

Spicer Group

Phase I Archaeological Resources Investigation of the Secord Dam and Smallwood Dam Projects Gladwin County, Michigan

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ACRONYM LIST

APE	Area of Potential Effects
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
cfs	cubic feet per second
cmbs	centimeters below ground surface
FERC	Federal Energy Regulatory Commission
FLTF	Four Lakes Task Force
GLO	General Land Office
Merjent	Merjent, Inc.
NRCS	Natural Resources Conservation Service
Project	Secord Dam and Smallwood Dam Projects
SHPO	State Historic Preservation Office

EXECUTIVE SUMMARY

The Four Lakes Task Force (FLTF) owns and operates the Secord and Smallwood dams within the state of Michigan. In May 2020, Midland and Gladwin counties experienced an extreme rainfall event that led to the damage of these dams situated on the Tittabawassee River, which led to the drawdowns of Secord and Smallwood Lakes. The FLTF formed following the disaster and acquired the Secord and Smallwood dam properties. FLTF initiated a Recovery and Feasibility Study and Design Phase to explore options for maintenance at Secord and Smallwood dams. The following archaeological resources investigation report documents survey at each Area of Potential Effects (APE) for earthmoving activities at the Secord Dam and Smallwood Dam Projects (Project) in Gladwin County, Michigan. FLTF proposes to start construction in November 2022, or upon issuance of all applicable permits.

Merjent, Inc. (Merjent) archaeologists completed an archaeological survey of 85.42 acres, including all proposed project workspaces and access routes. This acreage constitutes the combined APE of each facility, of which the Secord Dam APE is 19.54 acres and the Smallwood Dam APE is 65.88 acres. During the survey, no archaeological resources were identified. Merjent recommends that no historic properties, namely those properties eligible for inclusion on the National Register of Historic Places, would likely be affected by either project. No further archaeological work is recommended for the Project as planned.

1.0 PROJECT DESCRIPTION

The Four Lakes Task Force (FLTF) owns and operates the Secord and Smallwood dams and their associated properties within the State of Michigan. In May 2020, Midland and Gladwin counties experienced an extreme rainfall event that led to damage of the Secord and Smallwood Dams on the Tittabawassee River, which led to the drawdowns of Secord and Smallwood Lakes. Following the dam failures, the Four Lakes Task Force (FLTF) was formed and acquired the Secord and Smallwood dam properties. FLTF initiated a Recovery and Feasibility Study and Design Phase to explore options for maintenance at Secord and Smallwood dams. The following report documents archaeological survey of each Area of Potential Effects (APE) for the Secord Dam and Smallwood Dam Projects (Project), in Gladwin County, Michigan. Construction is proposed to start November 2022, or upon issuance of all applicable permits.

Secord Dam and Smallwood Dam are operating legal lake level control structures per court order in accordance with Part 307 of Public Act 451 of 1994. These dams create Secord Lake and Smallwood Lake, respectively, each of which has a court-ordered legal lake level. After the May 2020 storm event, a drawdown of Secord and Smallwood lakes was ordered by the Federal Energy Regulatory Commission (FERC) to allow engineers to assess whether repairs and improvements are needed to satisfy safety standards and compliance with Part 315 of Public Act 451 of 1994. Project activities to restore Smallwood and Secord lakes to their court-ordered legal lake level include repairs and improvements by increasing spillway capacity to safely pass the State of Michigan's required Half Probable Maximum Flood design or greater.

Based on initial hydrology and hydraulic studies, FLTF proposes to increase the existing zero-freeboard spillway capacity at the Secord Dam from approximately 7,695 cubic feet per second (cfs) to approximately 17,675 cfs while providing a 3-foot of freeboard below the proposed embankment, and to increase the spillway capacity at the Smallwood Dam from approximately 10,185 cfs to approximately 24,000 cfs while providing 2-foot of freeboard below the proposed embankment.

The types of repairs and modification procedures within each APE will be the same. The modifications to the primary spillway will include the partial demolition of the existing concrete rollway, removal of the existing Tainter spillway gates, and installation of two new hydraulic crest gates that will be placed at a lower elevation to increase spillway capacity. Gates will be designed to have minimal human intervention and, if power is lost, the gates can be depressurized and automatically lowered to full capacity. A new reinforced concrete center pier will be constructed for stability and operational safety. Portions of the existing concrete barrel arch will remain and be supplemented with a new concrete stepped chute that will convey water downstream to a new reinforced concrete stilling basin. Both left and right spillway training walls will be extended downstream and raised to protect the flanking earthen embankments.

To complete the Project, FLTF proposes to utilize irregularly shaped workspaces at each dam (see Table 1.0-1). Merjent, Inc. (Merjent) established environmental clearance boundaries of 19.54 acres at the Secord Dam and 65.88 acres at the Smallwood Dam, within which the Project workspaces and access routes will be located. These areas were reviewed for environmental impacts and constitute the Project's APEs. Access is tentatively planned to extend from Secord Dam Road at the Secord Dam, and along existing two-track and gravel roads from E McKimney Road and Oren Court at Smallwood Dam.

TABLE 1.0-1		
Secord Dam APE and Smallwood Dam APE Acreages		
APE	Township, Range, Section	Acreage
Secord Dam	T19N, R 1E, Sec. 15	19.54
Smallwood Dam	T18N, R 1E, Sec. 15, 22	65.88
Total		85.42

Merjent applied industry best practices and adhered to the Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (48 Code of Federal Regulations [CFR] 44716) and *Michigan SHPO Draft State Archaeological Documentation Standards*. The field survey was conducted by Merjent archaeologists Angela Julin (Principal Investigator) and Stephen Larsen. Ms. Julin meets the Secretary of the Interior’s Professional Qualification Standards for Archaeology as published in 36 CFR Section 61. Merjent completed an archival review on March 23, 2021. The archival review identified no previously recorded archaeological sites or architectural properties within each APE. A Phase I archaeological resources investigation of each APE was conducted between April 11 and April 17, 2021, and between April 22 and April 24, 2021. During the survey, no archaeological resources were identified. Merjent recommends that no historic properties will be affected by the proposed Project. No further archaeological work is recommended for the Project as planned.

2.0 ENVIRONMENTAL CONTEXT

The Project is located in the Tawas Lake Plain subregion of the Northern Lakes and Forests region of Michigan. This region is characterized by sandy soils ranging from excessively well-drained to more poorly-drained, with a mixture of pastureland, cropland, and successional forest. Most of this region was originally forested, with many swamps and open wetlands; however, many of the original forests have been logged or cleared and now support earlier-successional forests (U.S. Environmental Protection Agency, 2007). The Secord Dam and Smallwood Dam APEs are centered around the Tittabawassee River. The Secord Dam is about 42 miles upstream from the City of Midland and 8.5 miles northeast of the City of Gladwin. The Smallwood Dam is about 34 miles upstream of the City of Midland and 8 miles southeast of the City of Gladwin. The dams were both constructed in 1924 as hydroelectric facilities.

2.1 HYDROLOGY

2.1.1 Secord Dam

The Secord Dam APE straddles the Tittabawassee River and is immediately downstream of Secord Lake (see Figures 1a and 2a in Appendix A). The historic footprint of the lake basin has been reduced on both the east and west edges. Flooding at Secord Lake usually occurs in the spring following heavy spring rains or snow melt over saturated grounds. Major floods occurred on June 24, 2017, September 13, 1986, March 21, 1948, and June 3, 1943. There are 1.37 acres of wetland within the Secord Dam APE. The APE is within the Tittabawassee River watershed basin, which drains into Smallwood Lake and Secord Lake.

2.1.2 Smallwood Dam

The Tittabawassee River runs west to east through the center of the Smallwood Dam APE, with Smallwood Lake in the west center (see Figures 1b and 2b in Appendix A). The historic footprint of the lake basin has been reduced on both the east and west edges. A two-track road extends

north from Smallwood Dam, with a grassland upland-emergent wetland east of the road, extending west, transitioning into a forested upland-wetland complex. There are scattered wetlands south of the river, with 19.62 total acres of wetlands within the APE. The APE is within the Tittabawassee River watershed basin, which drains into Smallwood Lake and Wixom Lake. The very northeastern portion of the APE is within the Black Creek Watershed subbasin.

2.2 GEOLOGY

The Project lies upon the Saginaw bedrock formation, a Pennsylvanian sedimentary clastic unit composed of materials of fresh water, brackish water, and marine origin, consisting of sandstone, shale, coal, and limestone. Bedrock in this region is generally 400 feet thick and overlies older sandstone formations (Milstein, 1987).

2.3 SOILS

The Natural Resources Conservation Service (NRCS) soils data was accessed to determine soil types within each APE (NRCS, 2021). Soils representing less than 1 percent of each APE were excluded from the following discussion.

2.3.1 Secord Dam

The soils within the Secord Dam APE are characterized as rich sandy drifts, cool moist sandy depressions, and acidic sandy depressions. These soils were formed on lake plain, moraine, and outwash plain rises from sandy glaciofluvial deposits. The drainage classes range from excessively to somewhat poorly drained.

TABLE 2.5-1		
Soil Types Present in the Secord Dam APE		
Percent of Area	Soil Type	Landform
6%	Croswell-Au Gres association	Lake plains, outwash plains
4%	Croswell-Au Gres-Roscommon association	Lake plains, outwash plains
58%	Rubicon-Croswell association, undulating	Lake plains, outwash plains, moraines
6%	Rubicon-Ocqueoc-Ingalls association, undulating	Lake plains, outwash plains, moraines
25%	Water	--

2.3.2 Smallwood Dam

The soils within Smallwood Dam APE can be topographically characterized as wet floodplains and cool, wet, and moist sandy depressions. Over one third of the Smallwood Dam APE contains Selfridge loamy sand, formed on wave-worked till plains, relict nearshore zones, low sand dunes, water-lain moraines, glacial drainage channels, and deltas, from sandy and loamy glaciolacustrine deposits over loamy till on summits. The results of these glacial processes produce undulating till-topography, with raised shore features such as wave-cut scarps, strandlines, and beach deposits. Relict landforms such as these are often seen within currently developing landscapes, contributing to the undulating terrain. Within the APE, soils typical of depressions on lake plains and lake plain flats such as Pinconning loamy sand and Uibly sandy loam are surrounded by the Selfridge series, supporting the likelihood of relic lakes and undulating sand dunes and beaches within the APE. Cococtah loam is present along both banks of the Tittabawassee River within the APE, described as an occasionally flooded, poorly drained soil formed on talf floodplains from sandy and loamy alluvium.

Percent of Area	Soil Type	Landform
7%	Covert sand, 0 to 3 percent slopes	Knolls on outwash plains, flats on outwash plains, lake plains
6%	Cohoctah loam	Floodplains
14%	Pinconning loamy sand	Depressions on lake plains
8%	Pipestone sand, loamy substratum, 0 to 2 percent slopes	Outwash plains, lake plains
19%	Ugly sandy loam, 0 to 2 percent slopes	Till plains, moraines
12%	Water	--
34%	Selfridge loamy sand, 0 to 3 percent slopes	Wave-worked till plains, nearshore zones (relict), water-lain moraines, glacial drainage channels, deltas

2.4 VEGETATION AND LAND USE

2.4.1 Secord Dam

The forested portion of the Secord Dam APE contains red maple (*Acer rubrum*), paper birch (*Betula papyrifera*), northern red oak (*Quercus rubra*), and black cherry (*Prunus serotina*). The sparsely vegetated shrub layer includes saplings of northern red oak, red maple, and black cherry as well as American witch-hazel (*Hamamelis virginiana*) and flowering dogwood (*Cornus florida*). The sparsely vegetated herb layer includes eastern teaberry (*Gaultheria procumbens*), Pennsylvania sedge (*Carex pennsylvanica*), and northern bracken fern (*Pteridium aquilinum*). The forested areas were topographically diverse with intermixed upland and wetland areas.

East of the Tittabawassee River, along the banks of the river and along the Secord Dam berm, is mowed/maintained lawn. The herb layer of these areas is densely vegetated with Kentucky blue grass (*Poa pratensis*), smooth brome (*Bromus inermis*), English plantain (*Plantago lanceolata*), and orchard grass (*Dactylis glomerata*).

Land use within the APE includes Secord Lake to the north, with the Tittabawassee River flowing north to south through the center of the APE. The Secord Dam and spillway runs east-west along the southern edge of Secord Lake. At the time of survey, land use west of the river was an undeveloped forested upland and wetland complex. A maintained lawn and gravel roads were present east of the river.

2.4.2 Smallwood Dam

The majority of the upland areas within the Smallwood Dam APE are forested, grassland within a clear-cut, mowed/maintained lawn, and gravel drives. The forested areas are west of the Tittabawassee River. The tree stratum is dense with red maple, paper birch (*Betula papyrifera*), northern red oak, and black cherry. The shrub layer is sparsely vegetated with saplings of red oak, red maple, and black cherry as well as American witch-hazel and flowering dogwood. The herb layer is sparsely vegetated with eastern teaberry, Pennsylvania sedge, and northern bracken fern. Forested areas were topographically diverse with intermixed upland and wetland areas.

North of the Tittabawassee River, along the banks of the river and along the Smallwood Dam berm is mowed/maintained lawn. The herb layer of these areas is densely vegetated with

Kentucky blue grass, smooth brome, English plantain, and barnyard grass (*Echinochloa crus-galli*).

The upland grassland areas are located north of the Tittabawassee River in a clear-cut area that still contains cut woody debris. These areas border emergent wetlands and a gravel two-track road that runs north of the Tittabawassee River. The tree and shrub strata are sparsely vegetated with bigtooth aspen (*Populus grandidentata*) and common buckthorn (*Rhamnus cathartica*). The herb stratum is densely vegetated with flat-stem blue grass (*Poa compressa*), northern bracken fern, graceful sedge (*Carex gracillima*), and Pennsylvania sedge.

Running north from Smallwood Dam is a two-track road that connects to Oren Court outside the survey area. East of this two-track is a grassland upland-emergent wetland complex, which extends west of the two-track and transitions to forested upland-wetland complex. South of the river is an undeveloped forested area that includes some scattered wetlands and E McKimney Road along the western edge of the survey area.

3.0 LITERATURE REVIEW

Merjent contacted the Michigan State Historic Preservation Office (SHPO) to conduct a literature search of their in-house files on March 23, 2021, as current SHPO files are not available online and in-person research appointments are currently not available. The Michigan SHPO literature search focused on previously identified cultural and architectural resources and previously conducted surveys within the literature search study area, defined as each APE plus a 1-mile buffer. In addition, Merjent reviewed archival resources including General Land Office (GLO) maps and historical aerial imagery to identify potential cultural features in each APE.

3.1 HISTORIC MAP AND AERIAL REVIEW

To understand historic-period site potential, Merjent reviewed 19th century GLO maps and land patents, historic county atlases, and available historic aerial imagery.

3.1.1 Secord Dam

The 1846 GLO map does not indicate any ownership information or note any structures or features within the Secord Dam APE (Bureau of Land Management [BLM], 2021). The Tettabawassee (sic) River bisects the landscape with the slope drawn as bluffs along the majority of the river on both banks (see Figure 3a in Appendix A). The patent on file with the BLM names Edward F. Bird as the owner of 160 acres within the southwest quarter of Section 15, allotted as part of the Scrip Warrant Act of 1850 that awarded land patents to military veterans. The 1906 County Atlas of Gladwin Township shows the portion of the APE west of the river as state land, while T.G. Campbell owned the eastern portion (Geo. A. Ogle & Co., 1906). Mr. Campbell was an attorney for Gladwin County as well as a republican representative for Gladwin and Midland Counties in the legislatures of 1902 and 1903 (State of Michigan, 2021). Merjent reviewed a 1968 aerial photograph that shows minimal change over the years, as documented parking areas and access roads are clearly visible cutting across the APE on both sides. The western portion of the APE shows clearer gravel road cuts and cleared areas, which have grown over with second-growth forest in the preceding years.

3.1.2 Smallwood Dam

The 1846 GLO map does not indicate any ownership information or note any structures or features within the Smallwood Dam APE (BLM, 2021). The Tittabawassee River is shown cutting across the APE, with the slope indicated as bluffs along the southern banks of the river (see Figure 3b in Appendix A). An unnamed tributary of the river flows north to south through the northern half of the APE, the majority of which is now wetlands and ponds. Patents from 1853 on file with the BLM name A. (Asa) DeZeng Dickinson as the owner of the southwest quarter of Section 15, allotted as part of the Scrip Warrant Act of 1847. The southeast quarter of Section 15 was allotted to lumber baron Royal C. (Clark) Remick under the same act. Remick founded the Whitney-Remick lumber firm in the 1880s. The 1906 County Atlas of Buckeye Township names lumber baron Martha Ayres as the owner of a majority of Section 15 (Ogle & Co., 1906). Ms. Ayres, also known as Mattie, was bequeathed (by her husband James Hayes upon his death) a portion of the Hayes, Butman, and Co. lumber company, which she ran along with other family businesses. She married Ebenezer R. Ayres of Ayres Lumber and Salt Company in 1896 (Thronton, n.d.). Ms. Ayres did not reside within Gladwin County, likely utilizing her allotment of Section 15 for timber sales. The 1968 aerial photograph shows what appears to be emerging forests post-clearing, with access roads clearly visible and cleared portions more evident and extensive compared to current aerials.

3.2 CULTURAL AND HISTORICAL OVERVIEW

There are no previous cultural resource sites or surveys within the literature search study area on file with the Michigan SHPO; however, a number of archaeological sites in nearby areas have been contextualized as part of the Archaic and/or Woodland periods. Most archaeological sites are prehistoric of an unknown age. These prehistoric archaeological sites are primarily recorded as lithic scatters, villages, or campsites.

Europeans first arrived in the area in the 1860s and settled at the forks of the Tobacco and Cedar rivers, tributaries of the Tittabawassee River. Very few permanent residents lived in this area until the official organization of Gladwin County in 1875. Early settlers of Gladwin County were lumbermen due to the presence of dense pine and oak forests. The first settler of Gladwin County, Marvil "Marvel" Secord, settled in the area now known as Secord Township. Secord built a large log structure to accommodate loggers approximately 2 miles south of the Secord Dam APE, known as Dick's Fork.

Between the 1860s and early 20th century, numerous lumber concerns operated in Gladwin County. Until recently, most of the heavy dense forests were stripped and have given way to the opportunity of more agricultural lands, with some lumber companies still operating on a small scale.

4.0 PREVIOUS ARCHAEOLOGICAL SURVEYS AND SITES

4.1 IMPLICATIONS FOR SITE POTENTIAL

Although no archaeological sites have been recorded in the literature search study area, the environmental setting and information on known archaeological resources in the region suggests that prehistoric archaeological sites are possible within each APE. The proximity of the Tittabawassee River within each APE suggests that there was, at one time, potential for archaeological deposits; however, the likelihood of encountering intact prehistoric archaeological resources within the Project area is low due to disturbance since the 1920s. Causes of

disturbance in each APE include flooding, tree clearing, dam and facility construction and maintenance, buried utilities, and two-track road construction and maintenance. Historic-period artifact scatters are possible in each APE; however, any remnants of historic-period occupation have likely been affected by the same ground disturbing activities discussed above.

5.0 FIELD METHODS

The general objective of a Phase I archaeological resources investigation is to identify archaeological resources within an APE that are at least 45 years of age. Archaeological resource types considered for this investigation included both precontact and historic period archaeological sites and earthworks that could provide information about human occupation. Such sites could be evident in artifacts or features on or below the current ground surfaces. The focus of this field investigation was to understand if any unknown resources could be positively identified in the survey area.

Throughout all stages of this investigation, Merjent applied industry (cultural resource management) best practices and adhered to the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 CFR 44716) and the *Michigan SHPO Draft State Archaeological Documentation Standards*.

Each APE was based on files provided by Spicer. Pedestrian survey was conducted by Ms. Julin and Mr. Larsen in each APE in 10-meter transects. Areas exhibiting obvious disturbance, inundation, or exhibiting slope greater than 20 degrees were photo documented. No shovel tests were placed within 25 feet of any buried utility. Extensive disturbance and inundation made systematic shovel testing in transects difficult, therefore judgmental shovel tests were placed in accessible areas, with 15-meter spacing wherever possible. The survey was geographically oriented using Geographic Information System data in conjunction with a Trimble R1 Integrated Global Navigation Satellite System receiver. Field observations, including vegetation, ground surface visibility, slope, general topography, and areas of soil disturbance or inundation, were described on field forms that are available at the Merjent office in Minneapolis, Minnesota.

6.0 SURVEY RESULTS

6.1 SECORD DAM

Field survey of the Secord Dam APE was completed on April 11, 2021 (see Figure 4a in Appendix A). At the time of survey, the APE included the Secord Dam Road ditch, grassy berms and maintained lawns, graded dirt access roads and parking areas, a drainage channel, and embankments flanking either side of the existing dam and spillway. The western portion of the APE contained push piles, access roads, tree removal, fallen trees, ponded borrow pits, inundated wetlands, drainage ditches, and staging for gravel and fill piles. Due to recent mitigation efforts, many recent gravel piles, tree piles, and road disturbances were noted within the APE, as well as heavy equipment staged in the area (see Photos 6.1-1 through 6.1-6). No shovel tests were excavated within the Secord Dam APE due to obvious disturbances throughout the APE and standing water.

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Gladwin County, Michigan



Photo 6.1-1. Secord Dam Road and access road, facing west.



Photo 6.1-2. Eastern berm flanking Secord Dam, facing west.



Photo 6.1-3. Secord Dam parking area, facing south.



Photo 6.1-4. Secord Dam, facing north.



Photo 6.1-5. Recent access road disturbance, facing east.



Photo 6.1-6. Ponding, borrow pit, push piles, facing south.

6.2 SMALLWOOD DAM

Field survey of the Smallwood Dam APE was completed on April 17, 2021 (see Figure 4b in Appendix A). The APE south of the Tittabawassee River consisted of E McKimney Road and associated road ditch, undeveloped forest land with extensive fallen trees, residential lawns, and a cleared transmission line right-of-way. The forested area extended north down steep slopes towards the river, with eroded drainage channels and unmaintained access roads dividing the landscape. Large earthen embankments flanked both sides of the existing dam structure. An area had been cleared and graded (see cleared area in Figure 4b in Appendix A) with piles of cut timber, spoil, and modern refuse. Due to recent mitigation efforts, many recent gravel piles and tree piles were noted within the APE, as well as heavy equipment staged in the area (see Photos 6.2-1 through 6.2-6). Initial remediation efforts to mitigate further damage to the Smallwood Dam began prior to the archaeological survey, evidenced by the staging of heavy equipment and well-traveled access roads.



Photo 6.2-1. Access roads, facing west.



Photo 6.2-2. Slope towards river, facing northwest.



Photo 6.2-3. Smallwood Dam, facing west.



Photo 6.2-4. Clearing with refuse pile and cut tree piles, facing south.



Photo 6.2-5. Transmission line right-of-way with berm and trailers, facing west.



Photo 6.2-6. Upland wetlands with tree cutting piles, facing south.

Fifteen judgmental shovel tests were placed along the river terrace in areas with comparatively minimal slope, as well as at the top of the sloped terrace, in accessible areas that were not delineated wetlands or visibly wet (see Figure 5 in Appendix A and Table 6.2-1 below). All tests were negative and varied greatly in areas with similarly mapped soil profiles (see Photos 6.2-7 through 6.2-10). The variability of soil horizons confirmed the expected disturbances from historic and recent flooding events, as the repeated impacts of short-term water ponding and drying cycles has very likely impacted soil stability along the floodplain. While prehistoric resource procurement activities may have occurred along the banks of the Tittabawassee River that extend into the APE, the likelihood of intact subsurface deposits appears minimal. River scouring was noted along both the riverbed and the riverbanks, which were analyzed for any evidence of archaeological deposits. Landforms within the APE which would have provided ideal conditions for long term prehistoric occupation are not present within the APE as the soils encountered exhibit characteristics of prolonged saturation, with poor to very poor drainage. The portions of the APE not located within a wetland, floodplain, or slope have been heavily altered by ongoing timber cutting activities as evidenced by large bordering tree piles. The entire APE was visibly covered in a thin layer of yellow to dark yellowish-brown sand overlying the native black topsoil, providing a visual footprint for the extent of the impacts of flooding.



Photo 6.2-7. Shovel Test 1.



Photo 6.2-8. Shovel Test 2.



Photo 6.2-9. Shovel Test 3.



Photo 6.2-10. Shovel Test 4.

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Gladwin County, Michigan

TABLE 6.2-1

Shovel Tests within the Smallwood APE

ST#	Depth (cmbs)	Soil Type	Notes	Munsell
1	0-19	Sand	Negative	10 YR 2/1 & 10 YR 5/4
	19-41		A – mottled Water at base	10YR 5/4
2	0-32	Sandy Loam	Negative	10 YR 2/1
	32-34		Water at base	10 YR 4/2
3	0-24	Silty Loam	Negative	10 YR 2/1
	24-38			10 YR 6/6
4	0-40	Sandy Loam Silty Loam	Negative	10 YR 3/1 10 YR 4/6
	40-65			
5	0-22	Sandy Loam	Negative	10 YR 3/1
	22-32			10 YR 5/4
	32-54			10 YR 3/1
6	0-29	Sandy Loam	Negative	10 YR 3/2
	29-51			19 YR 4/3
7	0-24	Sandy Loam	Negative	10 YR 3/1
	24-38	Sandy Loam		10 YR 4/4
	38-52			10YR 5/4
8	0-19	Sandy Loam	Negative	10 YR 3/1
	19-24	Sand		10 YR 6/3
	24-57	Sand		10 YR 5/8
9	0-24	Sandy Loam	Negative	10YR 3/1
	24-30			10YR 6/1
	30-55			7.5YR 4/6
10	0-17	Sandy Loam	Negative	10YR 3/2
	17-41		B – water saturated	10YR 5/1
11	0-14	Sandy Loam	Negative	10YR 3/2
	14-22			10YR 6/1
	22-46			7.5YR 4/6
12	0-13	Sandy Loam	Negative	10YR 3/2
	13-46		B – water saturated	10YR 5/1
13	0-20	Sandy Loam Sand Sand	Negative	10 YR 3/2
	20-33			10 YR 6/3
	33-49			10 YR 5/6
14	0-14	Sandy Loam Sand Sand	Negative	10 YR 3/2
	14-32			10 YR 6/3
	32-45			10 YR 5/6
15	0-14	Sandy Loam Sand Sand	Negative	10 YR 3/2
	14-26			10 YR 6/4
	26-51			10YR 5/6

cmbs = centimeters below ground surface

Phase I Archaeological Resources Investigation of the Secord Dam and Smallwood Dam Projects
Gladwin County, Michigan

TABLE 6.2-2

Representative Shovel Tests within the Selfridge Loamy Sand Series

Depth	Selfridge Loamy Sand	ST 1	ST 8
0-5cm	Ap horizon; (10YR 3/2) silty loam; 0-20cm	Ap horizon; (10YR 2/1) sand; 0-19cm	Ap horizon; (10YR 3/1); 0-19cm
5-10cm			
10-15cm			
15-20cm			
20-25cm	E Horizon; (10 YR 5/3) sand; 20-38cm	E horizon; (10YR 5/3) 19-41cm	B horizon; (10YR 6/3) sand; 19-24cm
25-30cm			
30-35cm			
35-40cm	Bw Horizon; (10YR 5/6) sand; 38-64cm	Water	Bw Horizon; (10 YR 5/8) sand; 24-57cm
40-45cm			
45-50cm			
50-55cm			
55-60cm			
60-65cm			

TABLE 6.2-3

Representative Shovel Tests within the Cohoctah Loam Series

Depth	Cohoctah Loam	ST 2	ST 3	ST 4
0-5cm	A horizon; (10YR 3/1) sandy loam; 0-33cm	A Horizon; (10YR 2/1) sandy loam; 0-34cm	A Horizon (10YR 2/1) sandy loam; 0-24	A Horizon; (10YR 3/1) sandy loam 0-40
5-10cm				
10-15cm				
15-20cm			B Horizon; (10YR 6/6) silty loam 24-38cm	
20-25cm				
25-30cm				
30-35cm	Bg1 horizon; (10 YR 4/2) sandy loam; 33cm –53cm	water	water	B Horizon; (10YR 4/6) silt loam 40-65cm
35-40cm				
40-45cm				
45-50cm				
50-55cm				
55-60cm				
60-65cm	Bg2 horizon; (10 YR 5/2) sandy loam; 53-84cm			

At the time of survey, the APE north of the Tittabawassee River consisted of a gravel road behind a locked gate, mowed/maintained lawn, upland grassland areas, undeveloped forested wetlands, fallen trees, Smallwood Lake, and a large area that was cleared of trees in 2020 with remaining woody debris and inundated ponding throughout. Three judgmental shovel tests were placed in an area with the least visible surface disturbance and were all negative.

Phase I Archaeological Resources Investigation of the Secord Dam and Smallwood Dam Projects
Gladwin County, Michigan



Photo 6.2-11. Recent disturbances and inundation, facing north.



Photo 6.2-12. Wetlands within cleared area, facing south.



Photo 6.2-13. Pond in APE, facing east.



Photo 6.2-14. Woody debris from clearing, facing north.



Photo 6.2-15. Receded lake bed, facing southeast.



Photo 6.2-16. Upland wetlands with tree cutting piles, facing south.

7.0 SUMMARY AND RECOMMENDATIONS

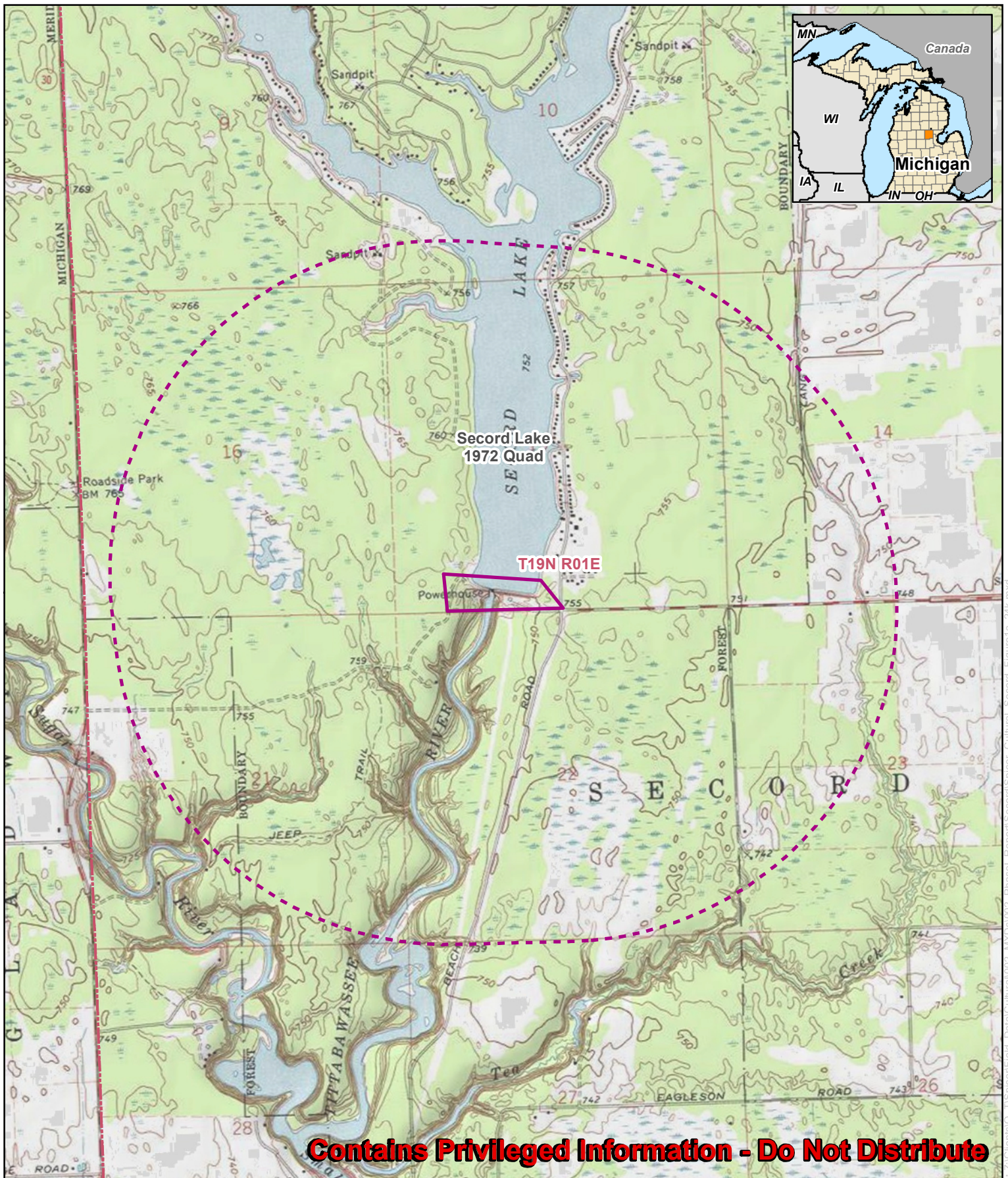
Between April 11 and April 24, 2021, Merjent conducted a Phase I identification survey for the Secord and Smallwood Dams Project. A literature search conducted prior to fieldwork identified no previously recorded cultural resources within the APE. Fifteen shovel tests were excavated. No new archaeological sites were identified during the survey. Merjent recommends that no historic properties will be affected by the proposed Project. No additional archaeological survey is recommended for the Project as planned.

8.0 REFERENCES CITED

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APPENDIX A





Figures

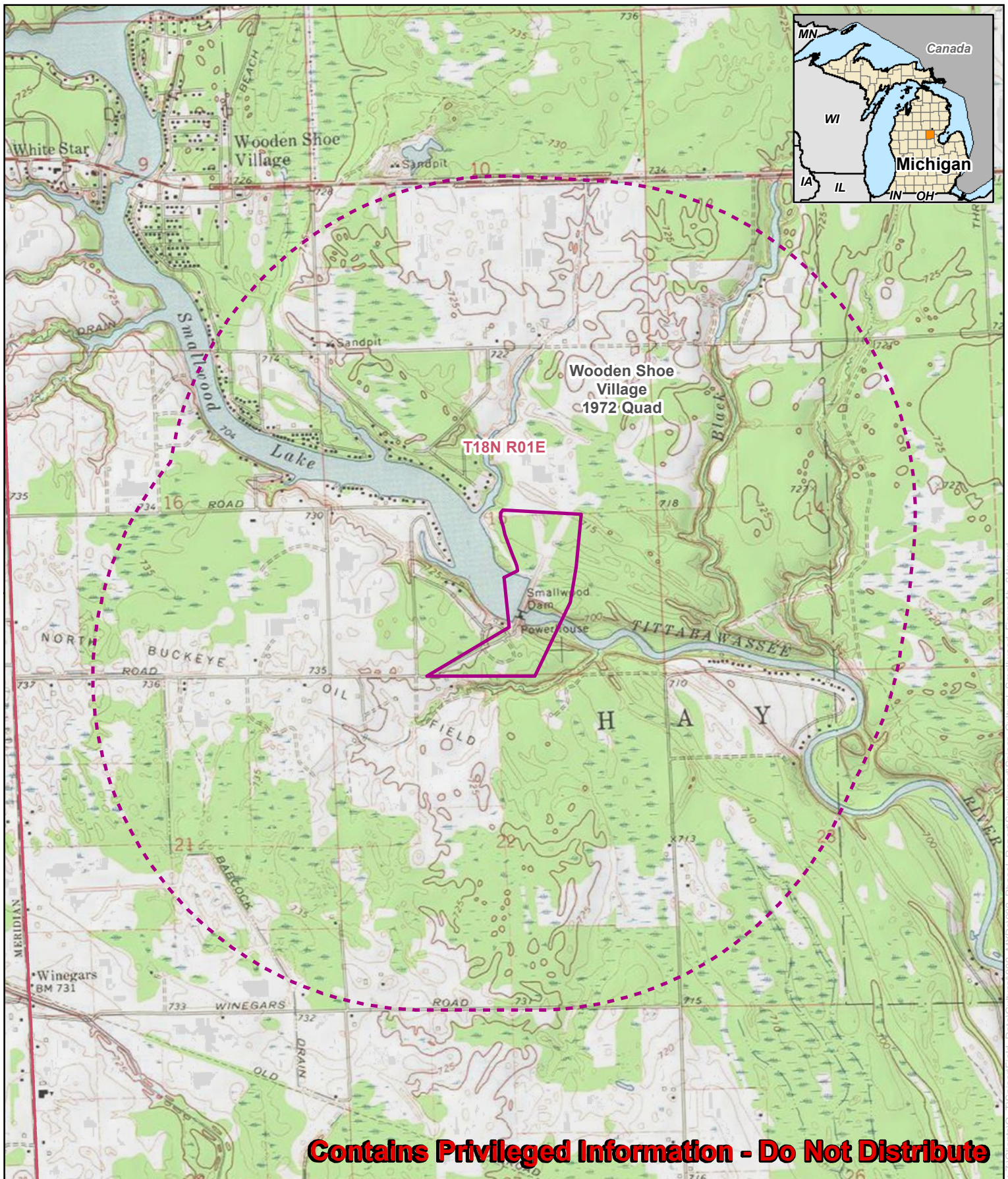


0 750 1,500 Feet



Figure 1a: Project Location and Previous Cultural Resources
Secord Dam Project
Spicer Group Inc.
Gladwin County, Michigan

-  Secord Project APE
-  Literature Search Study Area
-  Quad Map Boundary
-  Township Boundary



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Figure 1b: Project Location and Previous Cultural Resources
Smallwood Dam Project
 Spicer Group Inc.
 Gladwin County, Michigan

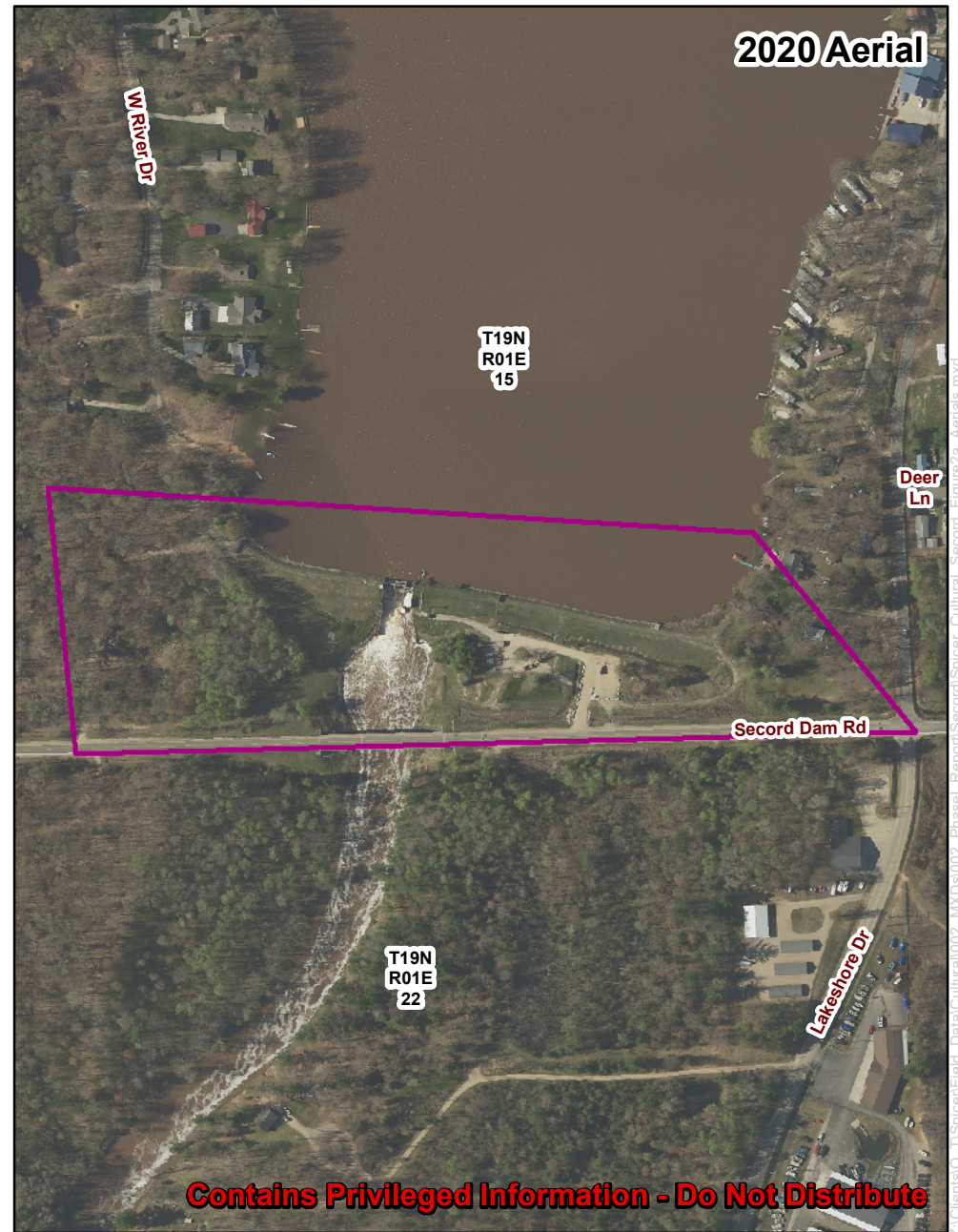
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merjent.

For Environmental Review Purposes Only



-  Smallwood Project APE
-  Literature Search Study Area
-  Quad Map Boundary
-  Township Boundary



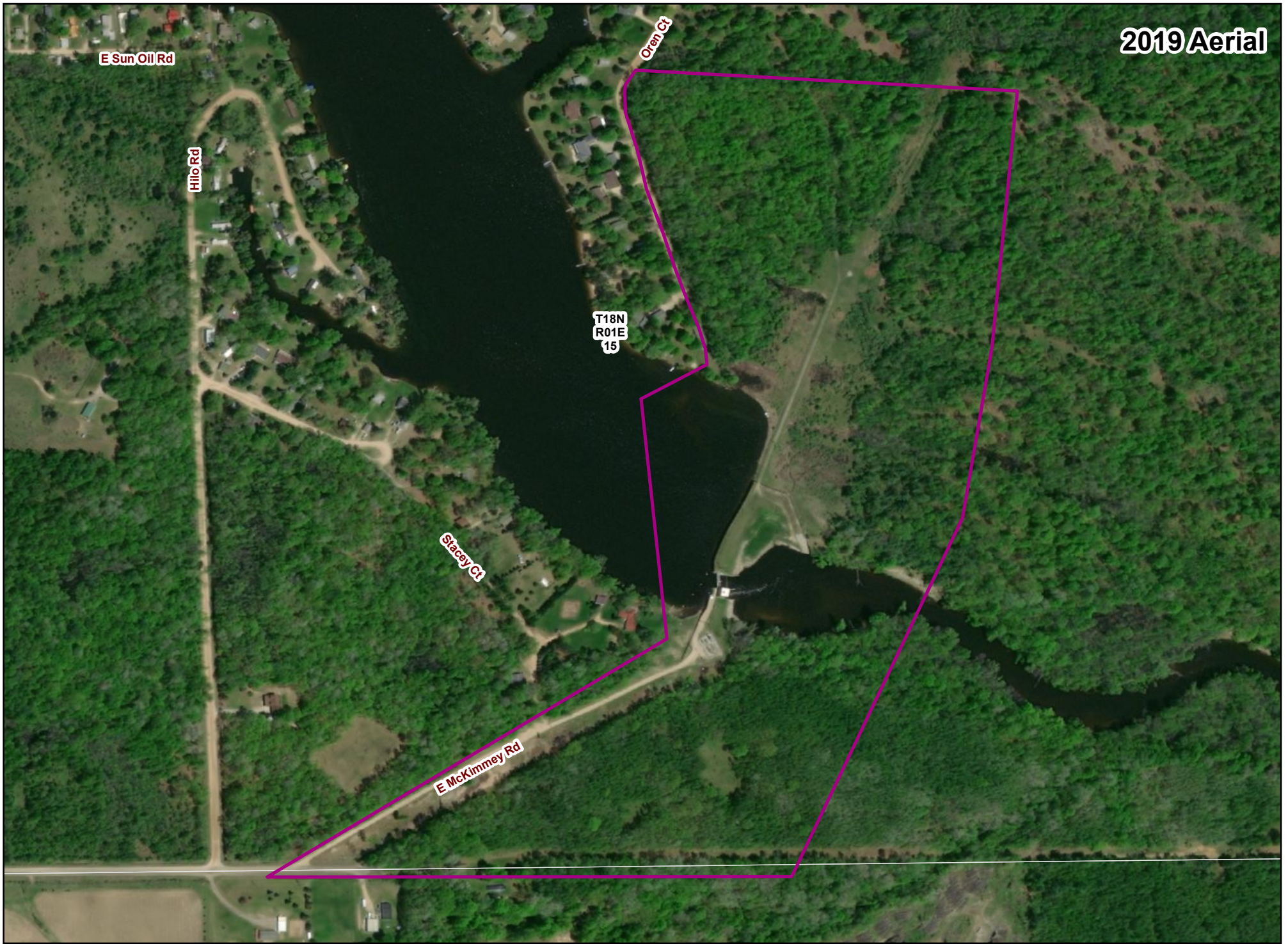
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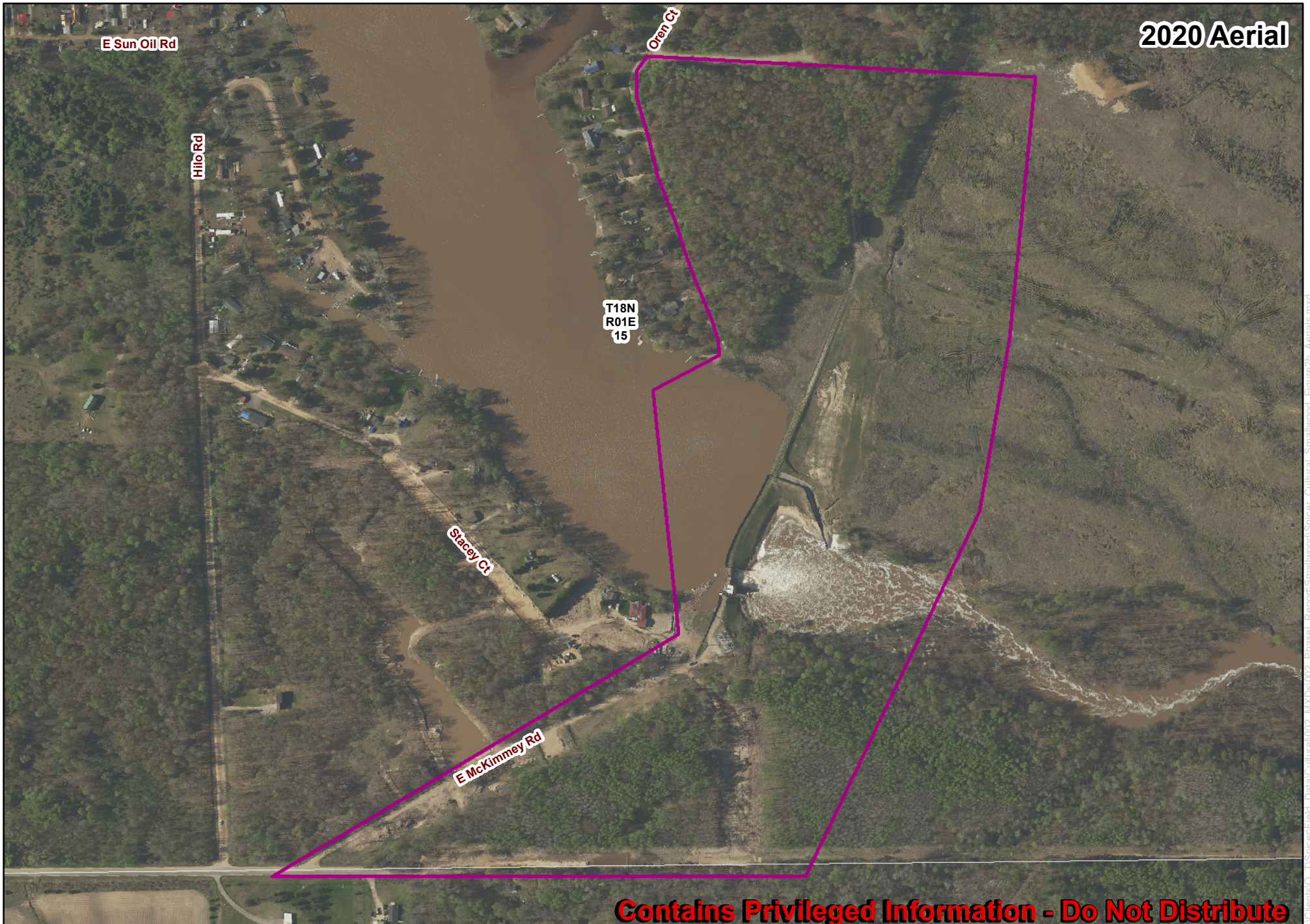
Figure 2a: Aerial Imagery
Secord Dam Project
Spicer Group Inc.
Gladwin County, Michigan

-  Secord Project APE
-  Section Boundary

Date: (4/29/2021) Source: z:\Clients\Q_1\Spicer\Field_Data\Cultural\002_10X\01002_Phase1_Report\Secord\Spicer_Cultural_Secord_Figure2a_Aerials.mxd



2019 Aerial



2020 Aerial

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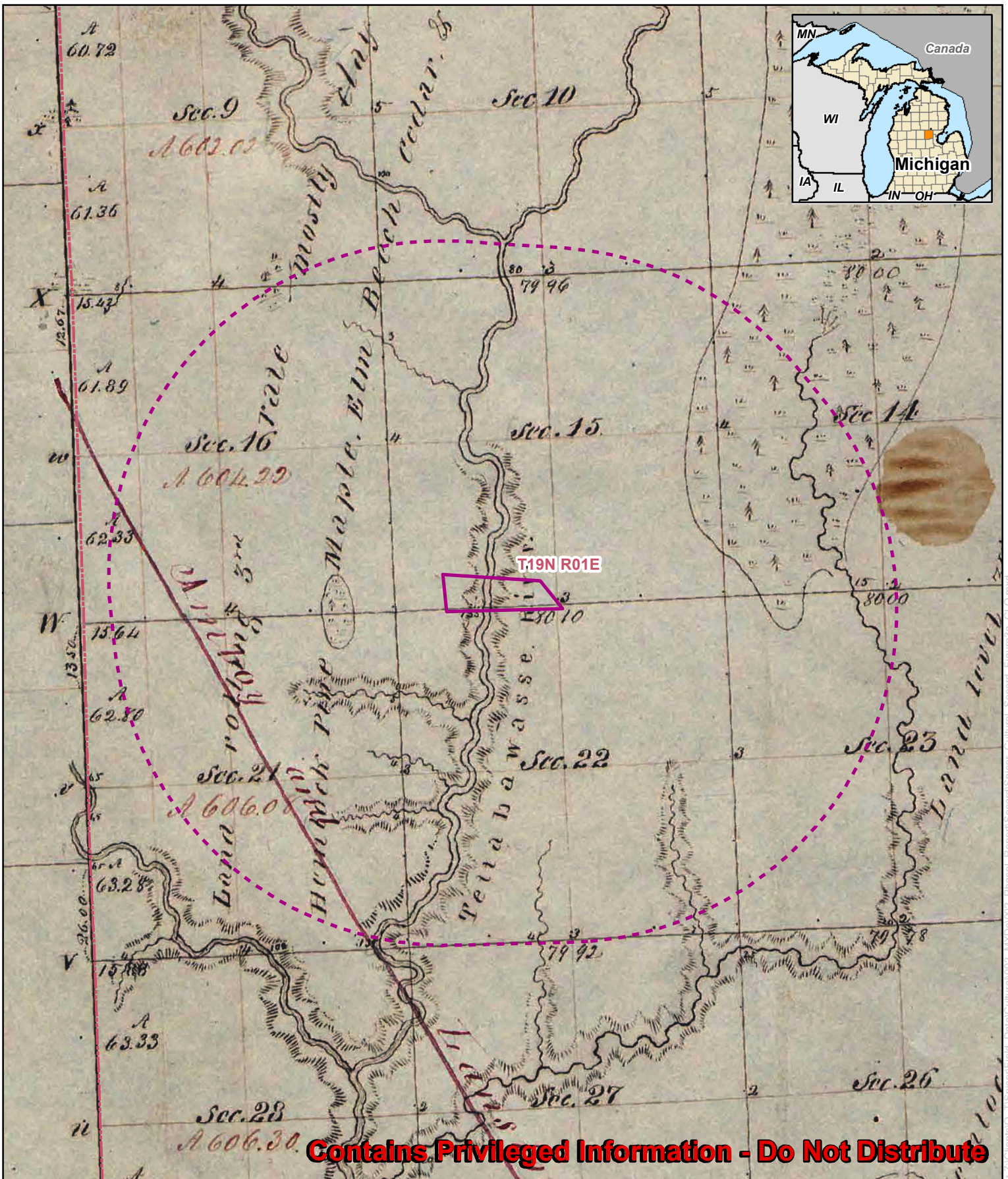
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Figure 2b: Aerial Imagery
Smallwood Dam Project
Spicer Group Inc.
Gladwin County, Michigan

Smallwood Project APE
 Section Boundary

Date: (4/29/2021) Source: Z:\Clients\IQ_1\Spicer\Field_Data\Cultural\Spicer_Cultural_Smallwood_Figure2b_Aerials.mxd






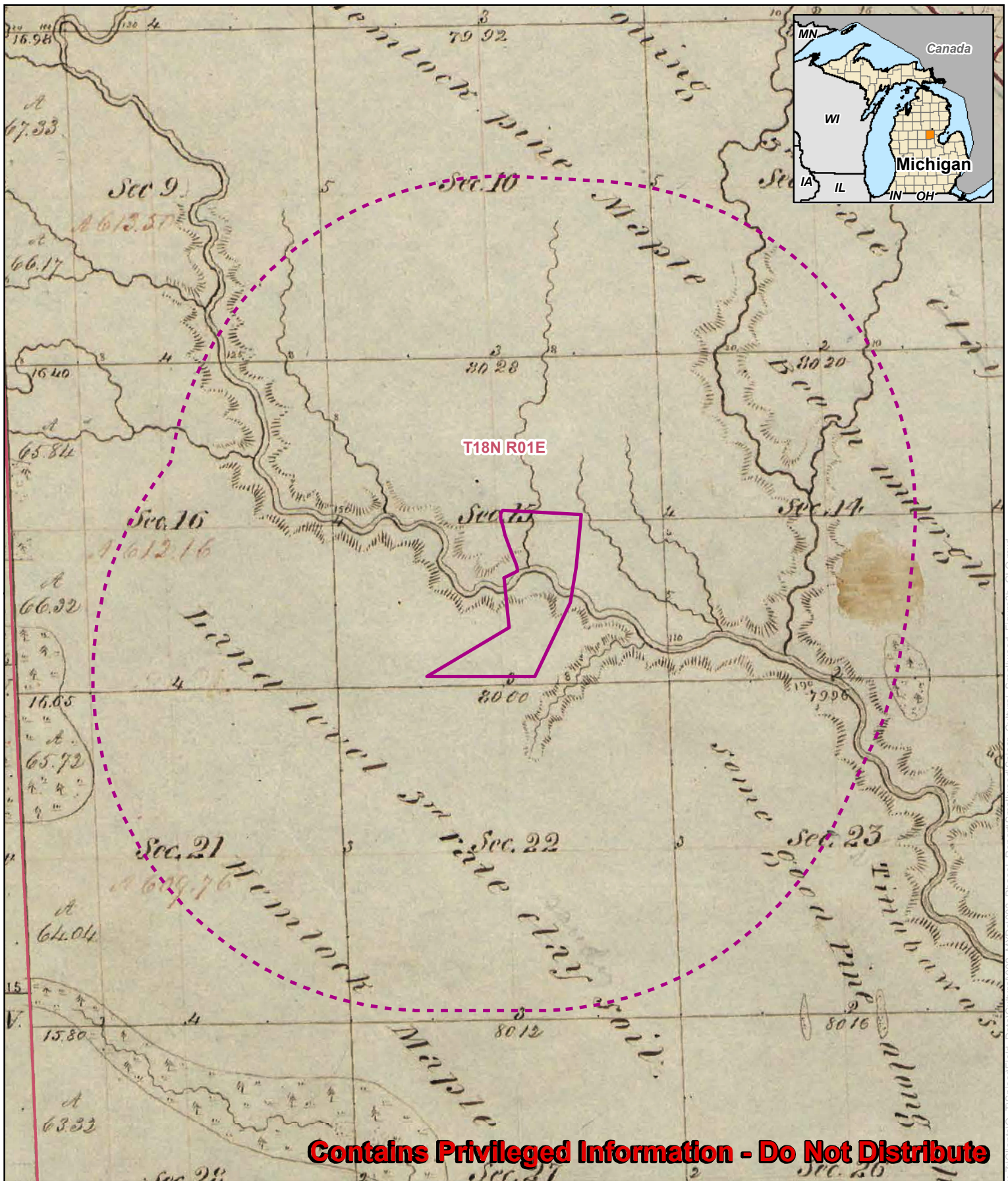
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0 750 1,500
Feet



Figure 3a: 1846 GLO Map
Secord Dam Project
Spicer Group Inc.
Gladwin County, Michigan

-  Second Project APE
-  Literature Search Study Area
-  Township Boundary






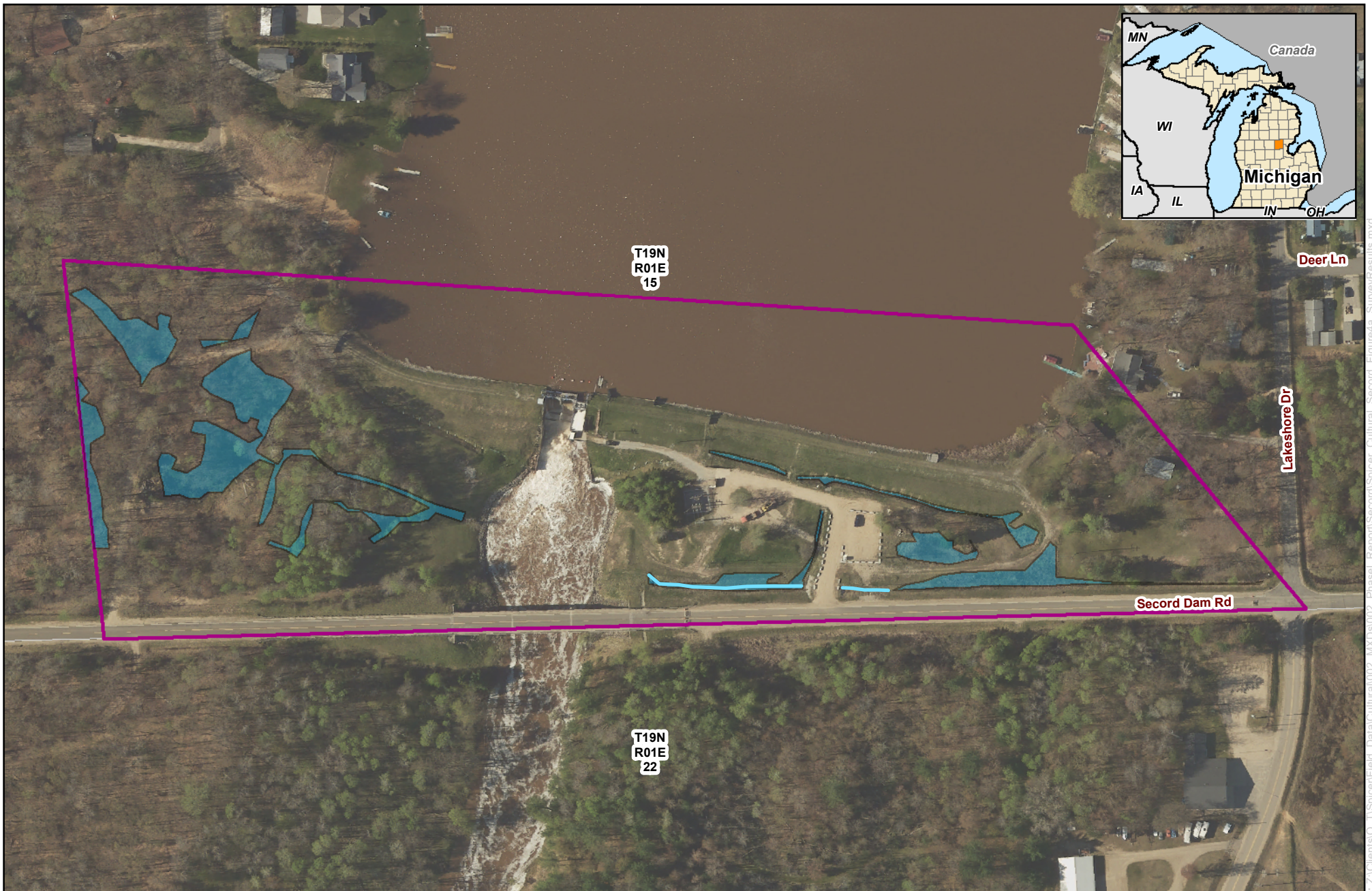
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Feet



Figure 3b: 1846 GLO Map
Smallwood Dam Project
Spicer Group Inc.
Gladwin County, Michigan

-  Smallwood Project APE
-  Literature Search Study Area
-  Township Boundary

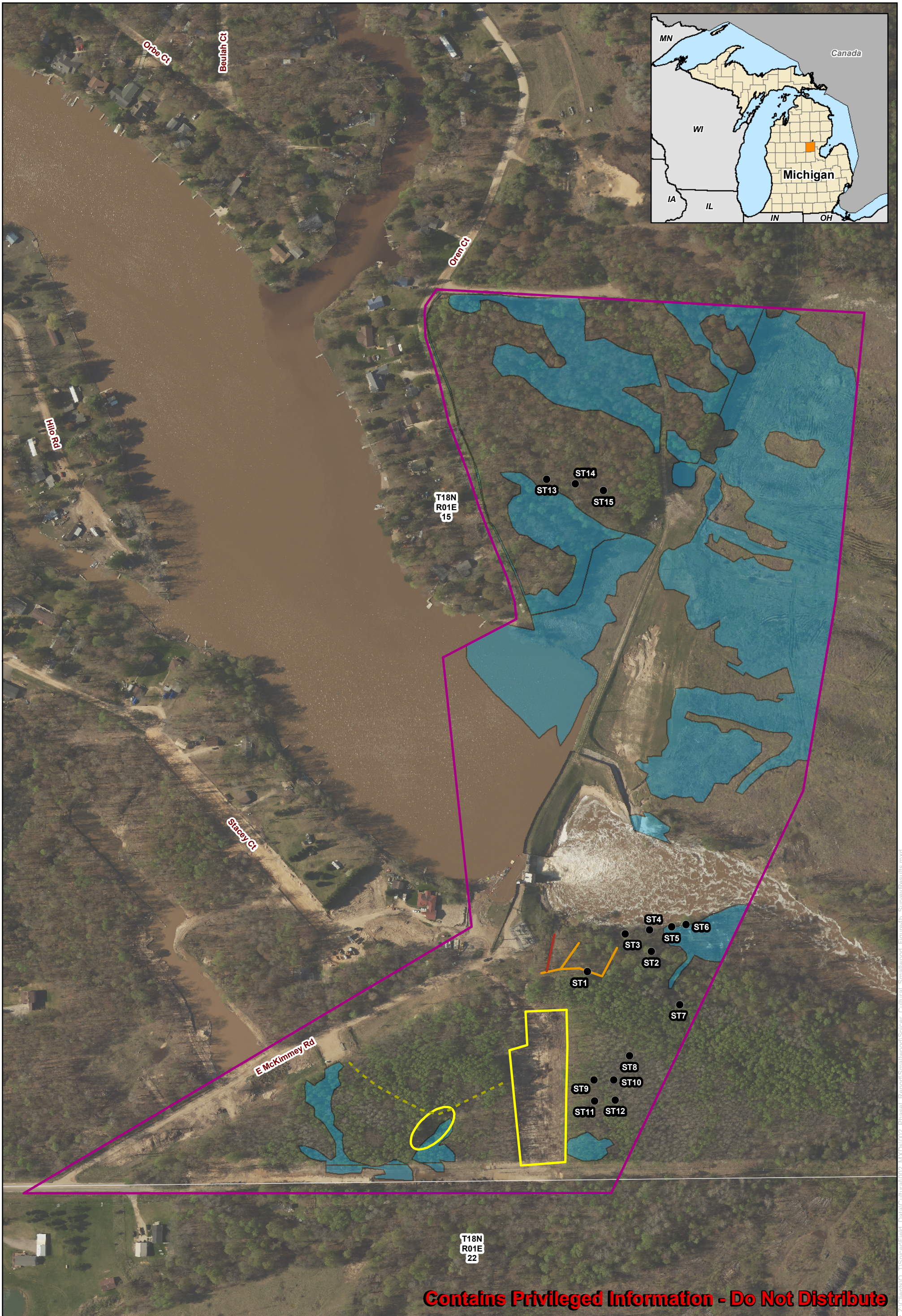


0 100 200 Feet



Figure 4a: Survey Results
Secord Dam Project
Spicer Group Inc.
Gladwin County, Michigan

- Secord Project APE
- Delineated Waterway
- Delineated Wetland
- Section Boundary



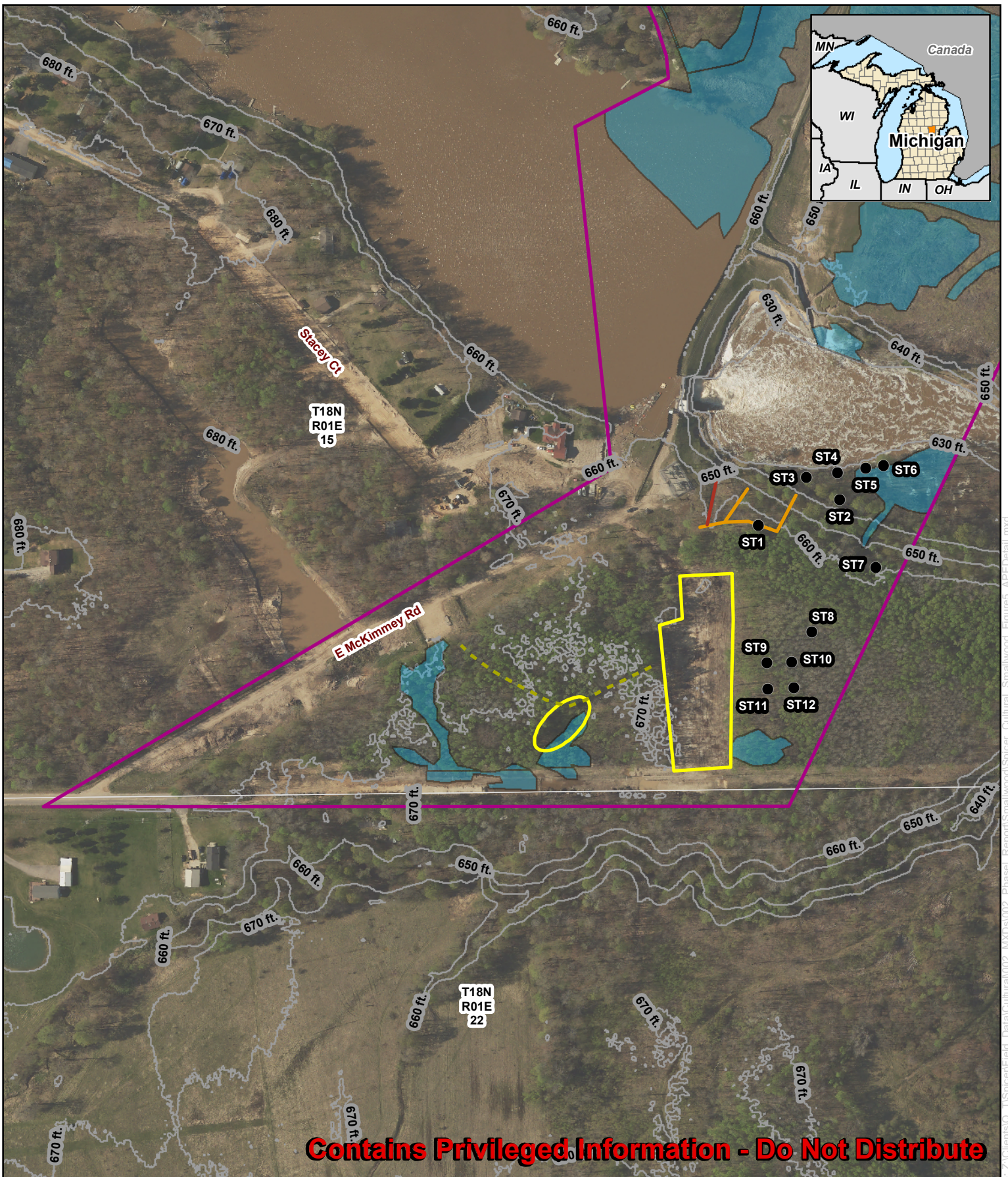
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0 100 200 Feet

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Figure 4b: Survey Results
Smallwood Dam Project
Spicer Group Inc.
Gladwin County, Michigan

- Smallwood Project APE
- Cleared Area
- Negative Shovel Test
- Delineated Wetland
- Road Cut
- Drainage Ditch
- Trail
- Section Boundary



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0 290 Feet

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Figure 5: Smallwood Dam Project Southern APE Detail
Smallwood Dam Project
Spicer Group Inc.
Gladwin County, Michigan

- Smallwood Project APE
- Cleared Area
- Delineated Wetland
- Contour Line
- Road Cut
- Drainage Ditch
- Trail
- Negative Shovel Test
- Section Boundary