver and bighead carp; and (2) the costs of installation and maintenance of a fish passage facility, in conjunction with the associated loss in generation capabilities from water diversions, would challenge the economic viability of the Little Falls Project.

   In its July 28, 2023 filing, the Minnesota Department of Natural Resources (Minnesota DNR) states that consideration of fish bypass has been discussed within the fisheries management division for some time. Minnesota DNR states that while there are no particular species of concern, general system health for 41 species found in the Mississippi River stand to benefit with migration potential. Species such as walleye, muskellunge, northern pike, smallmouth bass, bigmouth buffalo, white sucker, silver redhorse and shorthead redhorse have all been documented to have significant upstream migrations for spawning and downstream migrations for winter refuge. Minnesota DNR also states that the lock and dam at the Upper St. Anthony Falls Project has been permanently closed and three unpassable dams (St. Cloud, Sartell and Blanchard Projects) exist above Coon Rapids dam, indicating that invasive carp are not currently an issue.

   During the study plan meeting, Minnesota DNR stated it would recommend fish passage at the Little Falls Project. During the meeting, Commission staff emphasized that a recommendation for a fish passage feasibility study was not equivalent to a recommendation for a fish passage license condition and that information about the feasibility of fish passage at the project would be needed for staff to properly conduct its National Environmental Policy Act (NEPA) analysis.[1]

   As stated in the Commission's study request, the power canal adjacent to the project presents a unique circumstance where an existing structure could be repurposed for

[1] Section 5.9(b)(5) (criterion 5) merely requires that a study request demonstrate how the results from the study will be used to inform the development of license requirements within the Commission's jurisdiction. The study results may or may not demonstrate that a license requirement is warranted, but staff still needs to conduct its NEPA analysis; the information that would be obtained from the study would be useful to inform whether a license requirement is needed and, if so, what.

fish passage at the project. However, the feasibility and cost of converting the old power canal into a functional fishway is unknown. As discussed during the meeting, Commission staff is lacking site-specific information on the potential costs associated with installation and maintenance of a fishway, as well as associated loss in generation capabilities from water diversions. At minimum, Commission staff would need comparable study data acquired from similar projects to estimate construction, maintenance, and operational costs that are needed to perform a cost/benefit analysis of fish passage at the project. However, staff's review of existing information indicates that correlative data to the project appears to either be insufficient or nonexistent. Therefore, site-specific information regarding the feasibility of converting the old power canal into a fishway at the Little Falls Project is needed for Commission staff to conduct an informed analysis.

References

Vaske, J. J. (2008). Survey research and analysis: Applications in parks, recreation, and human dimensions. Venture Publishing, Inc.

December 18, 2023 **VIA E-MAIL**

Greg Prom
Senior Environmental Compliance Specialist
ALLETE, Inc. d.b.a. Minnesota Power
30 West Superior Street
Duluth, MN 55802-2093

RE: FERC No. 2532 Little Falls Hydroelectric Project
FERC No. 2454 Sylvan Hydroelectric Project
FERC No. 2663 Pillager Hydroelectric Project
Section 106 Consultation Regarding the Proposed Relicensing of Hydroelectric Projects
Cass, Crow Wing, and Morrison Counties, Minnesota
SHPO Number: 2023-1267 (Little Falls), 2023-3430 (Sylvan), and 2023-3431 (Pillager)

Dear Mr. Prom,

Thank you for initiating consultation with our office regarding the above undertakings. In accordance with the notice issued by the Federal Energy Regulatory Commission (FERC) on May 26, 2023 designating ALLETE/Minnesota Power (MP) as non-federal representative, information received in our office on September 8 and 20, 2023 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) and its implementing federal regulations, "Protection of Historic Properties" (36 CFR Part 800).

We have completed a review of your letter dated September 20, 2023 as well as the submitted document titled *Proposed Study Plan: Little Falls Hydroelectric Project FERC P-2532 Sylvan Hydroelectric Project FERC P-2454 Pillager Hydroelectric Project FERC P-2663* (September 2023) as prepared by Kleinschmidt Associates for ALLETE, Inc.

Define Federal Undertaking and Area of Potential Effect (APE)
Based upon information provided in your September 20th letter, we understand that, due to the geographic proximity of the three (3) hydroelectric projects referenced above, MP has requested a combined FERC relicensing process for all 3 projects. Although each is considered a separate federal undertaking, the review and consultation under the Section 106 regulations will be carried out concurrently by MP.

Thank you for providing clarification on MP's definition of the Area of Potential Effect (APE) for each undertaking and also submitting map documentation and shapefiles for the APE boundaries. We continue to agree that the APEs for each project – defined as the FERC Project Boundary – are appropriate to take into account the potential direct and indirect effects of the federal undertaking, as it is currently defined.

Identification of Historic Properties
We have completed a review of Section 5.4 Cultural Resource Study. Our comments, as provided below, pertain to the proposed plan for completing historic property identification efforts within each APE as described in the PSP by section number.

Section 5.4 Cultural Resources Study
Section 5.4.1 Historic Architectural Resources Study
Section 5.4.1.1 Goals and Objectives
To clarify, the goal of the Historic Architectural Resources study is to identify historic/architectural properties within the APE for each undertaking and to assess the potential effects of the federal undertaking (license to continue project

operation and maintenance) on identified historic properties in accordance with 36 CFR 800.4 and 800.5. One of the objectives – performing a literature review – will provide MP and consulting parties with a comprehensive list of known historic properties, including those listed in the National Register of Historic Places (NRHP) and those previously evaluated and determined eligible or ineligible for listing in the NRHP. Additionally, the literature review will identify historic/architectural properties that have been subject to previous windshield or reconnaissance level survey, but which have not yet been evaluated for NRHP eligibility and properties within the APE that have been evaluated and determined ineligible for listing in the NRHP. It will be important to further clarify the objectives of the Historic Architectural Resources Study to include not only literature review and "updated survey and evaluation documentation of" NRHP-eligible historic/architectural resources, but also include any new or updated survey of properties 45 years or older within the APE, including those never before inventoried, and reevaluation of properties previously determined ineligible for listing in the NRHP if the earlier evaluation is 10 years old or older.

Section 5.4.1.5 Methodology
While paragraph 2 of this section describes the currently defined APEs as the FERC Project Boundary for each undertaking, the descriptions in Table 7 are inconsistent. We recommend that the descriptions for Sylvan and Pillager, like Little Falls, clearly reference the fact that the hydroelectric generating facilities, dams, and any embankments, as well as the reservoirs and adjacent lands are also located within the APEs.

As referenced above, along with the literature review of existing documentation (NRHP listed, NRHP eligible, NRHP ineligible, and inventoried/recorded, but unevaluated, properties) the Phase I reconnaissance survey described in this section should also include a reasonable effort to identify properties 45 years or older within the APE that have not been subject to previous inventory, survey, or evaluation. This effort will likely require field survey.

Also, this section seems to skip over relevant steps in historic property identification within each APE which will need to be carried out consistent with the Secretary of the Interior's *Standards for Identification* and *Evaluation* (36 CFR 800.4) as well as our state survey guidelines. This means that all survey within the APE will need to include consideration of the need for any new or updated historic contexts, as well as completion of property documentation at the Phase I reconnaissance level for those properties identified as not warranting additional Phase II survey and evaluation to fully support NRHP eligibility/ineligibility, and Phase II intensive level survey and evaluation documentation for all properties formally determined eligible or ineligible for listing in the NRHP.

We recommend updating this section to better reflect the requirements for historic property identification under 36 CFR 800.4 and assessment and findings of effect under 36 CFR 800.4 (no effect) and 800.5 (no adverse effect, and adverse effect) and the recommendations provided in this letter.

Section 5.4.1.7 Deliverables and Schedule
This section should also reference that any corresponding property inventory data will be prepared consistent with current state survey requirements. We have recently transitioned to the new MnSHIP GIS application for data on above-ground resources in the state. All updated survey and new survey information for properties will need to be prepared consistent with MnSHIP requirements and match any determinations made in corresponding survey reports and federal agency, or authorized federal agent, determination letters.

Section 5.2.4 Archaeological Resources Study
As with Section 5.1, the sections of the PSP involving historic, architectural, and archaeological property identification should clearly reference the fact that this work is being carried out pursuant to the federal agency and applicant's responsibilities under Section 106 and 36 CFR 800. Both the SHPO request for archaeological survey and the consulting party Friends of Old Crow Wing request for a re-evaluation of the Chippewa Agency Historic District are consistent with requirements for historic property identification under 36 CFR 800.4.

Section 5.4.2.1 Goals and Objectives and Section 5.4.2.5 Methodology
Consistent with our comments (above) regarding identification of historic/architectural properties, the goal of the archaeological resources study is to identify archaeological properties within the APE for each undertaking and to assess the potential effects of the federal undertaking on identified historic properties (historic, architectural, archaeological) in

accordance with 36 CFR 800.4 and 800.5. For archaeological properties, the identification effort will include a literature review and desktop study as a first step, followed by an archaeological field survey – which may include both reconnaissance and intensive level survey, as appropriate – of the APE in order to identify and evaluate for NRHP eligibility any previously recorded or newly identified archaeological sites. The current PSP focuses on only reconnaissance level survey, but this effort should not be limited or predetermined prior to iterative survey steps being carried out. There will likely need to be intensive level survey and evaluation of archaeological sites, including the NRHP-listed Chippewa Agency Historic District. Therefore, the PSP should include reference to both reconnaissance (Phase I) and intensive (Phase II) level archaeological surveys which may need to be carried out and documented in accordance with current state survey guidelines for these undertakings.

In addition to review of SHPO's data on archaeological sites, the literature review needs to include utilization of the Office of the State Archaeologist's data portal.

General PSP Comments

The PSP does not address previous recommendations made by our office and consulting party Friends of Old Crow Wing regarding the identification of traditional cultural places in consultation with tribes. This request is included in previous Section 106 meeting notes, and we noticed a similar comment in the letter that Friends of Old Crow Wing sent to Minnesota Power. This request is not included in the cultural resources studies described in the PSP, and is not included as a "Requested Study Not Adopted."

Our office has recommended consultation with more tribes, and we see that the list of tribes on the distribution list has been expanded. While this expanded notification list is helpful, meaningful consultation with tribes to identify any properties of religious or cultural significance to tribes within the APEs is required under the Section 106 regulations. Typically, this consultation will require intentional outreach and engagement with Tribal Historic Preservation Officers who express an interest in the APE geographic areas as historic property identification efforts are completed and documented, and assessment of effects to identified historic properties carried out.

We are aware of the fact that many other recent FERC re-licensing efforts in other states have included a Tribal Survey component, and we have seen Tribal Surveys carried out for other federal undertakings in Minnesota. This indicates that a tribal-led study to identify traditional cultural places is accepted practice, and it would also consider relevant tribal values and knowledge y engaging traditional cultural specialists in the identification of these places. Perhaps it is an oversight that this effort not included in the current PSP for these relicensing efforts, yet we recommend clarification on this matter.

We also note that the PSP distribution list did not include either the Crow Wing County Historical Society, Cass County Historical Society, or Friends of Old Crow Wing. We are aware of the interest by these entities regarding the proposed relicensing and potential effects to historic properties. We recommend adding both organizations to any distribution lists associated with Section 106 review of these proposed undertakings.

We look forward to continuing consultation with FERC and Minnesota Power/ALLETE and other consulting parties regarding the Section 106 reviews of these undertakings. Please feel free to contact me if you have any questions regarding our comment letter and/or would like to discuss next steps in the consultation process. I can be reached at (651) 201-3290 or by e-mail at sarah.beimers@state.mn.us.

Sincerely,

Sarah J. Beimers
Environmental Review Program Manager

APPENDIX B

PSP COMMENTS AND RESPONSE TABLE

Summary Response to Comments on Proposed Study Plan for Little Falls Project, Sylvan Project, and Pillager Project

No.	Topic	Comment	Licensee Response
Office of the State Archaeologist (OSA)			
1	Archaeological Sites	Review of our files indicates there are a multitude of previously recorded archaeological sites, archaeological site leads, and burials in the three project areas. Additionally, the project areas all have moderate to high potential to contain previously unrecorded archaeological sites or burials. Therefore, the OSA concurs with the necessity of a cultural resource survey of the project areas. Given the size of the project area, a comprehensive phase Ia literature review conducted by qualified archaeologists is recommended, which should include an assessment of historical and pre-contact period sites, as well as the potential for submerged sites.	Minnesota Power (MP) is proposing to conduct an Archaeological Resources Study that includes a desktop portion consistent with a Phase Ia literature review. In addition, the Archaeological Resources Study includes: 1) a reconnaissance survey of the Projects' APEs to determine if unrecorded archaeological sites are present; and 2) a conditions assessment on NRHP eligible or NRHP listed archaeological sites.
Federal Energy Regulatory Commission (FERC)			
1	Schedule of Studies	Table 1 indicates that the licensee intends to conduct the Recreation Use and Facility Inventory Study and the Water Quality Study during the second field season. However, applicants typically commence approved studies during the first field season…Therefore, in the revised study plan, please modify the study schedule to commence the Recreation Use and Facility Inventory Study and Water Quality Study during the first field season.	MP will begin conducting all proposed studies in the Year 1 study season. The schedules available in the individual study plan proposals have been modified in the RSP to reflect this change.
2	Recreation Use and Facility Inventory Study	In section 5.3.5.2, Recreation Use Assessment, ALLETE proposes to conduct spot counts and administer a survey with recreation users for 40 minutes per site, per day, on 13 randomly selected weekdays and weekend days during the recreation season at the Sylvan and Pillager Projects… Please modify the sampling schedule to conduct spot counts and administer user surveys for two hours per site, per day at the Sylvan and Pillager Projects.	The RSP has been modified as requested. The duration per survey day at each site will be two hours.

No.	Topic	Comment	Licensee Response
3	Recreation Use and Facility Inventory Study	Section 5.3.5.2, Recreation Use Assessment, states that observers would record the number of visitors and number of vehicles present at each recreation site during the spot counts. However, the Recreational Observations / Spot Counts instrument provided in Appendix B does not include a dedicated space for recording the number of vehicles. Therefore, in the RSP, please modify the instrument to include a space to record both the number of users and the number of vehicles observed.	The RSP has been modified as requested. The Recreational Observations / Spot Counts Form has been modified to include a space to record the number of vehicles observed.
4	Recreation Use and Facility Inventory Study	…The proposed standard survey instrument does not request identifiable information from respondents. However, the proposed instrument for the user-administered questionnaire to be used at the Crow Wing River Canoe Campsite asks respondents to share their name and the names of other users in the party also taking the survey…please modify the user-administered survey instrument to make it anonymous and employ a method to randomly or systematically select one group member for participation (e.g., asking the adult member of the group with the most recent birthday to participate).	The RSP has been modified as requested. The Recreational Use Survey Form for the Crow Wing River Canoe Campsite has been modified to allow the individual to remain anonymous.
5	Recreation Use and Facility Inventory Study - methods	Appendix B, question #4, regarding the recreation user survey instruments, requests that respondents share their perception of how frequently the site is used for recreation. …It would be useful to review and revise the survey instruments to ensure that they would result in data that would help to inform relicensing process. For example, questions about the number of other users encountered during a visit or perceptions of crowding would be more useful for assessing capacity. In addition, questions about perceptions of safety, accessibility of amenities, and/or user satisfaction would provide data that are useful for assessing the adequacy of recreation sites and amenities.	Question #4 of the Recreation Use Survey Forms has been modified to clarify the intention of the question regarding perception of level of crowding at the site. Additionally, a question regarding the user's perception of safety at the site has been added. Regarding the accessibility of amenities and user satisfaction, MP believes that Question #5 regarding the sufficiency of the amount and types of opportunities offered at the site, as well as the additional open ended question providing space for comments on opportunities and facilities at the site will provide adequate information on user satisfaction of the site and level of accessibility.

No.	Topic	Comment	Licensee Response
6	Comments on Requested Studies Not Adopted – Fish Passage Feasibility Study	…Commission staff is lacking site-specific information on the potential costs associated with installation and maintenance of a fishway, as well as associated loss in generation capabilities from water diversions. At minimum, Commission staff would need comparable study data acquired from similar projects to estimate construction, maintenance, and operational costs that are needed to perform a cost/benefit analysis of fish passage at the project. However, staff's review of existing information indicates that correlative data to the project appears to either be insufficient or nonexistent. Therefore, site-specific information regarding the feasibility of converting the old power canal into a fishway at the Little Falls Project is needed for Commission staff to conduct an informed analysis.	MP has provided additional requested information in Section 4.1 of the RSP to assist in FERC's analysis regarding fisheries at the Little Falls Project. In summary, MP's assessment of the available information, including fisheries and mussel data above and below the Little Falls Project, anticipated loss in generation at the Little Falls Project, potential costs and concerns of theoretical fish passage options, further supports the position that fish passage at the Little Falls Project is not reasonable or justifiable. MP reiterates that for the reasons further provided in Section 4.1 of the RSP, conducting further fish passage feasibility assessments at the Little Falls Project is not justifiable.
Minnesota State Historic Preservation Office (Minnesota SHPO)			
1	APE	We continue to agree that the APEs for each project – defined as the FERC Project Boundary – are appropriate to take into account the potential direct and indirect effects of the federal undertaking, as it is currently defined.	Comment noted.

No.	Topic	Comment	Licensee Response
2	Historic Architectural Resources Study - Objectives	To clarify, the goal of the Historic Architectural Resources study is to identify historic/architectural properties within the APE for each undertaking and to assess the potential effects of the federal undertaking (license to continue project operation and maintenance) on identified historic properties in accordance with 36 CFR 800.4 and 800.5… It will be important to further clarify the objectives of the Historic Architectural Resources Study to include not only literature review and "updated survey and evaluation documentation of" NRHP-eligible historic/architectural resources, but also include any new or updated survey of properties 45 years or older within the APE, including those never before inventoried, and reevaluation of properties previously determined ineligible for listing in the NRHP if the earlier evaluation is 10 years old or older.	The RSP has been updated to reflect MP's proposal of performing a literature review and reconnaissance survey of the Projects' APEs for the Historic Architectural Resources Study. Inventory forms will be completed in accordance with Minnesota SHPO's *Historic and Architectural Survey Manual* for any newly identified historic architectural resources. MP is proposing to update survey and evaluation documentation for the NRHP-eligible project dams and associated facilities. MP is not proposing to reevaluate NRHP eligibility determinations of structures in the APE that are not directly associated with the Project that would not be affected by the Projects' continued operation and maintenance. Results of this study will be included in the ISR. The need for subsequent survey or additional documentation of historic architectural resources, if necessary, will be determined in consultation with interested stakeholders following review of results generated by this study.
3	Historic Architectural Resources Study - Methodology/APE	The descriptions in Table 7 are inconsistent. We recommend that the descriptions for Sylvan and Pillager, like Little Falls, clearly reference the fact that the hydroelectric generating facilities, dams, and any embankments, as well as the reservoirs and adjacent lands are also located within the APEs.	The RSP has been modified as requested.

No.	Topic	Comment	Licensee Response
4	Historic Architectural Resources Study - Methodology	Along with the literature review of existing documentation (NRHP listed, NRHP eligible, NRHP ineligible, and inventoried/recorded, but unevaluated, properties) the Phase I reconnaissance survey described in this section should also include a reasonable effort to identify properties 45 years or older within the APE that have not been subject to previous inventory, survey, or evaluation. This effort will likely require field survey.	The RSP has been updated to reflects MP's proposal of performing a literature review and reconnaissance survey of the Projects' APEs for the Historic Architectural Resources Study.
5	Historic Architectural Resources Study - Methodology	All survey within the APE will need to include consideration of the need for any new or updated historic contexts, as well as completion of property documentation at the Phase I reconnaissance level for those properties identified as not warranting additional Phase II survey and evaluation to fully support NRHP eligibility/ineligibility, and Phase II intensive level survey and evaluation documentation for all properties formally determined eligible or ineligible for listing in the NRHP. We recommend updating this section to better reflect the requirements for historic property identification under 36 CFR 800.4 and assessment and findings of effect under 36 CFR 800.4 (no effect) and 800.5 (no adverse effect, and adverse effect) and the recommendations provided in this letter.	The RSP has been updated to reflects MP's proposal of performing a literature review and reconnaissance survey of the Projects' APEs for the Historic Architectural Resources Study.

No.	Topic	Comment	Licensee Response
6	Historic Architectural Resources Study – Deliverables and Schedule	This section should also reference that any corresponding property inventory data will be prepared consistent with current state survey requirements. We have recently transitioned to the new MnSHIP GIS application for data on above-ground resources in the state. All updated survey and new survey information for properties will need to be prepared consistent with MnSHIP requirements and match any determinations made in corresponding survey reports and federal agency, or authorized federal agent, determination letters.	The RSP has been modified as requested. The Methodology section of the RSP has been updated to include reference to MnSHIP.
7	Archaeological Resources Study – General	As with Section 5.1, the sections of the PSP involving historic, architectural, and archaeological property identification should clearly reference the fact that this work is being carried out pursuant to the federal agency and applicant's responsibilities under Section 106 and 36 CFR 800. Both the SHPO request for archaeological survey and the consulting party Friends of Old Crow Wing request for a re-evaluation of the Chippewa Agency Historic District are consistent with requirements for historic property identification under 36 CFR 800.4.	The RSP has been modified as requested. A condition assessment will be conducted to document the current condition of the Chippewa Agency Site. Information from this assessment will be evaluated and summarized in the ISR, with recommendations for subsequent field investigation.
8	Archaeological Resources Study – Goals and Objectives	Consistent with our comments (above) regarding identification of historic/architectural properties, the goal of the archaeological resources study is to identify archaeological properties within the APE for each undertaking and to assess the potential effects of the federal undertaking on identified historic properties (historic, architectural, archaeological) in accordance with 36 CFR 800.4 and 800.5.	The RSP has been modified as requested.

No.	Topic	Comment	Licensee Response
9	Archaeological Resources Study – Methods	For archaeological properties, the identification effort will include a literature review and desktop study as a first step, followed by an archaeological field survey – which may include both reconnaissance and intensive level survey, as appropriate – of the APE in order to identify and evaluate for NRHP eligibility any previously recorded or newly identified archaeological sites. The current PSP focuses on only reconnaissance level survey, but this effort should not be limited or predetermined prior to iterative survey steps being carried out. There will likely need to be intensive level survey and evaluation of archaeological sites, including the NRHP-listed Chippewa Agency Historic District. Therefore, the PSP should include reference to both reconnaissance (Phase I) and intensive (Phase II) level archaeological surveys which may need to be carried out and documented in accordance with current state survey guidelines for these undertakings.	MP is proposing a phased approach to site identification and evaluation. The reconnaissance (Phase I) survey proposed will document archaeological sites within the APE and make recommendations on NRHP-eligibility (e.g., recommended eligible, recommended not eligible, isolated find, or not evaluated). Based on the results of this survey, MP will determine if the proposed action of relicensing the Projects would have an effect on archaeology sites identified. The need for subsequent survey (Phase II) would be determined in consultation with interested stakeholders after review of the reconnaissance study results. MP asserts that intensive Phase II evaluations may not be necessary for sites in which no potential effects from relicensing the Projects are identified.
10	Archaeological Resources Study – Methods	In addition to review of SHPO's data on archaeological sites, the literature review needs to include utilization of the Office of the State Archaeologist's data portal.	The RSP has been modified as requested.
11	General PSP Comments	The PSP does not address previous recommendations made by our office and consulting party Friends of Old Crow Wing regarding the identification of traditional cultural places in consultation with tribes. This request is included in previous Section 106 meeting notes, and we noticed a similar comment in the letter that Friends of Old Crow Wing sent to Minnesota Power. This request is not included in the cultural resources studies described in the PSP, and is not included as a "Requested Study Not Adopted."	The RSP has been updated to include consultation with relevant Tribal Historic Preservation Offices to determine if traditional cultural properties are located within the APEs.

No.	Topic	Comment	Licensee Response
12	General PSP Comments	Our office has recommended consultation with more tribes, and we see that the list of tribes on the distribution list has been expanded. While this expanded notification list is helpful, meaningful consultation with tribes to identify any properties of religious or cultural significance to tribes within the APEs is required under the Section 106 regulations. Typically, this consultation will require intentional outreach and engagement with Tribal Historic Preservation Officers who express an interest in the APE geographic areas as historic property identification efforts are completed and documented, and assessment of effects to identified historic properties carried out.	The RSP has been updated to include consultation with relevant Tribal Historic Preservation Offices to determine if traditional cultural properties are within the APEs.
13	General PSP Comments	We are aware of the fact that many other recent FERC re-licensing efforts in other states have included a Tribal Survey component, and we have seen Tribal Surveys carried out for other federal undertakings in Minnesota. This indicates that a tribal-led study to identify traditional cultural places is accepted practice, and it would also consider relevant tribal values and knowledge engaging traditional cultural specialists in the identification of these places. Perhaps it is an oversight that this effort not included in the current PSP for these relicensing efforts, yet we recommend clarification on this matter.	The RSP has been modified to reflect consideration of traditional cultural properties during the reconnaissance survey as well as perform consultation with relevant Tribal Historic Preservation Offices.
14	General PSP Comments	We also note that the PSP distribution list did not include either the Crow Wing County Historical Society, Cass County Historical Society, or Friends of Old Crow Wing. We are aware of the interest by these entities regarding the proposed relicensing and potential effects to historic properties. We recommend adding both organizations to any distribution lists associated with Section 106 review of these proposed undertakings.	The distribution list has been modified as requested.

APPENDIX C

RECREATION FACILITY INVENTORY AND CONDITION ASSESSMENT FORMS AND RECREATION USE SURVEY FORMS

Sylvan Project (P-2454), Pillager Project (P-2663)

Recreation Facility Inventory and Condition Assessment Form

Surveyor: _____ **Date/Time**: _____

Project: ☐ Sylvan ☐ Pillager

Sylvan Recreation Site: ☐ Wilder's Landing; ☐ Fisherman's Bridge Boat Launch and Fishing Area; ☐ Sylvan Dam Boat Access and Fishing Area; ☐ Sylvan Canoe Portage

Pillager Recreation Site: ☐ Alvah's Landing (Minnesota DNR Boat Launch); ☐ Pillager Dam Public Boat Launch; ☐ Pillager Dam Public Canoe Portage and Shorefishing Access; ☐ Crow Wing River Canoe Campsite

GPS Coordinates: _____

*Please note:

1) Photos of **all** facilities, amenities, signs, parking areas, roads, and areas of erosion should be taken. Location of each needs to be specified via GPS coordinates or on sketch.
2) If there is more than one facility/amenity of the same type, and they are in different conditions, this needs to be distinguished in notes on this form. Location of each needs to be specified via GPS coordinates or on sketch, and condition should be specified in some way to distinguish the varied conditions for the same facility/amenity type.
3) If there is not sufficient space on this form for notes, pages may be added as needed.

Site Type:

☐ Boat Launch Area ☐ Fishing Area ☐ Picnic Area
☐ Trail ☐ Campsite ☐ Other: _____

Road Access: Condition Description (N-replace, R-repair, M-maintain, G-good):

entrances _____ # lanes _____ Condition _____

Parking Area: Condition Description (N-replace, R-repair, M-maintain, G-good): _____

Type	# Estimated Spaces	Delineation
Designated Handicap Spaces	_____	☐ Signage
Regular Spaces	_____	
Vehicle & Trailer Spaces	_____	

Other Notes: _____
_____
_____

Site Amenities (if needed, please provide additional specifications on additional pages):

#	Type	Condition (N-replace, R-repair, M-maintain, G-good) for each[1]
_____	Restrooms	_____
_____	Fishing Pier/Platform	_____
_____	Boat Launch	_____
_____	Boat Dock	_____
_____	Pedestrian Trail	_____
_____	Firepit/ring	_____
_____	Information Kiosk	_____
_____	Informational Signage	_____
_____	Safety Signage	_____
_____	Campsite (primitive)	_____
_____	Campsite (improved)	_____

Other (specify)_____
_____

Boat Launch: Condition Description (N-replace, R-repair, M-maintain, G-good):
_____

☐ Hard surface ☐ Gravel ☐ Unimproved (informal) _____ # of Lanes

Other notes: _____
_____
_____
_____

Boat Dock / Fishing Pier: Condition Description (N-replace, R-repair, M-maintain, G-good):
_____

☐ Boat Dock (can secure boat to platform) ☐ Fishing Pier (cannot secure boat to platform)

Other notes (include dimensions): _____
_____

Trails (within the recreation site): Condition Description (N-replace, R-repair, M-maintain, G-good)

Type: _____ Condition: _____
Type: _____ Condition: _____
Type: _____ Condition: _____

Other notes: _____

[1] If more than one and different conditions, distinguish the condition/location of each. Can label by number and indicate on sketch. If all are the same condition, don't need to specify with label.

Signage / Interpretive Information: Condition Description (N-replace, R-repair, M-maintain, G-good)

☐ Part 8 Quantity: _____ Condition: _____
☐ Trail Markers Quantity: _____ Condition: _____
☐ Historical Quantity: _____ Condition: _____
☐ Fishing Regulations Quantity: _____ Condition: _____
☐ Boating Safety Quantity: _____ Condition: _____
☐ Informational Quantity: _____ Condition: _____ Content: _____
☐ Other: _____ Quantity: _____ Condition: _____

Restrooms: Condition Description (N-replace, R-repair, M-maintain, G-good)

Flush: _____ # Portable: _____ Condition: _____

Erosion:

☐ Areas of noticeable erosion, slumping, or other forms of instability

Description of Erosion:

_____
_____

Evidence of use at site: _____
(C) Compaction, (E) Erosion, (L) Litter, (UI) Unauthorized improvements, (V) Vandalism, (O) Other (Specify)

Evidence of overcrowding: _____
(A) Anecdotal information, (I) Improper parking, (SD) Site degradation, (U) Unauthorized sites, (W) Waiting lines, (O) Other (Specify)

Notes (including general condition, any restrictions/alerts, invasive species, etc.):

_____
_____
_____
_____
_____
_____
_____
_____

Sketch of Site, including <u>all</u> facilities and amenities:

Sylvan Project (P-2454), Pillager Project (P-2663)

Recreational Observations / Spot Counts

Observer: _____

Date: _____

Start time: _____ **End time**: _____

Weather: □ Sunny; □ Partly Cloudy; □ Cloudy; □ Light Rain; □ Heavy Rain

Approximate Temperature (°F): _____

1. **Project:** □ Sylvan □ Pillager

2. **Sylvan Recreation Site:**
   □ Wilder's Landing
   □ Fisherman's Bridge Boat Launch and Fishing Area
   □ Sylvan Dam Boat Access and Fishing Area
   □ Sylvan Canoe Portage

3. **Pillager Recreation Site:**
   □ Alvah's Landing (Minnesota DNR Boat Launch)
   □ Pillager Dam Public Boat Launch
   □ Pillager Dam Public Canoe Portage and Shorefishing Access

4. **Number of People Observed:** _____ (Time of spot count: _____)

5. **Number of Vehicles Observed:** _____ (Time of spot count: _____)

6. **Observed Activities:**
   □ Fishing from the shore
   □ Fishing from a boat
   □ Motorized boating
   □ Canoe / Kayaking / Stand-up Paddle Boarding
   □ Waterskiing / Wakeboarding / Tubing
   □ Swimming
   □ Hiking / Walking / Jogging
   □ Bicycling
   □ Picnicking
   □ Camping
   □ Viewing Wildlife / Birdwatching
   □ Photography
   □ Other: _____

7. **Notes:**
   _____
   _____
   _____

Sylvan Project (P-2454), Pillager Project (P-2663)

Recreational Use Survey Form

A. **Observer**: _____

B. **Date**: _____

C. **Time**: _____

D. **Project:** □ Sylvan □ Pillager

E. **Sylvan Recreation Site:**

□ Wilder's Landing
□ Fisherman's Bridge Boat Launch and Fishing Area
□ Sylvan Dam Boat Access and Fishing Area
□ Sylvan Canoe Portage

Pillager Recreation Site:

□ Alvah's Landing (Minnesota DNR Boat Launch)
□ Pillager Dam Public Boat Launch
□ Pillager Dam Public Canoe Portage and Shorefishing Access

1. **The purpose of the survey is to obtain information about recreation user experience at the site and to determine adequacy of the site. This recreational use survey is in association with the relicensing process for the Sylvan and Pillager Hydroelectric Projects. The survey will take approximately 5 minutes and is completely anonymous. No personal information will be collected. Would you be willing to participate in the survey?**

□ Yes □ No

2. **Including yourself, how many people are in your party today? _____**

3. **Of the activities listed above, please indicate which is the primary activity of this trip?** *(Choose only one)*

□ Fishing from the shore
□ Fishing from a boat
□ Motorized boating
□ Canoe / Kayaking / Stand-up Paddle Boarding
□ Waterskiing / Wakeboarding / Tubing
□ Swimming
□ Hiking / Walking / Jogging
□ Bicycling
□ Picnicking
□ Camping
□ Viewing Wildlife / Birdwatching
□ Photography
□ Other: _____

4. **On a scale from 1 to 5, with 1 being underutilized and 5 overcrowded, how much do you perceive this site is used for recreation?** *(Circle one number)*

1	2	3	4	5
Underutilized		Moderate		Overcrowded

5. **In your opinion, are the amount and types of recreation opportunities offered at this site sufficient?**

   □ Yes; □ No; □ N/A

   If no, please explain:

   _____

6. **On a scale from 1 to 5, with 1 being poor and 5 excellent, how would you rate the overall condition of this site?** *(Circle one number)*

1	2	3	4	5
Poor	Fair	Satisfactory	Good	Excellent

   If your rating is 1-2, please explain:

   _____

7. **Do you have any concerns of safety at this site?**

   □ Yes; □ No; □ N/A

   If yes, please explain:

   _____

8. **Do you have any additional comments about public recreation opportunities and facilities at this recreation site? (Please be as specific as possible):**

   _____
   _____
   _____
   _____
   _____
   _____
   _____

Thank you for participating in this survey!

Sylvan Project (P-2454), Pillager Project (P-2663)

Recreational Use Survey Form – Crow Wing River Canoe Campsite

A. **Date**: _____

B. **Time**: _____

1. **The purpose of the survey is to obtain information about recreation user experience at the site and to determine adequacy of the Crow Wing River Canoe Campsite. This recreational use survey is in association with the relicensing process for the Sylvan and Pillager Hydroelectric Projects. The answers to your responses should be specific to the Crow Wing River Canoe Campsite. If there are multiple people in your party, we ask that only one individual per party completes this form.**

2. **a) Including yourself, how many people are in your party today? _____**

   Please note that only one individual per party should complete the form.

   b) What is the duration of your current visit (number of days/nights)? _____

3. **Of the activities listed above, please indicate which is the primary activity of this trip** *(Choose only one)*:

   □ Fishing from the shore
   □ Fishing from a boat
   □ Motorized boating
   □ Canoe / Kayaking / Stand-up Paddle Boarding
   □ Waterskiing / Wakeboarding / Tubing
   □ Swimming
   □ Hiking / Walking / Jogging
   □ Bicycling
   □ Picnicking
   □ Camping
   □ Viewing Wildlife / Birdwatching
   □ Photography
   □ Other: _____

4. **On a scale from 1 to 5, with 1 being underutilized and 5 overcrowded, how much do you perceive this site is used for recreation?** *(Circle one number)*

1	2	3	4	5
Underutilized		Moderate		Overcrowded

5. **In your opinion, are the amount and types of recreation opportunities offered at this site sufficient?**

   □ Yes; □ No; □ N/A

   If no, please explain:

   _____

6. **On a scale from 1 to 5, with 1 being poor and 5 excellent, how would you rate the overall condition of this site?** *(Circle one number)*

1	2	3	4	5
Poor	Fair	Satisfactory	Good	Excellent

If your rating is 1-2, please explain:

_____

7. **Do you have any concerns of safety at this site?**

□ Yes; □ No; □ N/A

If yes, please explain:

_____

8. **Are there any modifications to the site that you think should be made?**

□ Yes; □ No; □ N/A

If yes, please explain:

_____

9. **Do you have any additional comments about public recreation opportunities and facilities at this recreation site? (Please be as specific as possible):**

_____
_____
_____
_____
_____
_____
_____
_____
_____

Thank you for participating in this survey!