STATE OF MICHIGAN
MICHIGAN STRATEGIC FUND
STATE HISTORIC PRESERVATION OFFICE

GRETCHEN WHITMER
GOVERNOR

QUENTIN L. MESSER, JR.
PRESIDENT

May 24, 2022

STEVE HOUTTEMAN
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF AERONAUTICS
2700 E AIRPORT SERVICE DRIVE
LANSING MI 48906

RE: ER22-721 Schuster Field / Ontonagon County Airport Runway 17/35 Approach Clearing, Sec. 3, T51N, R40W, Village of Ontonagon, Ontonagon County (FAA)

Dear Mr. Houtteman:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, the State Historic Preservation Officer (SHPO) concurs with the determination that **no historic properties are affected** within the area of potential effects of this undertaking.

This letter evidences the FAA's compliance with 36 CFR § 800.4 "Identification of historic properties," and the fulfillment of the FAA's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected." **If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.**

We remind you that federal agency officials or their delegated authorities are required to involve the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties per 36 CFR § 800.2(d). The National Historic Preservation Act also requires that federal agencies consult with any Indian tribe and/or Tribal Historic Preservation Officer (THPO) that attach religious and cultural significance to historic properties that may be affected by the agency's undertakings per 36 CFR § 800.2(c)(2)(ii).

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking.

If you have any questions, please contact Brian Grennell, Cultural Resource Management Coordinator, at 517-335-2721 or by email at GrennellB@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Brian G. Grennell
Cultural Resource Management Coordinator

SSE:BGG

Copy: Emily Pettis, Mead & Hunt, Inc.

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

PAUL AJEGBA
DIRECTOR

May 3, 2022

Mr. Brian Grennell
Michigan State Historic Preservation Office
300 North Washington Square
Lansing, MI 48913

Subject: Section 106 Consultation
Ontonagon County Airport Runway 17/35 Approach Clearing Project
Village of Ontonagon, Ontonagon County, Michigan

Dear Mr. Grennell,

The attached report is submitted as part of consultation for Section 106 of the National Historic Preservation Act of 1966, as amended (Section 106), for the Ontonagon County Airport Runway 17/35 Approach Clearing Project in the village of Ontonagon, Ontonagon County, Michigan. The Michigan Department of Transportation (MDOT) Office of Aeronautics is acting as a federal agency for compliance with Section 106 and retained Mead & Hunt, Inc. (Mead & Hunt) to complete this Section 106 compliance report on behalf of the MDOT Office of Aeronautics. Lawhon & Associates, Inc. (Lawhon & Associates) was retained by Mead & Hunt to complete the archaeological survey. The Section 106 report and supplemental materials are attached.

The architecture/history Area of Potential Effects (APE) was defined to include parcels that will be impacted by proposed project work, which includes clearing, grubbing, and grading land. Mead & Hunt reviewed the APE, and no properties 50 years of age or older were found within the APE; therefore, no properties have been recommended as eligible for listing in the National Register of Historic Places (National Register).

The archaeology APE was defined to include the area of direct impacts. A literature review, visual reconnaissance, and shovel test of the APE were completed as part of the archaeological survey. The literature review did not result in findings of previously identified archaeological sites, and the visual reconnaissance and shovel testing did not identify any indications of archaeological sites within the project area. No additional archaeological studies are recommended for this project.

The MDOT Office of Aeronautics concludes that there are no historic properties present within the APE, and no additional documentation is recommended. Please contact me (houttemans@michigan.gov, 616-299-2654) if you have any questions or need additional information.

In addition, under the State Block Grant Program (SBGP), Michigan acts as the Federal Aviation Administration (FAA) representative for projects at the Ontonagon County Airport. The SBGP agreement between the state of Michigan and the FAA is included in this submittal.

Sincerely,

Steve Houtteman

Digitally signed by Steve Houtteman
DN: CN = Steve Houtteman
email = houttemans@michigan.gov C = US O = State of Michigan
Date: 2022.05.03 15:49:13 -04'00'

Steve Houtteman
Supervisor, Airport Planning & Environmental Unit
Office of Aeronautics
Michigan Department of Transportation
houttemans@michigan.gov / 616-299-2654

Attachments

# State Block Grant Program
# Memorandum of Agreement
# Between
# The Federal Aviation Administration
## Detroit Airports District Office
# And
# State of Michigan, Department of Transportation
## Bureau of Aeronautics and Freight Services

A Memorandum of Agreement (hereinafter referred to as "MOA") by and between the Bureau of Aeronautics and Freight Services, representing the Michigan Department of Transportation (hereinafter referred to as "BAFS" and "MDOT") and the Detroit Airports District Office, representing the Federal Aviation Administration (hereinafter referred to as "DET-ADO" and "FAA") to implement FAA's State Block Grant Program (hereinafter referred to as "SBGP") to improve general aviation airports in Michigan.

WHEREAS, Title 49 USC §47128, authorizes the Federal Aviation Administration's (FAA's) current SBGP; FAA regulation 14 CFR, Part 156 discusses how FAA carries out the SBGP. FAA Order 5100.38, *Airport Improvement Program Handbook, paragraphs 1090-1099*, provides guidance for "...administering a block grant made under this section" (49 USC §47128(b) (1)), and

WHEREAS, MDOT was selected by the Federal Aviation Administration to manage federal airport aid funds for nonprimary airports included under the FAA SBGP, and

WHEREAS, This Memorandum of Agreement (MOA) effective as of the date signed by both parties will replace the previous agreement dated March 16, 1993, and

WHEREAS, in mutual agreement, MDOT and FAA document and execute these understandings and commitments in written form by representatives of each party.

NOW, THEREFORE, MDOT and FAA do attest to the following understandings and commitments with respect to the FAA SBGP:

1. <u>Term of this Agreement</u>

   Unless otherwise stipulated, the responsibility of MDOT in carrying out the terms of this agreement and the SBGP will begin with acceptance of this agreement and run concurrently with current funding authorization or 5 years, whichever occurs first.

   The FAA will issue MDOT a Block Grant yearly for each of the five fiscal years beginning the fiscal year following the execution of this agreement. The DET-ADO may issue additional Block Grants if circumstances require. Block Grant

issuance will occur as soon as practicable after the FAA has received its budget authorization to issue AIP grants. Non-primary entitlement funds must be obligated within three (3) years and expended within four (4) years. No construction to be funded with AIP Discretionary funds can start prior to the FAA awarding the SBG containing those funds.

The DET-ADO and MDOT will perform a review of this SBG agreement, within ninety (90) calendar days of any applicable legislative provision becoming law or regulatory provision taking effect, to determine the need for a new SBG agreement or amendment.

MDOT or FAA may elect to amend or terminate this agreement at the start of a new fiscal year with ninety (90) days prior written notice. MDOT also agrees that it will continue to administer SBGP projects placed under grant even though the final phases of administration and closeout of such projects may continue beyond the date MDOT no longer participates in the program.

2. <u>Airports Included</u>

The State will be responsible for monitoring project accomplishments at all airports covered by the SBGP to assure that all agreements and assurances with airport sponsors are met during the program, except that Part 139 requirements will continue to be FAA responsibilities where applicable.

Commercial service airports that change from primary to non-primary status will continue to be the responsibility of the FAA for three years. After three years, the airport will be included in the SBG and oversight transferred to MDOT. The DET-ADO will retain responsibility for administering and closing grants that were issued by the FAA. Airports within the SBG that change from non-primary to primary will be removed from subsequent SBG in the first fiscal year primary entitlements are available. MDOT will retain responsibility for administering grants issued while the subject airport was within the SBG. See Attachment A.

3. <u>Review</u>

Ongoing review of the Program by FAA is required by Title 49 USC § 47128. An advisory team comprised of DET-ADO representatives will conduct evaluations which may include visits to project sites and the MDOT offices. This review will include a yearly program evaluation, random periodic project reviews and general program administrative review. A summary report from MDOT may be required.

4. <u>Personnel</u>

MDOT shall maintain sufficiently qualified personnel to fulfill all of its professional, technical and administrative obligations under this MOA.

5. **Federal Regulations**

In carrying out this program, MDOT will comply with all Federal laws, regulations and executive orders set forth in Attachment B. MDOT also acknowledges awareness of FAA policy and guidance in the form of Orders which have applicability to the state block grant program and are set forth in Attachment B. The DET-ADO will provide advice, interpretation and guidance on any documents referenced in Attachments B and C.

6. **FAA Relationship to Block Grant sponsors and consultants**

The FAA will refer sponsors/consultants to MDOT to answer project specific questions on active and proposed block grant projects. In the event there is a dispute between the sponsor/consultant and MDOT, the parties may contact the FAA for advice. However, MDOT is ultimately responsible for project administration.

7. **Role of FAA**

DET-ADO shall serve as primary contact for MDOT on questions regarding policy, eligibility, and overall guidance.

8. **Land Use Zoning**

MDOT will assist airports in their efforts to protect against encroachment of incompatible land use. The State will assume a high-level of responsibility for helping airport sponsors establish zoning protection to safeguard the Federal investment in an airport.

9. **Runway Safety Area Determinations**

A runway safety area determination must be made prior to issuance of any subgrant under the SBGP for any project of runway construction, reconstruction, or significant expansion in accordance with FAA Order 5200.8, *Runway Safety Area Program*, current edition. Preferably, the RSA determination should be completed prior to the project being included in the CIP and ideally as part of the ALP approval process. The RSA determination should follow the format previously provided to MDOT by the DET-ADO. MDOT will prepare and sign those RSA determinations where the determination is that a) the existing RSA meets the current standards contained in FAA Advisory Circular 150/5300-13, *Airport Design*, or b) the existing RSA does not meet the current standards but it is practicable to improve the RSA so that it will meet current standards. Should the ADO disagree with any RSA determination prepared and signed by MDOT, the DET-ADO will discuss with MDOT the area(s) of disagreement and request that MDOT revise the determination. The DET-ADO retains the authority to

modify and reissue any MDOT RSA determination. A copy of the RSA determinations issued by MDOT will be provided to the DET-ADO for database entry.

MDOT will provide a draft RSA determination to the DET-ADO where the proposed determination is that (1) the existing RSA can be improved to enhance safety, but the RSA will still not meet current standards, or (2) the existing RSA does not meet current standards, and it is not practicable to improve the RSA. The latter RSA determinations must be signed by the FAA Great Lakes Region's Airports Division Manager, therefore, the draft RSA determination should be provided to the DET-ADO at least 60 days prior to issuance of the applicable subgrant.

10. <u>Program Responsibilities</u>

Airport actions under the AIP that would normally be under FAA's scope become State actions under the SBGP. Attachment D contains a list of roles and associated responsibilities which serves as a nonexclusive guide of tasks to be performed under the SBGP. Revisions to this list will require agreement between the State and DET-ADO, as witnessed by the signature of their authorized representatives.

11. <u>Funds Control</u>

MDOT will establish rules to govern the co-mingling of AIP funds from multiple appropriation years, including both use and reporting of funds, as well as close-out process. Non-primary entitlement funds must be obligated within three (3) years and expended within four (4) years. MDOT will report to the DET-ADO on how the specified entitlement amounts were used at the end of four years after such block grant has been issued. If a subgrant for the non-primary entitlements is not issued within the four-year period, the funds will be considered excess and recovered by the DET-ADO.

12. <u>Capital Improvement Plan</u>

FAA Order 5100.39, *Airports Capital Improvement Plan (ACIP)*, outlines requirements to establish a capital improvement plan (CIP) as a rolling three-year planning document.

MDOT will work with the DET-ADO to update the CIP as required to accomplish SBGP programming. MDOT will use its own priority rating system for administration of apportionment and non-primary airport entitlement funds under the SBGP. If MDOT is pursuing discretionary funding for a project, MDOT will be required to clearly identify all phases of the project, proposed funding sources and types of funds. Discretionary fund planning ceilings for the SBG will be distributed to MDOT as soon as available to DET-ADO. MDOT will provide a

current CIP, based on a three year rolling plan that is within the discretionary fund planning ceiling limitations established by DET-ADO for the associated funding years. Priority ranking of projects for each airport receiving funding will be included to assist FAA with overall planning and programming decisions related to the State of Michigan.

The updated CIP will be submitted to the DET-ADO by **December 15** of each calendar year, unless requested earlier. In the event that an alternative date is requested by the FAA for the CIP update, the DET-ADO will inform MDOT as soon as new deadlines are identified and become available to the DET-ADO. MDOT agrees to make every reasonable effort to meet an alternative date that is requested by the FAA.

A planning and financial plan will be required for any project that will depend on more than $5 million in Discretionary funds (in aggregate). This plan shall be submitted to the DET-ADO with the Discretionary request. MDOT will also prepare Benefit/Cost Analyses (BCAs) as required consistent with FAA policy.

13. Reporting

MDOT will provide quarterly status reports to the DET-ADO covering:

a) MDOT's current plan for spending Airport Improvement Program (AIP) state apportionment funds for past, current and future years (electronic spreadsheet format);
b) Grants received under the SBGP and subgrants awarded, clearly delineating funding sources by project, location, and funding year, and identifying any subsequent reimbursements planned (electronic spreadsheet format); and
c) Standard Form 272, Federal Cash Transactions Report.

14. Limitations

MDOT may not use SBGP funds to accomplish projects, which are not eligible under Title 49 USC, Chapter 471, as interpreted by the FAA, nor at airports, which are not eligible for grants under Title 49 USC, Chapter 471.

The SBG will include all non-primary airports within the State of Michigan, with the exception of Detroit-Willow Run Airport.

15. Airport Sponsor Adherence to Standard Assurances

Each recipient of federal funds under this program shall be required to adhere to the standard airport sponsors assurances as provided by FAA and such assurances shall be incorporated into the terms and conditions of the subgrant agreement issued to the sponsor by MDOT.

16. Project Completion

All projects funded with AIP funds, particularly Discretionary funds, are expected to be completed expeditiously and properly phased to use the funds in a reasonable timeframe. Each project should result in usable units of work.

17. Accounting and Audits

MDOT must have an accounting method that accurately reflects expenditures of SBGP funds. All SBGP projects are subject to the same audit requirements as any other grant and must comply with Order 5100.38, as amended. These reporting and auditing requirements may be supplemented from time to time by FAA Headquarters or Regional policies in order to comply with new statutory requirements, including the Federal Financial Accountability and Transparency Act (FFATA).

18. Construction Specifications

The construction specifications used for projects under this program shall be those promulgated by FAA in the Advisory Circulars or such MDOT construction specification as pre-approved by FAA. Any project complying with either FAA or FAA-approved MDOT standards shall be deemed to meet federal standards for the purpose of future federally funded projects.

19. Records Retention/Availability

MDOT will provide status reports when sought by the FAA. MDOT will maintain files on the status and history of each project. These files will be available to the FAA at any reasonable time for their review. In addition, MDOT will provide DET-ADO with copies of each subgrant agreement when it is executed. MDOT will retain sub-grant project files with a process and time frame that meets or exceeds FAA requirements as outlined in FAA Order 1350.15, *Records Transfer and Destruction Standards.* MDOT will also make historical project documentation accessible to airport sponsors and consultants for use in subsequent planning and environmental processes.

20. Site Selection

MDOT will provide to the FAA, through the DET-ADO, a review and recommendation for approval of any site selection where federal funds or future inclusion in the NPIAS is anticipated.

21. Airport Sponsor Required to have Approved Airport Layout Plan (ALP)

No development project grant will be issued under this program unless the Sponsor has an approved Airport Layout Plan (ALP) depicting the proposed work.

Under the SBGP, MDOT must coordinate an ALP with all interested parties, including the FAA, and approve it. The ALP will be in accordance with the Great Lakes Region PPM 5310.1, FAA Advisory Circular 150/5070, *Airport Master Plans* and requirements promulgated by the DET ADO. MDOT will provide the DET ADO with one copy of the final approved ALP.

22. <u>Design Criteria</u>

The geometric and design standards used for projects under this program will be those promulgated by the FAA in the Advisory Circulars. Any request for a modification to standards must come to the DET ADO through MDOT with their review and recommendation for approval. Any request sent directly to the FAA by a sponsor or sponsor's consultant to modify standards for a state block grant project will be immediately referred to MDOT for their action.

23. <u>Environmental Responsibilities</u>

**SBGP Projects**

The DET-ADO reserves the right to review and comment, at its discretion, on any environmental document prepared for projects funded under the SBGP. MDOT agrees to consider and reconcile such comments.

**Federal Actions Connected to SBGP Projects**

When airport development actions are to be conducted outside the purview of the SBGP such projects are considered "Federal actions" and are subject to relevant FAA environmental analysis per requirements of FAA Orders 5050.4 and 1050.1. The actions listed below are not authorized under the SBGP and occur clearly outside of its scope. FAA organizations retain NEPA review responsibility for the following:

a) SBGP airport actions for which MDOT requests AIP discretionary funds to supplement SBGP funding for a specific airport project at a specific location and FAA anticipates providing those funds,
b) Airport noise compatibility planning, including approval of airport noise compatibility programs under 14 CFR Part 150,
c) Airport land releases, including approval of such releases,
d) Approval of an airport location (new airport),
e) Installing or moving FAA-owned navigational equipment,
f) Establishing or revising air traffic and flight procedures.

**Environmental Document Preparation**

Paragraph 23, items a-f, above, list those Federal actions that may be connected to airport actions that are funded under the SBGP. Because those connected Federal actions fall outside the SBGP they remain under the purview of an FAA organization and are subject to NEPA. In preparing environmental documents for SBGP projects and for those projects considered Federally-connected actions, MDOT shall cooperate with the responsible FAA organization as it prepares the necessary environmental document to address both the State "NEPA-like" requirements, as well as the Federal NEPA responsibilities. Environmental document processing for SBGP and Federal actions is explained in FAA Order 5050.4, Paragraph 214.

24. Wildlife Management

MDOT agrees to address hazardous wildlife attractant issues on or near airports, in accordance with Advisory Circular 150/5200-33, as follows:

a) On landfill proposals, the MDOT shall evaluate the proposal and forward its draft determination to the DET-ADO for concurrence. Following receipt of FAA concurrence, the MDOT shall send a letter to the proponent with the final determination.
b) On other proposals with land use practices that could potentially attract wildlife hazards, the MDOT shall evaluate the proposal and issue the determination to the proponent with a copy to the DET-ADO.

25. Congressional Inquires

Congressional inquiries about all matters concerning the SBGP will be referred to DET-ADO. MDOT will provide assistance as requested. The DET-ADO will respond to the congressional office. DET-ADO will copy MDOT on all congressional responses.

26. Request for Release of Land

MDOT shall be responsible for review of requests for release of airport land made by sponsors. Once MDOT has reviewed the land release requests, they will be submitted, along with MDOT's recommendation, to the DET-ADO for coordination and final approval. DET-ADO will consider MDOT's recommendation before making land release decisions.

27. <u>Letter of Credit Drawdowns</u>

Drawdown of federal funds will be by letter of credit referencing Block Grant number.

FORM APPROVED
3/23/10
ASSISTANT ATTORNEY GENERAL

AGREED AS WRITTEN:

Director, Michigan Department of Transportation — Date: 3-25-10

Manager, Detroit Airports District Office
Federal Aviation Administration — Date: 3-25-10

DIRECTOR AGENDA
3-23-10

Reviewed
Contract Admin.

## Attachment A
## Airports Not Included in the State Block Grant Program

| Airport Name | Identifier | Previous Hub Size | Current Hub Size | Year Changed | Comments |
|---|---|---|---|---|---|
| Alpena County Regional | APN | PR - Non Hub | NP - CS | 2007 | Add to SBG 2011 |
| Charlevoix Municipal | CVX | PR - Non Hub | NC | N/A | |
| Detroit Metro | DTW | PR - Large | NC | N/A | |
| Escanaba - Delta County | ESC | PR - Non Hub | NP - CS | 2009 | Add to SBG 2012 |
| Flint - Bishop International | FNT | PR - Small | NC | N/A | |
| Grand Rapids - Gerald R. Ford International | GRR | PR - Small | NC | N/A | |
| Houghton County Memorial | CMX | PR - Non Hub | NC | N/A | |
| Kalamazoo/Battle Creek International | AZO | PR - Non Hub | NC | N/A | |
| Lansing - Capital Area Regional International | LAN | PR - Non Hub | NC | N/A | |
| Marquette - Sawyer International | SAW | PR - Non Hub/Special | NC | N/A | |
| Muskegon County | MKG | PR - Non Hub | NC | N/A | |
| Pellston Regional of Emmet County | PLN | PR - Non Hub | NC | N/A | |
| Saginaw - MBS International | MBS | PR - Non Hub | NC | N/A | |
| Sault Ste. Marie - Chippewa County International | CIU | PR - Non Hub | NC | N/A | |
| Traverse City - Cherry Capital | TVC | PR - Non Hub | NC | N/A | |
| | | | | | |
| Detroit - Willow Run | YIP | NP - RL | NC | N/A | |

CS - Commercial Service
GA - General Aviation
PR - Primary
RL - Reliever

NP - Non Primary
NC - No Change
N/A - Not Applicable

Signed:

Director, Michigan Department of Transportation

3-25-10
Date

Manager, Detroit Airports District Office
Federal Aviation Administration

3-25-10
Date

## Attachment B

### Required Statutory and Regulatory References[1]

1. Title 49, U.S.C., subtitle VII, as amended.
2. Davis-Bacon Act - 40 U.S.C. 276(a), et seq. [2]
3. Federal Fair Labor Standards Act - 29 U.S.C. 201, et seq.
4. Hatch Act - 5 U.S.C. 1501, et seq. [2]
5. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Title 42 U.S.C. 4601, et seq. [2,3]
6. National Historic Preservation Act of 1966 - Section 106 - 16 U.S.C. 470(f). [2]
7. Archeological and Historic Preservation Act of 1974 - 16 U.S.C. 469 through 469c. [2]
8. Native Americans Grave Repatriation Act - 25 U.S.C. Section 3001, et seq.
9. Clean Air Act, P.L. 90-148, as amended.
10. Coastal Zone Management Act, P.L. 93-205, as amended.
11. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. 4012a. [2]
12. Title 49 ,U.S.C., Section 303, (formerly known as Section 4(f))
13. Rehabilitation Act of 1973 - 29 U.S.C. 794.
14. Civil Rights Act of 1964 - Title VI - 42 U.S.C. 2000d through d-4.
15. Age Discrimination Act of 1975 - 42 U.S.C. 6101, et seq.
16. American Indian Religious Freedom Act, P.L. 95-341, as amended.
17. Architectural Barriers Act of 1968 -42 U.S.C. 4151, et seq. [2]
18. Power plant and Industrial Fuel Use Act of 1978 - Section 403- 2 U.S.C. 8373. [2]
19. Contract Work Hours and Safety Standards Act - 40 U.S.C. 327, et seq. [2]
20. Copeland Antikickback Act - 18 U.S.C. 874. [2]
21. National Environmental Policy Act of 1969 – U.S.C. 4321 et seq. [2]
22. Wild and Scenic Rivers Act, P.L. 90-542, as amended.
23. Single Audit Act of 1984 - 31 U.S.C. 7501, et seq. [3]
24. Drug-Free Workplace Act of 1988 - 41 U.S.C. 702 through 706.

### Executive Orders

25. Executive Order 11246 - Equal Employment Opportunity [2]
26. Executive Order 11990 - Protection of Wetlands
27. Executive Order 11998 – Flood Plain Management
28. Executive Order 12372 - Intergovernmental Review of Federal Programs.
29. Executive Order 12699 - Seismic Safety of Federal and Federally Assisted New Building Construction [2]
30. Executive Order 12898 - Environmental Justice

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[1] Corresponds to references included in "Terms and Conditions of Accepting Airport Improvement Program Grants" (revised June 2005).

[2] These do not apply to airport planning sponsors.

3 These do not apply to private sponsors.

## Federal Regulations

31. 14 CFR Part 13 - Investigative and Enforcement Procedures.
32. 14 CFR Part 16 - Rules of Practice For Federally Assisted Airport Enforcement Proceedings.
33. 14 CFR Part 150 - Airport noise compatibility planning.
34. 29 CFR Part 1 - Procedures for predetermination of wage rates. [2]
35. 29 CFR Part 3 - Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States. [2]
36. 29 CFR Part 5 - Labor standards provisions applicable to contracts covering federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act). [2]
37. 41 CFR Part 60 - Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements). [2]
38. 49 CFR Part 18 - Uniform administrative requirements for grants and cooperative agreements to state and local governments. [3]
39. 49 CFR Part 20 - New restrictions on lobbying.
40. 49 CFR Part 21 - Nondiscrimination in federally-assisted programs of the Department of Transportation - effectuation of Title VI of the Civil Rights Act of 1964.
41. 49 CFR Part 23 - Participation by Disadvantage Business Enterprise in Airport Concessions.
42. 49 CFR Part 24 - Uniform relocation assistance and real property acquisition for Federal and federally assisted programs.[2,3]
43. 49 CFR Part 26 – Participation By Disadvantaged Business Enterprises in Department of Transportation Programs.
44. 49 CFR Part 27 - Nondiscrimination on the basis of handicap in programs and activities receiving or benefiting from Federal financial assistance. [2]
45. 49 CFR Part 29 – Government wide debarment and suspension (non-procurement) and government wide requirements for drug-free workplace (grants).
46. 49 CFR Part 30 - Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors.
47. 49 CFR Part 41 - Seismic safety of Federal and federally assisted or regulated new building construction. [2]

## Office of Management and Budget Circulars

48. A-87 - Cost Principles Applicable to Grants and Contracts with State and Local Governments.
49. A-133 - Audits of States, Local Governments, and Non-Profit Organizations.

ATTACHMENT C

This attachment lists key provisions of applicable FAA Orders that should be incorporated by specific reference in the sate block grant agreement. The purpose is to ensure that block-grant states fully understand their legal obligations under the SBG program, and the FAA's oversight responsibilities in the various program areas.

1. FAA Order 5050.4B ("National Environmental Policy Act Implementing Instructions for Airport Projects"), with particular reference on Paragraph 210 ("The State Block Grant Program"). However, this paragraph includes references to the applicability of other requirements throughout the Order, based on Federal laws including but not limited to NEPA.

2. FAA Order 5100.38C ("Airport Improvement Program Handbook"), with particular reference to:

    - Chapter 1, Sections 1-3 which provide general background on the statutory provisions governing the Airport Improvement Program.
    - Chapter 10, Section 9 ("Block Grant Procedures"), with particular focus on Paragraphs 1090-1097.

3. FAA Order 5100.39A ("Airport Capital Improvement Plan"), particularly Paragraph 10 ("Use of Other Priority Systems").

4. FAA Order 5190.6A ("Airport Compliance Requirements"), particularly Chapter 3 ("Exclusive Rights") and Chapter 4 ("Obligations of Airport Owners").

ATTACHMENT D: PROGRAM RESPONSIBILITIES

Airport actions under the AIP that would normally be under FAA's scope become State actions under the SBGP. MDOT and FAA have program responsibility for airport actions, as described in the following Tables.

| ADMINISTRATIVE RESPONSIBILIITES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| Airport (Non-primary Commercial Service) | X | | |
| Airport (Reliever GA) | X | | |
| Airport (Non-Reliever GA) | X | | |
| Funding Privately Owned Airports-Approval | X | | |
| Sponsor Eligibility | X | | |
| Approve SBGP Funds for Airport Action | X | | |
| Records Retention | X | | 3 years beyond financial completion of block grant |
| Facilities & Equipment (F&E) Budget Requests | X | X | Coordinate with ATO |
| Funds Control/Obligation Goals | X | | |
| Congressional Inquiries | X | | Copy of reply to DET-ADO |
| Civil Rights | X | | Per Agreement with FAA Civil Rights Office |

| LAND RESPONSIBILITIES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| Appraisals | X | | |
| Relocation | X | | |
| Title Opinion | X | | |
| Donated Land Value | X | X | Coordinate with DET-ADO |
| Property Interest Prior to Construction | X | | |
| Exhibit A, Property Map Revision/ Update | X | | |

| CONSTRUCTION RESPONSIBILITIES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| FAA Reimbursable Agreement | X | X | Coordinate with DET-ADO |
| Review Safety and Phasing Plan | X | | |

| | | | |
|---|---|---|---|
| Construction Inspection –Interim | X | | |
| Construction Inspection – Final | X | | |
| Pre-Construction Conference | X | | |
| User Coordination | X | | |
| Change Orders | X | | |
| Update FAA Form 5010 | X | | |
| Data for Approach Procedures | X | X | Submission in accordance with established timelines |
| As-Built Record Drawings | X | | |
| Advertising for Bids | X | | |
| Award to Low Bidder | X | | |
| Reasonableness of Cost | X | | |
| Non-AIP Separate Records | X | | |
| Wage Rates | X | | |
| EEO & Wage Rate Posters | X | | |
| Bond Payment/Performance | X | | |
| Construction Contracts | X | | |
| Shutdown Schedule Coordination | X | | |
| Contract for Utility Relocation | X | | |
| Force Account Work Approval | | X | Coordinate with DET-ADO for State Force Account Work |
| Debarment List | X | | |
| No Work Prior to Federal Grant Execution | X | | |
| Comply with Airspace | X | | |
| Notice to Proceed | X | | |
| Material Testing | X | | |
| Construction Inspection Report | X | | |

| PAYMENT RESPONSIBILITIES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| Payment via Letter of Credit | X | | |
| Final Payments | X | | |
| Partial Payments | X | | No advance payments |
| Obligation Schedule | X | | Submit to DET-ADO quarterly |
| Tracking Expenditures of Federal Funds | X | | Submit to DET-ADO quarterly |

| AIRSPACE RESPONSIBILITIES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| Changes to Airport Layout Plan | X | X | Coordinated with DET-ADO, approved by MDOT. |
| Construction Equipment | X | X | Coordinated with DET-ADO, |

| | | | |
|---|---|---|---|
| | | | approved by MDOT. |
| Safety/Phasing Plan | X | X | Coordinated with DET-ADO, approved by MDOT. |
| Non-rule Making Actions (NRA) Studies | X | X | Coordinated with DET-ADO, approved by MDOT. |
| Local Airport Events | X | X | Coordinated with DET-ADO, approved by MDOT. |

| DESIGN RESPONSIBILITIES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| Pre-Design Meeting | X | | |
| Plans/Spec. Review | X | | |
| Plans/Spec. Certification | X | | |
| Plans/Spec. Approval | X | | |
| Relocation of NAVAIDs | X | X | Coordinate with DET-ADO to facilitate coordination with FAA ATO |
| Design Variance Approval/ Modification to Standards | X | X | MDOT submit request and recommendations to DET-ADO |
| Coordinate with State and Federal Highway Office | X | | |
| Pavement Design/Materials | X | | |
| Consultant Selection | X | | |
| ARFF & Snow Removal Equipment Specs | X | | Comply with Advisory Circular, no modifications |

| COMPLIANCE RESPONSIBILITIES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| Land Release | X | X | MDOT reviews proposal and requests FAA concurrence. FAA must approve. |
| Surplus Property Program | | X | |
| Surplus Property Release | X | X | MDOT reviews proposal and request FAA concurrence. FAA must approve. |
| Sub-Grant Special Conditions | X | | |
| Clear Approaches | X | | |
| Compatible Land Use | X | | |
| Landfills | X | X | Review proposal, FAA concurrence |
| GA Safety Inspections | X | X | FAA responsible for GA Part 139 airports. |
| Informal Complaints | X | X | MDOT responsible for |

| | | | |
|---|---|---|---|
| | | | investigation and resolution of informal complaints. If resolution unsuccessful, DET-ADO will assist and/or resolve. |
| Formal Complaints | | X | |
| Compliance Determination FAA Order 5190.6A | X | X | Coordinate the DET-ADO |

| PLANNING RESPONSIBILITIES | | | |
|---|---|---|---|
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| State System Plan update | X | | Once every 5 years, at a minimum. |
| Determining Eligibility & Timing of Airport Actions | X | | |
| National Environmental Policy Act (NEPA) | X | X | State – State Apportionment and Non-Primary Entitlement projects FAA – Discretionary projects |
| Public Coordination | X | | |
| Planning Grants | X | | |
| NPIAS Updates | X | X | Coordinate with DET-ADO |
| New NPIAS Site | X | X | MDOT request & provide rationale |
| Airport Layout Plan Approval | X | | |
| Instrument Approach Procedures | X | X | Submission in accordance with established timelines |
| TASK/FUNCTION | STATE | FAA | COMMENTS |
| | | | |
| iOE/AAA Airport Data Base | X | X | MDOT inputs runway data. |
| Part 150 | | X | FAA – Part 150 Studies & Technical Assistance |
| Congressionally Mandated Projects | X | X | Projects must be funded or justification provided for not funding projects. |
| Executive Order 12372, Intergovernmental Review | X | | |
| Zoning Ordinances | X | | |
| Coordination with Local Councils of Governments or Other Appropriate Local Agencies | X | | |
| Priority System | X | X | In conjunction with Regional guidance |

## ADDITIONAL RESPONSIBILITIES

The following reports/information is to be submitted to the DET-ADO by MDOT:

| Reports/Submittals | Timing |
|---|---|
| Master Airport Sponsor Certification | Included in grant application |
| Grant expenditures & summary report | Quarterly & as requested |
| Copy of sub-grants | As issued |
| Copy of approved ALP's | Continuous |
| Copy of Congressional replies | Continuous |
| Compliance findings | Continuous |
| Summary reports | At Grant Closeout |
| NPIAS update | Continuous |
| Civil Rights report to AGL-9 | If requested (State must have on file) |
| Terminal Area Forecast update | When requested |

# APPLICATION FOR SHPO SECTION 106 CONSULTATION

**Submit one application for each project for which comment is requested. Consult the *Instructions for the Application for SHPO Section 106 Consultation Form* when completing this application.**

**Mail form, all attachments, and check list to: Michigan State Historic Preservation Office, 300 North Washington Square, Lansing, MI 48913**

## I. GENERAL INFORMATION

☒ New submittal
☐ More information relating to SHPO ER# SHPO Project #
☐ Submitted under a Programmatic Agreement (PA)
PA Name/Date: PA name/date, if applicable

a. **Project Name: Ontonagon County Airport Runway 17/35 Approach Clearing**
b. **Project Municipality**: Village of Ontonagon
c. **Project Address** (*if applicable*): Ontonagon County Airport – Schuster Field, Ontonagon, MI 49953
d. **County:** Ontonagon County
1.

## II. FEDERAL AGENCY INVOLVEMENT AND RESPONSE CONTACT INFORMATION

a. **Federal Agency:** Federal Aviation Administration
**Contact Name:** Steve Houtteman
**Contact Address:** 2700 Port Lansing Road **City:** Lansing **State:** MI **Zip:** 48906-2160
**Email:** HouttemanS@michigan.gov **Phone:** 616-299-2654
**Specify the federal agency involvement in the project:** The Michigan Department of Transportation (MDOT) Office of Aeronautics (AERO) is acting on behalf of the Federal Aviation Administration (FAA) for this project as Ontonagon County Airport (OGM) is a "State Block Grant" airport. All State Block Grant airports fall under the jurisdiction of MDOT AERO. MDOT AERO is the final authority regarding approval of environmental documentation for this project.

b. **If HUD is the Federal Agency: 24 CFR Part 50 ☐ or Part 58 ☐**
**Responsible Entity (RE):** N/A
**Contact Name:** N/A
**Contact Address:** N/A **City:** N/A **State:** N/A **Zip:** N/A
**RE Email:** N/A **Phone:** N/A

c. **State Agency Contact (*if applicable*):** Michigan Department of Transportation Office of Aeronautics
**Contact Name:** Steve Houtteman
**Contact Address:** 2700 Port Lansing Road **City:** Lansing **Zip:** 48906-2160
**Email:** HouttemanS@michigan.gov **Phone:** 616-299-2654

d. **Applicant (if different than federal agency):** N/A
**Contact Name:** N/A
**Contact Address:** N/A **City:** N/A **State:** N/A **Zip:** N/A
**Email:** N/A **Phone:** N/A

e. **Consulting Firm (if applicable):** Mead & Hunt, Inc.
**Contact Name**: Emily Pettis
**Contact Address**: 2440 Deming Way **City:** Middleton **State:** WI **Zip**: 53562
**Email:** Emily.Pettis@meadhunt.com Phone: 608-443-0406

## III. PROJECT INFORMATION

a. **Project Location and Area of Potential Effect (APE)**

i. **Maps.** Please indicate all maps that will be submitted as attachments to this form.
☐Street map, clearly displaying the direct and indirect APE boundaries
☐Site map
☒USGS topographic map Name(s) of topo map(s): Ontonagon USGS 7.5' Quadrangle
☒Aerial map – see attached documentation.
☒Map of photographs – see attached documentation.
☐Other: Identify type(s) of map(s)

ii. **Site Photographs** – see attached documentation.

iii. **Describe the APE:**
The Area of Potential Effect (APE) was defined to include properties adjacent to the project area that may be directly or indirectly impacted by project activities; it considers indirect effects in the area where the project may have physical, visual, auditory, and sociocultural impacts.

iv. **Describe the steps taken to define the boundaries of the APE:**
The APE was defined to encompass approximately 205 acres where there will be tree clearing and other obstruction removal.

b. **Project Work Description**
Describe all work to be undertaken as part of the project:
OGM is proposing to selectively clear and grub approximately four acres of land off the end of Runway 17 to remove potential obstructions to the approach surface. In addition, to address potential obstructions associated with the recently implemented FAA localizer performance with vertical guidance (LPV) precision approach to Runway 35, OGM is proposing to clear obstructions identified as penetrations to the approach and transitional surfaces.

## IV. IDENTIFICATION OF HISTORIC PROPERTIES

a. **Scope of Effort Applied**

i. **List sources consulted for information on historic properties in the project area** (including but not limited to SHPO office and/or other locations of inventory data).

Michigan Tech University Archives
Michigan State Historic Preservation Office (SHPO)
Hinsdale's Archaeological Atlas of Michigan (1931)
Michigan Archaeological Site File (MASF) forms
Contract Cultural Resource Management reports
USGS 7.5' and 15' series topographic maps
Historical aerial photos
Ontonagon County historic atlases

ii. Provide documentation of previously identified sites as attachments. – There are no previously identified resources in the APE.

iii. **Provide a map** showing the relationship between the previously identified properties and sites, your project footprint and project APE. – There are no previously identified resources in the APE.

iv. Have you reviewed existing site information at the SHPO: ☒Yes ☐ No

v. Have you reviewed information from non-SHPO sources: ☒Yes ☐ No

b. **Identification Results**

i. **Above-ground Properties**

A. Attach the appropriate Michigan SHPO Architectural Identification Form for each resource or site 50 years of age or older in the APE. Refer to the *Instructions for the Application for SHPO Section 106 Consultation Form* for guidance on this.
No properties 50 years of age or older are located in the APE. The Ontonagon County Airport includes a main building that, according to newspaper clippings from the Michigan Technical University Archives, was built in the early 1980s, and a number of hangers that appear to be less than 50 years of age. The APE also includes a property at 36148 Airport Road on the east side of Airport Road with a c.1985 Ranch-style house.

B. **Provide the name and qualifications of the person who made recommendations of eligibility for the above-ground identification forms.**
**Name** Emily Pettis **Agency/Consulting Firm:** Mead & Hunt, Inc.
Is the individual a 36CFR Part 61 Qualified Historian or Architectural Historian ☒ Yes ☐ No
Are their credentials currently on file with the SHPO? ☒ Yes ☐ No
*If NO* attach this individual's qualifications form and resume.

ii. **Archaeology** (complete this section if the project involves temporary or permanent ground disturbance) Submit the following information using attachments, as necessary.

A. **Attach Archaeological Sensitivity Map.** – see attached Archaeology Report.

B. **Summary of previously reported archaeological sites and surveys:**
The literature review did not indicate any previously recorded cultural resources within or adjacent to the project area (see attached Archaeology Report).

C. **Town/Range/Section or Private Claim numbers:** Township: 51N Range: 40W Section: 3

D. **Width(s), length(s), and depth(s) of proposed ground disturbance(s):** See attached Ground Disturbance North End map for width and length of proposed ground activity. Ground-disturbing activity for the project work, including clearing, grubbing, and grading, is approximately 600 feet long by 250 feet wide. Ground disturbance depth will be approximately 2 feet.

E. **Will work potentially impact previously undisturbed soils?** ☒ Yes ☐ No
***If YES,* summarize new ground disturbance:**
Ground disturbance will include tree clearing, grubbing, and grading.

F. **Summarize past and present land use:**
The land that encompasses the airport and proposed project activities has been used to support general aviation activities at the Ontonagon County Airport since the mid-twentieth century. Land at the site of the airport has already been subject to ground-disturbing activity; tree clearing took place at the north end of the airport in 2008. The Ontonagon County Airport is operated under the jurisdiction of Ontonagon County. According to a 2011 land use map, the airport is currently zoned as "Urban or Built-up Land" with the surrounding areas zoned as "Agricultural Land" or "Forest Land."

G. **Potential to adversely affect significant archaeological resources**:
☒ Low ☐ Moderate ☐ High
**For moderate and high potential, is fieldwork recommended?** ☐ Yes ☐ No
**Briefly justify the recommendation:**
N/A

H. **Has fieldwork already been conducted?** ☒ Yes ☐ No
***If YES:***
☐ Previously surveyed; refer to A. and B. above.
☒ Newly surveyed; attach report copies and provide full report reference here:
Sewell, Andrew R. *Phase I Archaeology Survey: Proposed Runway 17 Approach Clearing Project, Ontonagon County Airport*. Lawhon & Associates, Inc., 2019.

I. **Provide the name and qualifications of the person who provided the information for the Archaeology section:**
**Name:** Andrew R. Sewell **Agency/Firm:** Lawhon & Associates, Inc.
Is the person a 36CFR Part 61 Qualified Archaeologist? ☒ Yes ☐ No
Are their credentials currently on file with the SHPO? ☒ Yes ☐ No
*If NO,* attach this individual's qualifications form and resume.

***Archaeological site locations are legally protected.***
***This application may not be made public without first redacting sensitive archaeological information.***

## V. IDENTIFICATION OF CONSULTING PARTIES

a. **Provide a list of *all* consulting parties,** including Native American tribes, local governments, applicants for federal assistance/permits/licenses, parties with a demonstrated interest in the undertaking, and public comment:
See the attached distribution list.

b. **Provide a summary of consultation with consultation parties:**
Early coordination (letters and maps) was conducted with relevant federal, state, and local agencies and Tribes that may have an interest in the project or project area. The letters requested any information, permits, and/or required mitigation concerning the project or project area as it related to their organization/jurisdiction. The list of agencies and Tribes contacted is attached. The letter templates that were sent to them are also attached. Also, an early agency coordination meeting was held on-site on October 2, 2019. No objections to the project were received, and no tribal responses were received.

c. **Provide summaries of public comment and the method by which that comment was sought:**
No direct public involvement has been done to date beyond keeping the federal, state, and local agencies informed of the project. However, a public hearing is planned for August 2022. Prior to the public hearing, the Draft Environmental Assessment (EA) will be made available online, and at the airport for public review and comment. The airport owns the land where the project is proposed, and the project is not controversial.

## VI. DETERMINATION OF EFFECT

**Guidance for applying the Criteria of Adverse Effect can be found in *the Instructions for the Application for SHPO Section 106 Consultation Form.***

a. **Basis for determination of effect**:
There are no historic properties present in the APE. No properties 50 years of age or older are located in the APE. Additionally, no archaeological sites were encountered during archaeological survey.

b. **Determination of effect**

☒ **No historic properties will be affected** or

☐ **Historic properties will be affected** and the project will (check one):

☐ have **No Adverse Effect** on historic properties within the APE.

☐ have an **Adverse Effect** on one or more historic properties in the APE and the federal agency, or federally authorized representative, will consult with the SHPO and other parties to resolve the adverse effect under 800.6.

☐ **More Information Needed:** We are initiating early consultation. A determination of effect will be submitted to the SHPO at a later date, pending results of survey.

Federally Authorized Signature: Steve Houtteman Digitally signed by Steve Houtteman DN: CN = Steve Houtteman email = houttemans@michigan.gov C = US O = State of Michigan Date: 2022.05.03 15:55:03 -04'00' Date:_____

Type or Print Name: Steve Houtteman

Title: Supervisor, Airport Planning & Environmental

**ATTACHMENT CHECKLIST**

**Identify any materials submitted as attachments to the form:**

☐ Additional federal, state, local government, applicant, consultant contacts

☒ Maps of project location

Number of maps attached: 3 – see attached documentation

☒ Site Photographs

☒Map of photographs

☐ Plans and specifications

☒ Other information pertinent to the work description: See attached Ground Disturbance North End map for width and length of proposed ground activity.

☐ Documentation of previously identified historic properties

☐ Architectural Properties Identification Forms

☐ Map showing the relationship between the previously identified properties, your project footprint, and project APE

☐ Above-ground qualified person's qualification form and resume

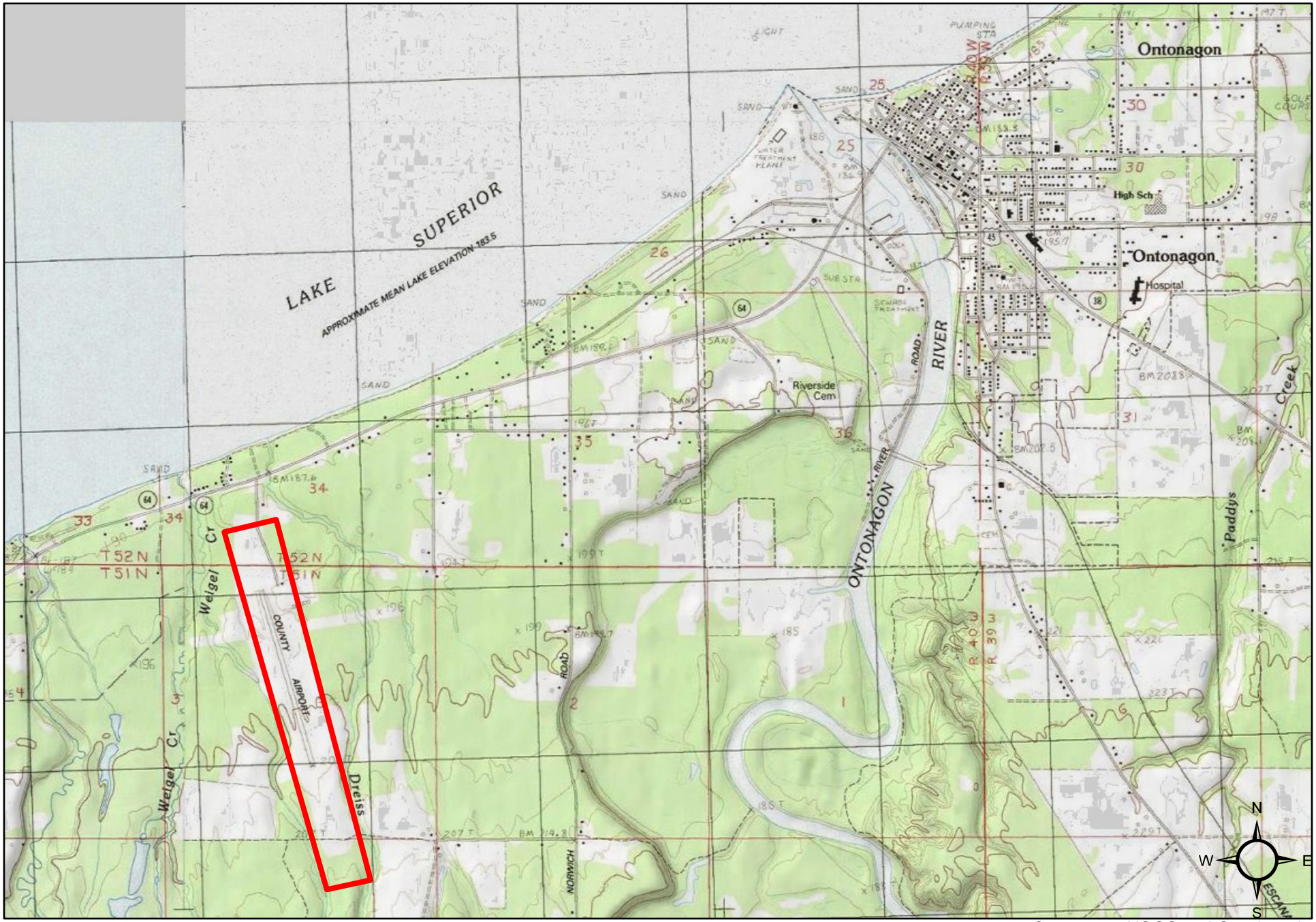
☒ Archaeological sensitivity map – see attached Archaeology Report

☒ Survey report

☐ Archaeologist qualifications and resume

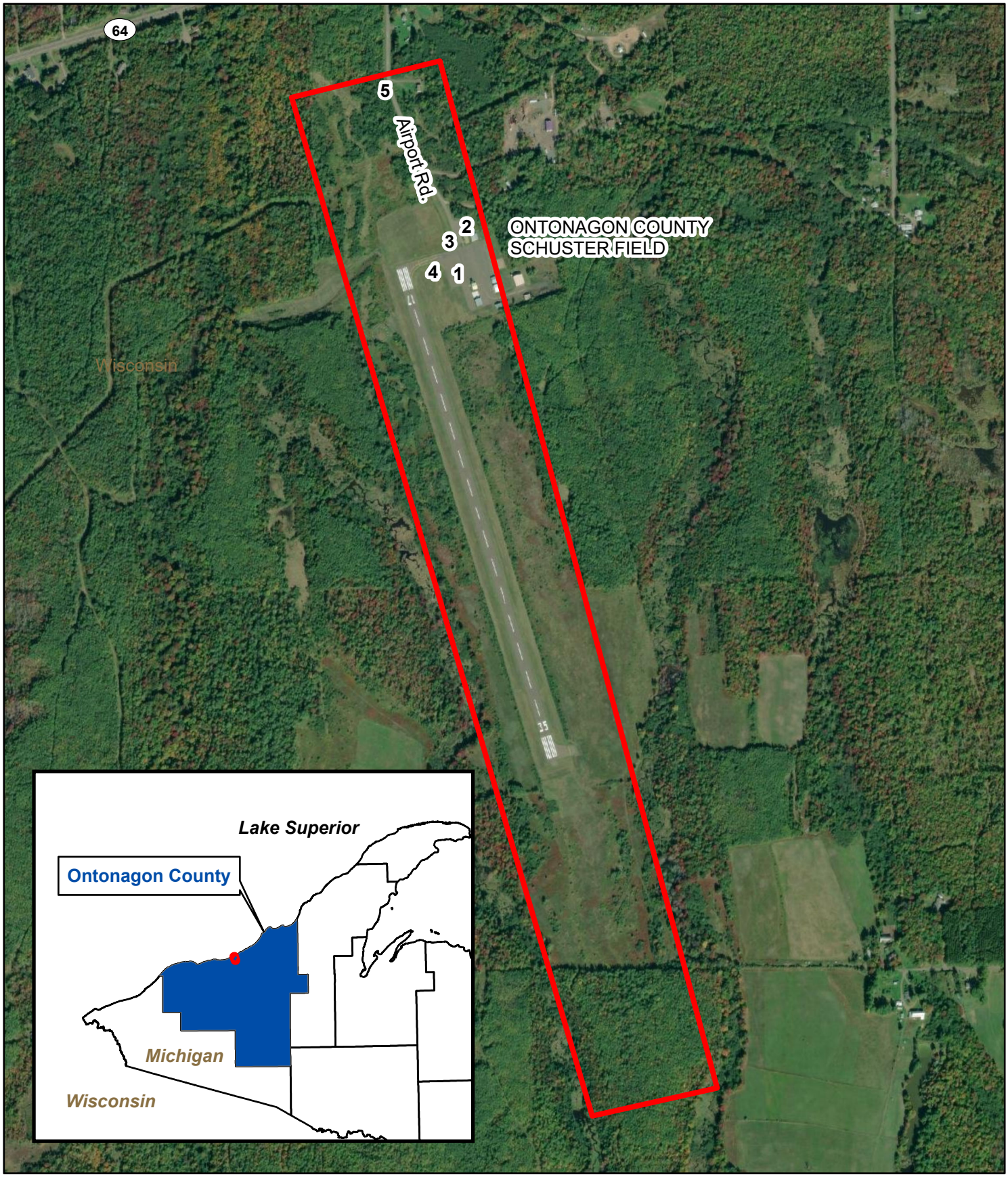
☒ Other: Distribution list for contacted parties, letter templates ,and list of contacted agencies and Tribes

# Attachment: Maps




0 3,000 6,000 12,000 Feet

Ontonagon USGS 7.5' Quadrangle
Ontonagon County Schuster Field (OGM)
Runway 17/35 Approach Clearing EA
Ontonagon, Ontonagon County




# APE MAP AND PHOTO KEY

**Ontonagon County Schuster Field (OGM)**
**Runway 17/35 Approach Clearing EA**
**Section 106 Review**

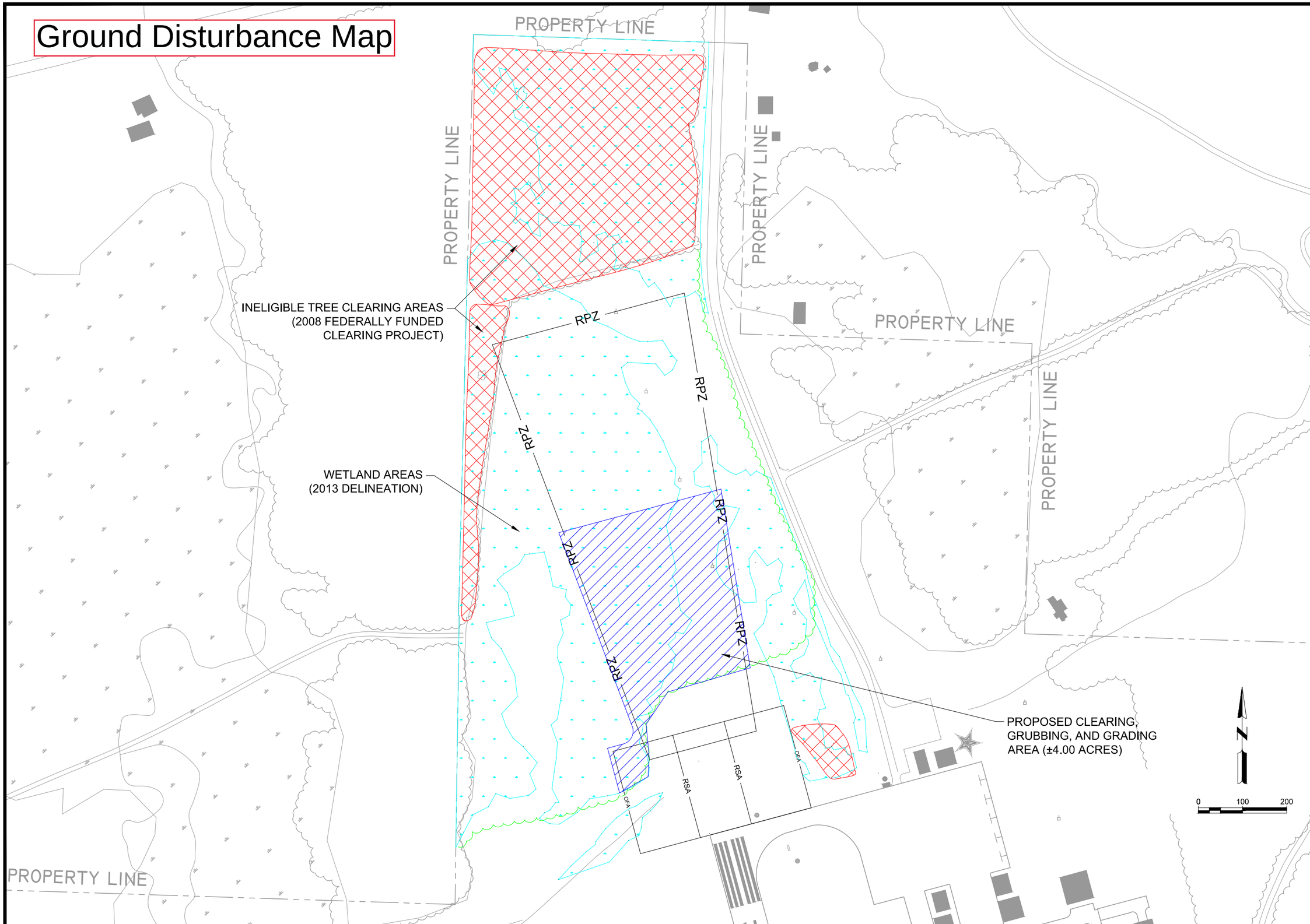
N

**Legend**

APE

0 0.05 0.1 0.2 0.3 0.4 Miles

# Ground Disturbance Map





Mead & Hunt
2605 Port Lansing Road
Lansing, MI 48906
phone: 517-321-8334
meadhunt.com




ONTONAGON COUNTY AIRPORT -
SCHUSTER FIELD
RUNWAY 17 APPROACH CLEARING
ONTONAGON, MICHIGAN

REVISION

NOT FOR CONSTRUCTION

| | |
|---|---|
| AIP NO.: | PENDING |
| M&H NO.: | 1502400- |
| DATE: | 10.20.2015 |
| DESIGNED BY: | DJK |
| DRAWN BY: | DJK |
| CHECKED BY: | RAL |

DO NOT SCALE DRAWINGS

SHEET CONTENTS
PROJECT SKETCH

SHEET NO. 1 of 1

X-101

X:\1502400\121938.01\TECH\CADD\JK SYP ALTERNATES\2015.10.20 SYP CLEARING ALTERNATES.DWG
10/20/2015 6:13:53 PM

# Attachment: Photographs

Site Photographs
Ontonagon Airport Runway 17/35 Approach Clearing EA
Ontonagon County

Image 1. View of hangers at Ontonagon County Airport, view facing southeast.


Image 2. View of Schuster Field building at Ontonagon County Airport, view facing southeast.

Image 3. View of Schuster Field at Ontonagon County Airport, view facing southwest.

Image 4. General view of Schuster Field at Ontonagon County Airport, view facing southwest.

Site Photographs
Ontonagon Airport Runway 17/35 Approach Clearing EA
Ontonagon County

Image 5. 36148 Airport Road, view facing southeast.

# Attachment: Phase 1 Archaeology Survey Report

# PHASE I ARCHAEOLOGY SURVEY
## *Proposed Runway 17 Approach Clearing Project, Ontonagon County Airport Ontonagon County, Michigan L&A Project No: 19-0421*

*Prepared by:*
*Lawhon & Associates, Inc.*
*1441 King Avenue*
*Columbus, Ohio 43212*
*September 20, 2019*

*Prepared for:*
***Mead & Hunt, Inc.***
***2605 Port Lansing Road***
***Lansing, MI 48906***

# Phase I Archaeology Survey of Approximately 4 Acres (1.62 ha) for the Proposed Runway 17 Approach Clearing at the Ontonagon County Airport in Ontonagon County, Michigan

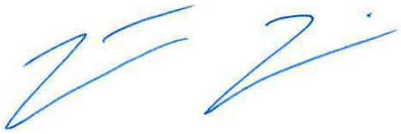
**by**

**Andrew R. Sewell, RPA**

**Prepared By:**
**Lawhon & Associates, Inc.**
**1441 King Avenue**
**Columbus, Ohio 43212**
**Phone: (614) 481-8600**
**Fax: (614) 481-8610**
**www.lawhon-assoc.com**

**Prepared For:**
**Mead & Hunt, Inc.**
**2605 Port Lansing Road**
**Lansing, Michigan 48906**

**Lead Agency:**
**Federal Aviation Administration**



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**Justin P. Zink, RPA**

**September 20, 2019**

## 0.1 ABSTRACT

In August of 2019, Lawhon & Associates, Inc. (L&A) conducted a Phase I archaeological survey for a proposed runway clearance and grading project at the Ontonagon County Airport in Ontonagon County, Michigan. L&A conducted the survey at the request of Mead & Hunt, Inc. The Federal Aviation Administration is the lead agency for the undertaking. The area subjected to archaeological investigations consisted of a grassy field north of the improved section of the airport that will require removal to increase clearance distance for Runway 17. The literature review did not indicated any previously recorded cultural resources within or adjacent to the project area. L&A archaeologists tested the area through shovel test unit excavation and visual inspection. No archaeological material was encountered in any of the shovel test units. No further archaeological studies are recommended for the project.

## 0.2 TABLE OF CONTENTS

## 0.3 LIST OF FIGURES



## 0.5 LIST OF PHOTOS

## 1.0 INTRODUCTION

Lawhon & Associates, Inc. (L&A), under contract with Mead & Hunt, Inc., conducted a Phase I archaeology survey of an approximately 4-acre (1.62 ha) site proposed for a runway clearance and grading project at the Ontonagon County Airport in Ontonagon County, Michigan. (Figures 1-3). The Federal Aviation Administration is the lead agency for the undertaking. The area subjected to archaeological investigations consisted of a grassy field north of the improved section of the airport that will require removal to increase clearance distance for Runway 17.

The Area of Potential Effects (APE) is different for each project. According to 36 CFR 800, the area of potential effects is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.” The APE takes into account the effect that the proposed project will have on the project area itself (direct effect) and on the areas surrounding the project (indirect effect). The APE for direct effects is typically equivalent with the construction footprint of the project. The APE for indirect effects involves areas in the vicinity of the project that might be visually impacted by the proposed project. Archaeological survey are typically concerned with the APE for direct effects; however, any project action that may result in an indirect effect to an archaeological site outside the construction limits would need to be considered by a survey.

This project is solely concerned with the APE for direct effects, and specifically the potential for archaeological resources within that APE. The potential effects on above-ground historical resources will be assessed in a separate report under preparation by cultural resources staff at Mead & Hunt.

L&A conducted the archaeological investigations for this project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1992, U.S.C. 470f and with Ohio Revised Code § 149.53. The Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (1985) are the standards and guidelines used to develop survey methods. This document meets the standards established by the Advisory Council of Historic Preservation and the new Section 106 (36 CFR Part 800) regulations that went into effect on January 11, 2001. The federal standards and guidelines are supplemented by the procedures presented by the State Historic Preservation Office (OHPO 1994). The goals of this survey are to determine whether archaeological resources exist within the project area, and to determine whether any identified resources are eligible for inclusion in the National Register of Historic Places (NRHP).

L&A conducted the archaeological fieldwork on August 29, 2019. The field crew included Justin Zink, Samuel Plent, and Andrew Sewell. Justin Zink served as the Principal Investigator. Andrew Sewell served as the primary report author. The following report describes the research design, methods, and results of the

literature review and field survey for this project. The results presented in this report are based on information collected from various literature review resources as well as photographs and field records resulting from this study.

## 2.0 RESEARCH DESIGN

This research design presents a framework within which the Phase I survey was conducted. The purpose of the Phase I survey is to identify any cultural resources that will be affected by the proposed project, typically consisting of archaeological deposits and architectural resources 50 years or older. Once cultural resources are identified, the principal investigator evaluates each archaeological site or historic resource for characteristics of integrity and significance, which are important factors in determining eligibility of each resource for the National Register of Historic Places (NRHP). To be listed in the NRHP, a property must be significant to one or more aspects of American history, architecture, archaeology, or culture. For a property to be considered eligible, it must meet at least one of the following criteria:

(A) be associated with events that have made significant contributions to the broad patterns of our history; or,

(B) be associated with the lives of persons significant in our past; or,

(C) embody the distinctive characteristics of type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or,

(D) have yielded, or be likely to yield, information important to prehistory or history.

In addition to meeting one or more of the above criteria, a property must also possess integrity, which is how a property conveys authenticity through the survival of physical characteristics associated with the period of significance for the property. Cultural resource management (CRM) professionals evaluate integrity according to the following aspects: location, design, setting, materials, workmanship, feeling, and association. A property considered eligible for the NRHP will always display several, if not all, of the aspects of integrity. Aspects of integrity are discussed below (Little et al. 2000).

1. Location – the place where the historic property was constructed or the place where the historic event took place.
2. Design – the combination of elements that create the form, plan, space, structure, and style of the property.
3. Setting – the physical environment of a historic property.
4. Materials – the physical elements of a property. The property must retain the key exterior materials dating from the period of significance.
5. Workmanship – the physical evidence of the crafts of a particular culture during any given period in history.

6. Feeling – a property's expression of the aesthetic or historic sense of a particular period of time.
7. Association – direct link between an important historic event of person and a historic property.

CRM professionals typically evaluate architectural resources under NRHP Criteria A-C and archaeological sites under NRHP Criterion D. However, certain archaeological sites can also be eligible under Criteria A-C. For an archaeological site to be eligible for the NRHP, it must have the potential to yield data important in answering specific research questions important to the understanding of the past, and it must display sufficient physical integrity to allow proper evaluation of that data. If archaeologists cannot recover sufficient data during the Phase I survey to determine the eligibility of the resource, more intensive work may be required to determine the eligibility of the resource and consequently, the effect of the project on the resource. The principal investigator designed the Phase I survey to answer the following general set of questions in regards to the project:

1. Has the project been subjected to previous cultural resources investigations and are there any previously recorded sites or resources located within or immediately adjacent to the project?
2. What is the likelihood of identifying previously unrecorded archaeological resources within the project? Where are these resources most likely to occur?
3. Will the proposed project affect any archaeological resources?
4. If archaeological resources will be affected, are any of those affected resources listed, eligible, or require further study for inclusion on the National Register of Historic Places?

## 3.0 ENVIRONMENTAL SETTING

The environmental setting contextualizes the cultural investigations within the natural environment. Since environmental factors influenced much of prehistoric activity, either directly or indirectly, the environmental setting contributes to the understanding of prehistoric behaviors exhibited by the inhabitants of a particular prehistoric site. Environmental and geographical conditions affected the function, social status, and productivity of historical sites as well, among other factors. Understanding the environmental setting is a key element of the interpretation of archaeological sites.

## 3.1 CLIMATE

The climate in Ontonagon County is continental, having very cold winters and warm summers. The annual rainfall in the county is approximately 33 inches, with August being the driest month and October being the wettest month. Ontonagon County averages about 188 inches of snowfall a year, with most of that occurring in December and January (US Climate Data 2019).

## 3.2 PHYSIOGRAPHY AND GEOLOGY

The project area in Ontonagon County is in the Superior Lake-Border Plain Region of the Superior Upland Province in the northwest Upper Peninsula (MSU Department of Geology 2019). The topography within this part of the county is generally low and flat, mainly due to Holocene inundations by Lake Superior. The geology of the region consists primarily of Precambrian-age bedrock, which contains the Freda Formation of shales and sandstones (Smale 1958). The glacial till present in the county dates to the last glacial advance, and ranges from thin drifts in the highlands to deeper drifts on the Ontonagon Plain. Areas close to Lake Superior also exhibit zones of sandy beach deposits (USDA SCS 2010).

## 3.3 SOILS

The project area is located within the Loggerhead-Ubly soil association (USDS SCS 2010). The association contains nearly level, poorly-drained soils formed in glacial till.

Two individual soil types are present within the APE: Belding fine sandy loam, 0 to 4 percent slopes (map unit 20B) and Trap Falls clay loam, 0 to 1 percent slopes (map unit 102A). Belding soils are somewhat poorly drained soils formed from coarse loamy till over fine-loamy tile, and is found on ground moraines. Trap Falls soils are poorly drained soils formed in fine-loamy ill, and found on till plains and depressions. Soil descriptions are from the USDA NRCS web soil survey (2019).

## 3.4 HYDROLOGY

The major drainage in Ontonagon County is the Ontonagon River, located 3.42 km (2.12 miles) directly east of the survey area. Weigel Creek to the west and Dreiss Creek to the east drain the project area, emptying into Lake Superior 588 m (1,926 ft) north of the project area. Analysis of soil types within the project area suggests that the western portion is a seasonal wetland, which is borne out by the vegetation in that part..

## 3.5 FLORA AND FAUNA

Prior to settlement in the region, natural phenomenon such as glaciations during the Pleistocene and the associated climate changes had a major effect on plant and animal communities. As the glaciers retreated and the climate warmed, tundra ecosystems with their characteristic plant and animal life retreated north, and forests covered much of Michigan, bringing with them an entirely different community of life.

The modern animal and plant life in the county bears little resemblance to those present prior to wide-scale nineteenth century settlement in the region. These changes are attributable to habitat loss and change, purposeful extirpation of predators, unchecked hunting, and introduction of non-native species. Early settler accounts of the region provide useful information on the original ecosystem of this part of the state, supplemented by information from the archaeological record. Kapp (1999) places Ontonagon County as completely glaciated up to 9900 B.C. at the time of the Marquette Glacial Advance. The

county was dominated by white pine forestation ca. 6800 B.C., with eastern hemlock recorded in pollen cores dating to about 3000 B.C. White Pine remained the dominant species in the pine forests to about 1500 B.C., when hardwood trees such as birch and maple began to appear, after which Ontonagon County was a northern hardwoods forest type. The earliest recorded land surveys classified the natural vegetation in this region as sugar maple-hemlock-yellow birch forest (Michigan Geological Survey 2019).

The modern pattern of land use has altered historical animal and plant community distributions and populations. The fauna historically inhabiting the general region of the survey area included several species of mammals, birds, reptiles, amphibians, and fish. Many species are no longer present due to the drastic habitat changes in the region, competition with invasive species, and historical periods of overhunting.

In summary, the environmental information indicates a rich prehistoric environment with a variety of resources. A variety of plants characterized a diverse floral environment exploitable by humans and animals. Animal life provided a source of protein and raw material for clothing and tools. All of these factors indicate that this area possesses potential for the presence of archaeological sites within the project area.

## 4.0 LITERATURE REVIEW

The literature review study radius is 2 km (1.2 mi) from each exterior corner of the proposed project limits. This size is usually sufficient to provide the necessary contextual information regarding previously identified cultural resources and historical information on the project area. The report author examined following sources:

1. Hinsdale's Archaeological Atlas of Michigan (1931)
2. Michigan Archaeological Site File (MASF) forms
3. Contract Cultural Resource Management reports
4. USGS 7.5' and 15' series topographic maps, historical aerial photographs, and Ontonagon County historic atlases

The *Archaeological Atlas of Michigan* (Hinsdale 1931) represents an important early attempt to map archaeological sites by type across the state. While its general accuracy is likely not completely reliable, it nonetheless provides a good sense of the archaeological potential of any given area based on the knowledge provided by Hinsdale's informants and contemporaries. Many of the sites reported by Hinsdale might only be described in this text, due to the loss of sites from development over time. Hinsdale notes the most prominent feature of Ontonagon County prehistory, which is the prehistoric mining of copper. He characterized the population of mining pits as "numerous" but only noted two village sites, one cemetery, and a mound, described as "unusual in its location" (Hinsdale 1931:33). Hinsdale did not indicate any archaeological sites near the project area (Figure 5).

The MASF files showed no previously recorded archaeological sites or previously conducted archaeological surveys within 2 km of the project.

## 5.0 CULTURAL SETTING

The historic context provides a framework for evaluating the integrity and significance of any identified cultural resources. The principal investigator uses the context to assess a sites' ability to contribute to the existing historic knowledge of a region. The report authors derived the following contexts from previously reported information from throughout the region and identified in the immediate area through previous archaeological and historical research. While not all of these contexts may be identified within the project area during the survey, the established contexts are presented in chronological order to understand the relationships between different temporal periods and the continuum of cultural development that occurred in this area. It should be noted that these periods are defined through cultural expressions, and that the ranges of time associated with each period will likely overlap in different parts of the region, as some prehistoric groups may not have adapted a new cultural expression at the same time as other groups, or indeed even at all.

### 5.1 PREHISTORIC CONTEXT

The prehistoric cultural development of the region began with the influx of the first post-glacial populations and continued throughout prehistory until the arrival of Europeans and settlers from east of the Appalachians. Archaeologists developed temporal periods to distinguish cultural and/or technical advances over time, divided into the Paleoindian; Early, Middle, and Late Archaic; Early, Middle, and Late Woodland; Late Prehistoric and Protohistoric. The temporal ranges given here for each period may differ from other presented material. This should not be construed as either a challenge to, or perceived error on the part of earlier material, but reflects the rather fluid nature of defining temporal periods based on current dating techniques, selective regional data comparisons, and differing opinions on when and where to divide prehistory into arbitrary periods.

#### 5.1.1 PALEOINDIAN PERIOD

Archaeologists estimate that occupation of the western portion of the Upper Peninsula of Michigan would not have been possible before 9900 B.C. By this time, the glacial front that had once covered the peninsula had begun its retreat into Canada. The Paleoindians, the first known prehistoric population to occupy Michigan, were highly mobile, small-band hunters moving on a seasonal basis in order to more fully exploit available natural resources (Dragoo 1976), and carbon dated evidence for their presence in the Lower Great Lakes region suggests occupations as far back as far as 10,500 B.C. (Carr 2012). The Paleoindians were opportunists willing to use a broad spectrum of animal and plant resources, and with a fluctuating post-glacial environment, both in terms of climate and ecological communities, they had to adapt to exploit a variety of environments from tundra to wetlands. Analysis of pollen data and plant macrofossils suggest that tundra conditions in the late Pleistocene Midwest were constricted to the glacier margins, with differing ecological regimes advancing quickly northward as

the glaciers retreated. Specifically, spruce-sedge parkland environments dominated the immediate post-glacial landscape for about 2000 years after the last glacial maximum, then rather quickly replaced by pine and then mixed hardwood forests in the western Upper Peninsula. Within this set of environmental conditions, a great diversity of animal species flourished, including several species that would have represented important game animals for human predation, such as mastodon, mammoth, ground-sloths, musk ox, elk, caribou, and smaller game species.

One popular hypothesis about Paleoindian subsistence strategies is that they were primarily herd-followers, tracking caribou across the post-glacial landscape. Carr (2012) points out that such hypotheses are largely based on ethnographic analogy and not on hard data reflecting actual Paleoindian subsistence strategies. He points out that there is a general lack of such data for the lower Great Lakes, and posits that this reflects Paleoindian site selection strategies that correspond to locations with poor long-term preservation characteristics. Instead, Carr lays out a hypothesis that Paleoindian hunters employed a herd-intercept strategy oriented along lake shores, moving to key locations where caribou herds would be found at certain points of a season, rather than seasonal relocation of a group to be within the summer and winter ranges of a single herd. People practicing the herd-intercept strategy would rely on storage and secondary protein resources when caribou were scarce. Carr suggests Paleoindian bands were residentially mobile within large territories exceeding 20,000 $km^2$, and notes the absence in the archaeological record for definitive evidence of periodic large aggregations of individual bands, which has occurred elsewhere in the Eastern Woodlands (Bull Brook, Massachusetts, for example).

Paleoindian groups in the western Upper Peninsula show affinities to groups across the Upper Midwest, rather than with cultures described for the lower Great Lakes region. Because of the presence of the glacial front, there are no Early Paleoindian cultures present in this region. The first evidence for people in the western Upper Great Lakes area is associated with the Late Paleoindian period around 9000 B.C. Archaeologists have classified evidence of these Late Paleoindian groups into two phases, including the Flambeau Phase and Minocqua Phase, both of which show a reliance on Hixton Silicified Sandstone as a lithic material for tools. Projectile points are similar to the Eden-Scottsbluff series. There is little differentiation between assemblages dated within the Late Prehistoric period and those in the subsequent Early Archaic period, suggesting a high level of cultural continuity (Martin 1999).

### 5.1.2 ARCHAIC

A period of significant environmental change ensued as the glaciers retreated northward at the end of the Pleistocene. The climate became temperate. Large-game species, such as mastodon, became extinct, and the deciduous forest common today developed, replacing the boreal-coniferous forests. The Archaic period encompasses the notable human adaptations and settlement practices developed in response to the changing environment (Ford 1974). Artifact assemblages from Archaic sites show a wider range of tool types in comparison

to the preceding Paleoindian period, some of which have specialized functions for the processing of a wider variety of plant and animal resources (Griffin 1967). Although all Archaic-period human groups exhibited characteristics of classic hunter-gathering lifestyles, environmental differences led to regionally distinctive artifact assemblages by the end of the period, which might reflect the evolution of culturally distinct human social groups (Dragoo 1976).

Changes in human social organization occurred concurrently with expanding food procurement strategies. In eastern North America, organizational changes generally included restricted group mobility, larger aggregations of individuals, development of ritual behavior, development of inter-regional exchange systems, and the first attempts at plant domestication (Ford 1974). Other results included smaller group territories, sites occupied for longer periods, reuse of sites at more frequent and probably more regular intervals, and the use of a wider variety of plants and animals. Storage facilities and vessels also appeared more frequently in Archaic sites, as well as evidence for early cultivation of some plant species. Archaic cultures developed burial ceremonialism and other ritual behavior, and showed signs of becoming formalized in some regions. Ritual activity might be linked to the establishment of social group identities, the maintenance of territorial boundaries, and the regulation of intergroup alliances and trade. However, archaeologists are still trying to adequately test this proposition.

Research has shown the progression of these adaptations through the Archaic period (ca. 8000 B.C. to 1000 B.C. in the larger Eastern Woodlands region), resulting in the subdivision of time into three distinct temporal periods: Early, Middle, and Late Archaic. Some general traits, such as basal styles of projectile points, are common throughout all three Archaic sub-periods, so some Archaic sites cannot be classified to one of these three periods.

Early and Middle Archaic sites are somewhat rare in Michigan, which was once attributed to an actual general absence of people during that time in the region. However, recent studies suggest that fluctuations in glacial meltwater lake levels in the early Holocene may have resulted in contemporary sites being either flooded or deeply buried under alluvium, as lake levels were considerably lower than at present. Additionally, due to the late persistence of glaciation of the western Upper Peninsula in comparison to more southerly areas, Archaic lifestyles are not interpreted as truly present until about 5000 B.C., which elsewhere would correlate to the Middle Archaic period.

#### 5.1.2.1 EARLY ARCHAIC

During the Early Archaic period in the Upper Great Lakes (5000 B.C. to 3000 B.C.), small mobile groups gradually became more geographically restricted as seasonally oriented hunting-and-gathering activities were focused on smaller, well-exploited territories. This reduction in territory size and mobility is a direct link to the expansion of the deciduous forests that produced a more favorable habitat for game species (Chapman 1975). Although hunting was the major subsistence activity, Early Archaic people also used a narrow spectrum of nutritious plant foods (Chapman 1975; Cleland 1966). This expansion of the

subsistence base correlates with a change in material culture. Early Archaic hunters switched from lanceolate spear points, ideal for hunting larger animals, to a series of smaller, more diversified notched and stemmed projectile points, scrapers, knives, drills, and ovoid blades (Chapman 1975; Jennings 1968).

Early on, Early Archaic bands in Michigan practiced a lifeway similar to preceding Paleoindian groups, and sites from this part of the period are classified as the Plano tradition. Indeed, some archaeologists place Plano as a Paleoindian manifestation characterized by a loss of fluting in projectile point technology (Justice 1987). It seems likely that Plano and Dalton types of points are reflective of gradual change, rather than demarking any sharp divisions between the Paleoindian and Early Archaic periods, and thus may best be discussed as Paleoindian/Early Archaic. (Shott 1999).

In the western Upper Great Lakes, sites manifesting characteristics of the Flambeau and Minocqua phase Late Paleoindian cultures persist into the Early Archaic, such that there may be little use in differentiating a specific Early Archaic culture prior to the establishment of Squirrel River Phase cultures ca. 6000 B.C., towards the end of the Early Archaic period as traditionally defined in the broader Midwest region, but still within the Late Paleoindian period in the Upper Great Lakes. Squirrel River Phase people were the first to employ copper in their toolkits, which also expanded away from a reliance on exotic Hixton Silicified Sandstone to include jasper taconite, glacial cherts, and quartzite. The material types imply the lessening of mobility for these Early Archaic bands. Conical copper projectile points have been found at Squirrel River phase sites in the Upper Great Lakes (Martin 1999).

#### 5.1.2.2 MIDDLE ARCHAIC

During the Middle Archaic period (3000 B.C. to 1000 B.C.), floral communities diversified as the overall climate warmed and stabilized, allowing for a broader selection of food and material for use. However, Middle Archaic people still appear to have emphasized hunting within an increasingly sedentary lifestyle (Cleland 1966). Extensive and productive marshes along the relict margins of Lake Algonquin in southeastern Michigan may have been well-exploited by Middle Archaic bands, and many of Michigan’s Middle Archaic sites are found in that region (Lovis 1999). Middle Archaic groups are suggested to have practiced a long-distance logistic mobility strategy that would spread evidence of Middle Archaic people thinly over a landscape, moving between shoreline residential camps and upland logistical sites (Lovis et al. 2005). Such a strategy, where people are normally occupying sites on a very short-term basis, would also help to explain the low density of Middle Archaic sites in the Lower Peninsula. In the western Upper Peninsula, however, Middle Archaic sites are more visible than preceding Early Archaic sites, and include the first evidence for copper mines. Other site types include fishing camps, habitations, copper and stone tool workshops, quarries, tool caches, and burials (Martin 1999).

Middle Archaic material culture reflects the change in economy as well, adapted to intensive exploitation of forest and riverine environments. Plant-processing

tools included a variety of ground stone implements, grooved axes, metates, and nutting stones. include Bone tools such as awls and fishhooks also appear in Middle Archaic assemblages. The Middle Archaic period saw the emergence of a cultural phenomenon described by archaeologists as the Old Copper Complex, beginning about 3000 B.C. As the name implies, copper tools and ornamentation are the hallmark of this cultural expression, including spuds, awls, socketed spear points, fishhooks, beads, knives, and several other artifact types. The Old Copper Complex is largely known through cemetery contexts, leading to some initial interpretations as it being a mortuary complex, whereas it is probably more accurate to understand it as a phenomenon expressed across several cultural groups who relied on copper as an important raw material. Cultural expressions of the Old Copper Complex are thought to have persisted and co-occurred with the somewhat later Glacial Kame mortuary tradition (Martin 1999).

#### 5.1.2.3 LATE ARCHAIC

In contrast to the preceding Middle Archaic period, the Late Archaic (1000 B.C. to 0 A.D. in the western Upper Peninsula) is generally a more visible manifestation in Michigan's archaeological record, but is not well understood in the Upper Peninsula. Group ceremonialism increased in importance, as demonstrated by more elaborate, formalized burial practices and the presence of exotic materials obtained from emerging trade networks. Scheduled harvesting of seasonal, available plant and animal resources climaxed in the Late Archaic (Caldwell 1964). Coinciding with an increase in territorial permanence was the first appearance of regionally distinct human culture groups in Michigan (Cleland 1966). Late Archaic lifeways in the northern parts of the state (the Upper Peninsula and northern Lower Peninsula) persisted well into what would be considered the Early Woodland period in more southerly regions, with pottery only appearing around A.D. 0. Late Archaic people were organized into seasonally mobile bands, likely in the range of 25-30 people. There likely were population aggregations in the winter months with dispersal in the warmer seasons, perhaps down to single-family groups. There is limited evidence for Late Archaic houses available in the archaeological record of Michigan.

In Michigan, the levels of the Great Lakes were much higher than today, but also fluctuated considerably over the course of the period. In the Late Archaic period, the expansion of deciduous forests reached its northernmost limit (Cleland 1966). The vegetation communities present in the state had become more or less modern (Roberston et al. 1999). Late Archaic people responding to the diverse and evolving ecosystems adapted varying ways of exploiting natural resources. Fishing was an important component of faunal exploitation. The Late Archaic period marks the first appearance of cultigens in the archaeological record. Archaeologists recovered chenopodium, sunflower, and gourd seeds dated to approximately 1500 B.C. from the Salts Cave site in Kentucky (Yarnell 1974), while other researchers have dated squash seed as early as 2300 B.C. in Missouri and Kentucky (Yarnell 1963). However, these Eastern Agricultural Complex (EAC) cultigens are not often found in Late Archaic contexts in Michigan (Robertson et al. 1999). Exploitation of local plant and animal

resources, including aquatic species, became more efficient and broad-based in the Late Archaic period. The success of this subsistence strategy is shown by the recovery of charred botanical remains of a variety of nuts, including acorn, hazel, hickory, and black walnut. Fruit also was an important food resource, as demonstrated by the diversity of fruit seeds in archaeobotanical assemblages, such as wild grape, blueberry, raspberry, and strawberry (Dye 1977; Yarnell 1974). Late Archaic people exploited these resources as a seasonal round, with either longer, more extensive occupations or higher seasonal site fidelity only occurring in the Terminal Late Archaic. Specifically, spring occupations may have focused on fish runs, followed by summer camps for berry exploitation, fall camps for mast resources, and winter camps with a broad-based hunting focus. A general lack of sedentism may be attributable to the largely unreliable nature of the fluctuating environmental conditions that typify most of this period (Robertson et al. 1999). It should be noted that caution must be taken with applying general statements about Late Archaic lifeways in Michigan, as the database of Late Archaic site information is heavily skewed towards the well-scrutinized Saginaw Valley region of southeastern Michigan.

Late Archaic people developed a wide array of specialized objects, including steatite and sandstone bowls, stone tubes and beads, polished plummets, net sinkers, whistles and rattles, birdstones, and boatstones, as well as awls, needles, and perforators made of bone (Chapman 1975). Brewerton series points are characteristic of this period (Ritchie 1961; Witthoft 1953; Robertson et al. 1999). In Michigan, broad-bladed stemmed points, such as Susquehanna, Adder Orchard, Perkiomen, and Genesee types, also are associated with the Late Archaic (Robertson et al. 1999). Interestingly, narrow projectile point styles that occur at Late Archaic sites in the eastern Great Lakes (Lamoka, Normanskill) are not associated with Michigan Late Archaic assemblages. By the end of the Late Archaic, projectile point style diversity increased, with the introduction of small, broad-bladed point types. In southwest Michigan, these points are associated with types including Berrien Corner-notched, Oronoko Side-notched, Sodus Expanding Stemmed (Roberston et al. 1999). Turkey-tail points also occur in ceremonial contexts and in buried caches. By the very end of the period, Meadowood points begin to occur in Terminal Late Archaic contexts. Meadowood points do not occur with pottery on Michigan sites, although sites with Meadowood points are contemporary with Early Woodland sites in Ontario and elsewhere, suggesting that Meadowood points are associated with the end of the Late Archaic here. In southwest Michigan, the transition to the Early Woodland is typified by Terminal Late Archaic point types showing up in association with Early Woodland deposits (Robertson et al. 1999).

Trade is demonstrated through the appearance of exotic materials in Late Archaic assemblages, and through the dating of certain prehistoric Lake Superior copper mining pits to this period. In addition, foreign cherts such as Wyandotte/Indiana Hornstone and Onondaga appear in Lower Peninsula assemblages, and ritual objects made from marine shell appear for the first time. However, the occurrence of such exotic materials is fairly rare on Late Archaic sites, suggesting that trade was not intensive. Trade was likely a key component

of maintaining social ties among related but widely-dispersed groups. Trade may also have been one response to uncertain availability of resources related to subsistence, including food and animal hides for clothing. Notably, exotic trade items often are found in mortuary contexts. There are three distinct burial complexes associated with the Michigan Late Archaic: Old Copper, Glacial Kame, and Red Ochre (previously thought to represent entire cultures, but now more properly classified as distinct subcomponents of larger Late Archaic cultural practices). Old Copper Complex burials are largely found in the western Great Lakes, primarily Wisconsin, although there are documented occurrences in Ontario and Quebec to the east. The complex is eponymously named for the occurrence of copper artifacts with burials. Old Copper Complex burials are not documented from the Lower Peninsula. Glacial Kame burials are associated with exotic shell beads and gorgets, copper beads, stone pipes, and birdstones, among other items. As the name indicates, Glacial Kame burials have commonly been found interred in kame landforms. Largely a southern Midwest expression, Glacial Kame burials are documented as far north as Cheboygan County. Evidence from Wisconsin documents interactions between people practicing Old Copper and Glacial Kame burial traditions. Finally, the Red Ochre burial complex is associated with the Terminal Archaic Meadowood cultural expression, which elsewhere is associated with the initial stages of the Early Woodland period (there are very few Early Woodland mounds in Michigan, obscuring the boundary even further between the Terminal Archaic and Early Woodland periods). Red Ochre burials take their name from the use of red ochre to cover the grave. Interments are flexed, accompanied by Turkey-tail blades, small ovate cache blades, copper artifacts, and tubular marine shell beads. As with Glacial Kame, Red Ochre burials have been documented in association with Old Copper culture burials at cemetery sites. It should be noted that not all Late Archaic burials conform to one of the three complexes, which are regional and may be sequentialized cultural expressions (Robertson et al. 1999). Of considerable interest is the observation that the increase in mortuary ceremonialism appears to halt with the commencement of the subsequent Early Woodland period.

As noted above, the Late Archaic Period in the Upper Peninsula is poorly understood, largely due to a lack of well-dated sites. What sites have been investigated suggest seasonal occupations mainly during the summer months, likely as hunting and fishing expeditions. One winter occupation is noted at site 20MQ91 in Marquette County (Robertson et al. 1999). Much of what is known about Late Archaic society in the Upper Peninsula comes from excavations at the Riverside Site (20ME1) in Menominee County. This cemetery was primarily in use between 1000 and 400 B.C., although some burials are documented with a Woodland period affiliation. The Late Archaic burials featured several with copper artifacts and others with artifacts made from exotic materials, such as obsidian and Harrison County (Indiana Hornstone) chert from southern Indiana, along with shell beads and red ochre. Burials in this cemetery are associated with the Red Ochre burial complex, and shows a cultural development towards practices commonly associated with the Woodland period. Data from habitation sites is somewhat scarce, but suggests very small, seasonally occupied camps in

locations representing repeated occupations through prehistory, such as 20KE20, famed as a copper workshop but also producing information on other activities. Lithic materials from this site show a reliance on quartz, , quartzite, basalt, and glacial cherts. Site locations appear to show a preference for the shores of small inland lakes. It appears that Late Archaic groups in the western Upper Peninsula were composed of family units and were highly mobile, spending time accruing resources during the warmer months and retreating further south during the harsh winters, likely well into Wisconsin (Martin 1999).

### 5.1.3 WOODLAND PERIOD

W. C. McKern first described the Woodland period as an archaeological manifestation within the McKern Taxonomic System (McKern 1939), initially distinguishing it from the preceding Archaic period through the use of pottery and ceremonial construction of earthworks and mounds. Griffin's work (1952) on the Woodland period defined three sub-periods: Early Woodland (1000 B.C–100 B.C.), Middle Woodland (100 B.C.–A.D. 500), and Late Woodland (A.D. 500–1200). Archaeologists still use the same basic system today, although current research suggests that adaptations and cultural traits assigned to each period are actually quite variable in both time and location. Specifically to the western Upper Peninsula, the Woodland period spans A.D. 0 to about 1600 (Martin 1999, Chivis 2003). In particular, the tripartite division of the Woodland period used in the southern Midwest is not applicable to the Woodland cultural expressions of the western Upper Peninsula. Instead, the period is better understood as consisting of an Initial Woodland period (0–700 A.D.) and a Terminal Woodland period (700–1600 A.D.; Martin 1999; Manitoba Archaeological Society 1998).

#### 5.1.3.1 INITIAL WOODLAND

Research in the Midwest demonstrates a general continuum from the end of the Archaic through the Middle Woodland for the intensification of horticulture and the formalization and elaboration of mortuary practices (Dragoo 1976). However, Woodland people did not uniformly adapt these traits at the same general time, and some practices associated with Woodland people (such as mound building) are largely absent in Michigan. Clay (1992:80) suggests that initially, Woodland groups were likely practicing a semi-sedentary, hunter-gatherer lifestyle organized into egalitarian groups, rather than having a more hierarchical tribal system. This certainly seems to be the case in Michigan. The first good evidence for prehistoric houses appears in this period, suggesting construction techniques very similar to those employed by historic-period Ojibwa people in the Upper Great Lakes region (Martin 1999). Subsistence strategies in the Initial Woodland period are basically identical to the preceding Late Archaic period, with a focus on lacustrine resources such as fish and wild rice.

Projectile point/knife forms diagnostic of the Early Woodland period include Kramer, Cresap, Meadowood and Adena Stemmed types (Chivis 2003; Justice 1987). As noted previously, Meadowood points are also associated with the Terminal Archaic in Michigan. Lithic material shows a strong focus on locally-available quartz, with a few occurrences of obsidian and exotic cherts. The use of

copper for both utilitarian and decorative/ceremonial purposes is essentially a continuation from the Late Archaic period. Interestingly, the Initial Woodland period largely coincides with the Middle Woodland Hopewell cultures to the south, known for their extensive use of copper in mortuary deposits. While much of this Hopewell copper likely originated in the copper ranges of the Upper Peninsula, there is a lack of data suggesting direct exchange via trade, although Ohio's high quality cherts would surely be valued in the Lake Superior basin. It is not well understood how the Hopewell acquired their copper and how people in the Upper Peninsula may have interacted with this southern cultural expression. Pottery first appears around 0 A.D. and largely consists of Laurel wares, suggesting cultural ties to groups to the west of the Upper Peninsula, rather than the south (Martin 1999). Laurel pottery is a grit-tempered ware with stamped decorations around the rims and an undecorated body (Manitoba Archaeological Society 1999).

#### 5.1.3.2 TERMINAL WOODLAND

The Terminal Woodland period is characterized by expanded regional interactions and the introduction of domesticated plants into the lifestyles of people in the western Upper Peninsula. Compared to the preceding periods, the Terminal Woodland shows much more evidence for rapid cultural change, including population growth, intergroup hostilities, and subsistence intensification (Martin 1999). Lake Phase sites are found in the western Upper Peninsula, while Mackinac Phase, Bois Blanc Phase, and Juntunen Phase sites are associated with the eastern Upper Peninsula. One notable characteristic that differentiates Upper Peninsula Late Woodland from the preceding period is an increase in site fidelity. During the Terminal Woodland, it appears that there was either intensive trade with groups outside the immediate region, or that these groups ranged into the Upper Peninsula, as evidenced by pottery types affiliated with cultures from Manitoba to Ontario, and from the Lower Peninsula and Wisconsin down into the Mississippi River Valley. The latter scenarios seems more plausible. House types include long houses, and burial traditions feature the use of ossuaries and secondary interments, both of which have analogues with historical native practices in the Upper Great Lakes (Martin 1999). Subsistence strategies continue to focus on fisheries, with perhaps an increase in the use of seine nets to exploit seasonal runs of species like suckers (Drake and Dunham 2004).

Corn first appears in Terminal Woodland assemblages in this period, but may represent a trade item rather than a local cultigen. Copper was still a component of Terminal Woodland artifact assemblages, but its use seems more restricted to groups who had ready access to the material. Use of copper falls off quite dramatically outside the Upper Peninsula during this period. Chert use increases in lithic assemblages, displacing quartz and quartzite as a dominant material. Diagnostic projectile points include triangular Madison points and Juntunen points, made on small flakes. However, stemmed, side notched, and corner notched points more often associated with Middle Woodland or earlier assemblages elsewhere in the Midwest have been found in Terminal Woodland contexts in the Upper Peninsula (Dunham 2014). Pottery types observed in the

Upper Peninsula include those associated with Black Duck, Huron, Lakes Phase, Oneota, Juntunen, Mackinac, Sand Point, Iroquoian, Madison, Point Sauble, and Bois Blanc traditions.

## 5.2 HISTORICAL PERIOD CONTEXT

There is scant evidence for the direct presence of Europeans in Michigan prior to the mid-seventeenth century. However, some protohistoric Native American sites do show indirect contact through the presence of European trade items, such as the Cloudman Site on Drummond Island, dating to ca. 1615 and including glass beads, iron, and copper artifacts made using Native methods but mimicking French knife forms. This site is interpreted as likely being an Ottawa occupation, whose residents had trade relations with other Native people to the east that had been directly in contact with early French explorers (Cleland 1999).

### 5.2.1 EARLY HISTORIC PERIOD, CA. 1630–1800

Early European presence in the Great Lakes is linked to French exploration and missionary activity. The first documented European explorer in the Michigan region is Jean Nicolet in 1634. Seven years later, the Raymbault Mission was established at Sault Ste. Marie by Jesuit missionaries. This mission first served Ojibwa groups moving west to get away from raiding Iroquois bands, with Ottawa people subsequently settling around it. While the French also established the fur trade, it did not become the dominant focus of activity in the region due to the conservatism of the French court, which placed greater emphasis on conversion of Native groups and exploration (Heldman et al. 1999). However, competition with other European nation-states forced a change in emphasis for the French to commerce, beginning about 1700. The French Bourbon court largely viewed its North American activities in terms of wealth extraction rather than colonial expansion and settlement. The lack of any substantial French immigration to the New World (in contrast to British policies) meant that Native alliances were highly important to the success of French activities on the continent.

The French established settlements at the Straits of Mackinac beginning in 1671, first on the north shore near St. Ignace and then at Fort Michilimackinac in 1715 (the latter of which is arguably the most important early historical archaeological site in the Great Lakes). The French traded with local Huron, Petun, and Ottawa people here, and established a Jesuit mission headed by Father Jacques Marquette, who had moved the focus of missionary activity here from Sault Ste. Marie in recognition of the primacy of the Straits as a Native transportation route. The Native tribes had settled here just prior to the French, having been forced out of their former territories to the east and southeast during the Iroquois Wars, ca. 1640–1660 (Cleland 1999; Heldman et al. 1999). Other Native tribes that were present in the state in the seventeenth century include the Mascouten, Potawatomi, Miami, and Menominee. In particular, the Ottawa, Ojibwa, and Potawatomi formed a loose alliance called “The Three Fires” (Rubenstein and Ziewacz 2014). Native American sites of the Early Historic Period consist of villages and burials. Village sites can show reconstruction episodes for the longhouses, which can confuse interpretation. European trade goods are

diagnostic, as are traditional Native technologies using European artifacts as raw material (e.g., glass projectile points, brass tinkler cones). An important corollary is that there do not appear to be any types of diagnostic Native artifacts that would allow identification of tribal identity; this situation is largely due to the disruptive effects of colonization and contact that led to rapid changes in material culture and mixing of previously separate tribal bands in single villages in some cases. One exception to this rule is the Marquette Mission Huron Village site (20MK82 and 20MK99), where artifacts do show an Iroquoian affiliation (Cleland 1999). Also of important note is that a drastic change in technology and raw material use does not indicate an equivalent change in cultural traditions. Ethnohistorical accounts support the continuation of cultural traditions with likely roots far back into the prehistoric period among Michigan tribal groups (Heldman et al. 1999).

In southwest Michigan, Rene-Robert Cavalier,Sieur de la Salle, established Fort Miami at modern St. Joseph in 1679, named after the Miami tribe that was the focus of missionary efforts in that location. In 1686, the French established Fort St. Joseph in the Port Huron area (actually the second fort by the name; the first was near Fort Miami). These forts protected French interests in the fur trade against the expanding British. In 1701, Antoine de la Mothe, Sieur de Cadillac, built Fort Pontchartrain between Lake Huron and Lake Erie, at a spot he called “le Detroit,” meaning “the strait.” Because of its strategic location, the fort and the surrounding community of Detroit became the most important French settlement in the first half of the eighteenth century (Rubenstein and Ziewacz 2014; Heldman et al. 1999). By the 1750s, numerous small French farms were present in the southeast Lower Peninsula.

The mid-1700s were a period of war between the two major colonizing powers in eastern North America, the French and British. King George’s War broke out in 1744, followed by the French and Indian War of 1754–1763. The British were slowly expanding and forming new alliances with tribes, forcing the French to react with increased fortifications. British blockades during the war years severely hindered the French’s ability to conduct trade. In 1760, all French forces surrendered, and in 1763, the French ceded claim to all their lands to the victorious British in the Treaty of Paris (Rubenstein and Ziewacz 2014). Soon after the surrender, British forces moved into the Great Lakes and took over important forts at the Straits of Mackinac and Detroit, although many French inhabitants of the associated settlements remained. Some stayed and lived alongside the British, while others relocated to new communities to preserve some sense of autonomy and cultural traditions, such as at River Raisin. British settlement outside of the forts is not well documented, but there are several archaeological sites known that represent British-era settlement.

The change from French to British occupation was drastic in terms of cultural approaches to interactions with Native groups. The British lost their chance to capitalize on goodwill with their Native allies by appointing Lord Jeffery Amherst as Governor General of North America. Amherst refused to listen to other British officials who understood Native customs and his actions, including ignoring

pledges made during the war and a cessation of gift-giving, led to increasing hostilities, such as Pontiac's War of 1763. French traders encouraged the division between Native Americans and their former allies. The efforts of the French were successful in helping make up the minds of Great Lakes tribes to rise up against the British (Rubenstein and Ziewacz 2014). This conflict was a major, if temporary, setback to the British, who lost control of all their western forts apart from those at Detroit, Niagara, and Pitt. However, the British soon regained control of the territory (Heldman et al. 1999). The Proclamation of 1763, drafted in response to Pontiac's Rebellion, stated that all land west of the Allegheny Mountains as permanent Native territory, with land sales only by permission of the British government.

The next major event during the British period in Michigan was the American Revolution. Being on the periphery of British territory in North America, the British military outposts in Michigan did not result in any direct response to the outbreak of hostilities until 1778 and 1779, when American actions in Illinois prompted the building of new forts and strengthening of some of the older forts. In 1780-1781, the British dismantled Fort Michilimackinac and relocated to a new fort on Mackinac Island to better defend the Straits. Britain directed Native raids against American settlements from Detroit, which served as a major source of war supplies for such raids (Rubenstein and Ziewacz 2014). An interesting bit of Revolutionary War history is the taking of Fort St. Joseph at Niles by a combined force of Spanish, French, and Native soldiers, who briefly raised a Spanish flag over the fort before looting and abandoning it. Niles thus has the distinction of the only city in Michigan that has had the flags of four nations flying over it (Rubenstein and Ziewacz 2014). The British period in Michigan ended with their signing of the Jay Treaty in 1794, and American forces took over the major British forts at Detroit and Mackinac in 1796. A British fort on Drummond Island was built in 1815 and remained until 1828, when the United States formally acquired the island.

### 5.2.2 AMERICAN ACQUISITION AND STATEHOOD, 1800–1837

Although American forces occupied forts in Michigan in 1796, American expansion and settlement in Michigan did not occur with any frequency until the nineteenth century, largely after the War of 1812. Landscapes within Michigan retained a frontier character until their resources became important to the economic development of the state and nation, such as the mineral ranges of the Upper Peninsula, which were not developed until later in the nineteenth century. The Michigan Territory was created by Congress in 1805 after the admittance of Ohio to the Union. However, prior to 1812, most of the white residents of the territory were French, with several British traders still operating out of the territory.

The War of 1812 broke out when the Michigan Territory was under control of territorial governor William Hull, who proved to be completely inept in military matters. Despite a brief foray into Canada, Hull's leadership was disorganized and British forces soon took over the primary forts in the territory, and Hull himself surrendered Detroit. Initial British success was short-lived, and American

victory in 1814 marked the last active hostilities in Michigan between white and Native forces, while cementing the Michigan Territory as a part of the United States (Rubenstein and Ziewacz 2014). Native rights to land in Michigan were slowly chipped away in a series of land cessations, beginning with the Treaty of Detroit in 1807 and culminating in the Treaty of La Pointe in 1842 (Rubenstein and Ziewacz 2014). By the 1870s, most of the state's Native population were living on reservations.

By 1833, Michigan's population was over 60,000 people, more than enough to be admitted into the Union as a state. However, Congress refused to consider the matter until a boundary dispute with Ohio was resolved. Both the State of Ohio and the Michigan Territory considered a strip of land at the northwest corner of Ohio as their rightful possession. This area, called the Toledo Strip, was controversial because Ohio had a provision in its constitution that its northern boundary, delineated in the Ordinance of 1787, could be adjusted if it did not include the mouth of the Maumee River. However, when the Michigan Territory was set up in 1805, Congress either was unaware of or ignored this provision and gave this land to the new territory. While militias on both sides were formed and Michigan militiamen made incursions into Ohio, the so-called "Toledo War" mainly consisted of political bluster, and was resolved without a shot being fired through a compromise bill in Congress that admitted Michigan as a state if it ceded the Toledo strip. As a consolation prize, the Upper Peninsula was included as part of the new state's territory (a transaction that subsequent generations of Michiganders now recognize as getting the best part of the deal). Still, various attempts down through the years have been made on Michigan's behalf to regain Toledo, all ending in failure. On January 26, 1837, Michigan was formally admitted to the Union (Rubenstein and Ziewacz 2014).

### 5.2.3 EXPANSION AND ECONOMIC GROWTH, 1837–1860

The initial settlement after statehood was achieved focused mainly on the southern tier of counties in the state, largely due to proximity to transportation routes, but also because of the presence of good farmland, especially in the southwestern prairie habitats. Settlers moved north at a slower rate, as transportation routes were nearly non-existent and there was a considerable effort required to clear land for agriculture. Too, the climate became more harsh the farther north one went, with fewer growing days per year. The early settlers to the southeastern part of the state were largely from New England and New York, while people from Indiana and Ohio moved into the southwestern quarter, giving each area a distinct set of traits related to the settlers' origins. Improving transportation was the first priority for the new state legislature, and an elaborate proposal to build two canals running across the state and three railroads, all extending east-west across the southern half of the Lower Peninsula was funded by a public improvement act in 1837. Unfortunately, financial troubles ultimately meant that these projects could never actually be funded through the sale of bonds (Rubenstein and Ziewacz 2014).

A new source of profit for the state was needed. Eyes turned towards the Upper Peninsula, especially the copper country of the Keweenaw Peninsula. The

copper wealth of this region was first recognized back in the era of French exploration, when massive chunks of float copper were described on the surface. The expedition of Douglass Houghton and Henry Rowe Schoolcraft in 1837 confirmed for the state the vast potential of this area. However, exploiting this resource was hampered by the fact that the state did not technically possess this part of the Upper Peninsula, which was still recognized by the United States as Ojibwa territory. The Federal Government quickly entered into negotiations with Ojibwa representatives, extracting the rights to the tribe's Lake Superior territory in exchange for $800,000 and the right to occupy portions of the area for a temporary period of time. With the signing of the Treaty of La Pointe in 1842, the Upper Peninsula mineral rush began. After problems with issuing mining permits was ironed out between the state and the Federal governments, people began flooding into the western Upper Peninsula. Numerous mining companies financed by Eastern businessmen, especially from Boston, set up mines and attendant communities across the landscape. Soon after the establishment of copper mining, large iron ore deposits were discovered along the southern Lake Superior shore in the central Upper Peninsula near present-day Negaunee. As with the Keewenaw region, several iron mining companies quickly developed to exploit this valuable resource, with new communities springing up around the mine locations. For a brief period around 1880, Michigan led the nation in both copper and iron production. Many of the towns and villages of the western and central Upper Peninsula today are directly related to the mining boom of the last half of the nineteenth century (Rubenstein and Ziewacz 2014).

In 1847, Lansing became the state capital, which previously was held at Detroit. A new state constitution was approved in 1850, which raised the question of suffrage for non-white men. Ultimately, the constitution approved extending the vote to immigrants who pledged to attain full citizenship and Native Americans who renounced tribal membership. Suffrage for Black people was placed on a separate ballot and soundly defeated. This event was typical for early civil rights in the state, which had early on addressed the issue during the territorial government days by passing a law that, while protecting free blacks from Southern slave catchers, denied them any semblance of civil rights or equality. Still, the abolitionist movement grew in Michigan, bolstered by immigrants from states with large numbers of abolitionists. The Underground Railroad had several routes leading across the state and slowly, anti-slavery sentiment grew in strength, until antebellum newspapers were bold enough to print statistics on the number of escaped enslaved people that made it to freedom in Canada through Michigan. As part of this movement, the Republican party saw a surge in electoral success in the 1850s, turning the state into one of the first strongholds for the party in the nation (Rubenstein and Ziewacz 2014).

### 5.2.4 THE CIVIL WAR YEARS AND POSTBELLUM DEVELOPMENTS, 1860–1900

Michigan was a vocal supporter of the Union cause in the months leading up to the Civil War, and put deeds to words by sending an infantry company for the Union Army to Washington, D.C., just over a month after Confederate forces fired

on Fort Sumter. The Michigan legislature recognized the key issue of the conflict in an 1862 resolution calling for the complete abolishment of slavery. As the war ground on, however, northern Democrats saw a chance to push back and rallied against abolitionism. While seeing some short-term gains, a party platform explicitly supporting white supremacy was too much for many of the so-called "War Democrats" who switched affiliation to the Republicans, and the Michigan Democratic Party was essentially neutered. Republicans swept the 1864 election, buoyed by the success of Sherman's Atlanta campaign. Outside of the state government's actions, Michigan's support for the Union cause is seen in the number of men it sent to the war. Nearly a quarter of the male population of the state served in the war, including half of all military-aged men. Over 90,000 men in total went to war, including 1,600 free Black men who served in units like the First Michigan Colored Infantry. One of the most famous Michigan citizens tied to the Civil War is George Armstrong Custer, who rose to the rank of Major General and was known as one of the most talented cavalry officers on either side of the conflict. Michigan's economy boomed during the war years, as its copper and iron were vital to the war effort. Too, the state's farmers rapidly adopted mechanization into their labor practices, due to a labor shortage of farmhands who had gone off to war. This development was supported by increasing prosperity for farmers, who were making good money off of providing food supplies for the war effort. This development was key in the change from primarily subsistence farming to large-scale commercial farming in the state. Although hampered during the war years because of labor shortages, the Michigan timber industry became one of the state's predominant industries, with a yearly average of 33,000 acres of timberland cleared during this period. This period was also the golden age of rail in the state, with nearly 7,000 miles of track crisscrossing the state by 1900 (Rubenstein and Ziewacz 2014).

The post-war years showed that Michigan, while strongly anti-slavery during the war, was hesitant to grant full civil rights to Black people afterwards. An act to grant suffrage to Black men barely passed in 1870, with fear among segments of the white populace that passage would result in a mass migration to the state of former slaves. The same year, Michigan's first women's suffrage societies formed, although their goals would not be reached until the twentieth century. Politically, the Republican party dominated control of both the governor's seat and the State House during this period, although the Democrats made steady advances in eroding their control.

Ironically, while white Michiganders feared an influx of Black immigrants from the South, it was experiencing massive population growth during this period of other immigrants, primarily from Europe. Over half of the 700,000 people who moved to the state between 1860 and 1900 were foreign nationals. Indeed, foreign immigration to the state was actively encouraged by the state legislature as early as 1845. Special focus of these efforts was on the Germanic region of Europe, whose residents were seen as ideal immigrants due to their perceived conservatism, education, work ethic, and religious values. Many towns in Michigan still boast a strong Germanic culture, such as Frankenmuth and Gaylord. Canadians, especially French *Canadiens*, were another significant

source of newcomers. An influx of Dutch settlers to western Michigan influenced cultural development in that region, including the development of a town called Holland, an annual tulip festival, and even a few traditional Dutch windmills. In the Upper Peninsula, the mining companies actively recruited skilled Cornish miners from the United Kingdom. Large numbers of Irish also came to the mining districts, followed at the end of the nineteenth century by Italians, Swedes, Eastern Europeans, and Finns. While many of these immigrants moved further west to follow mining booms, the Finns in particular stayed put and Finnish heritage is a key component of Upper Peninsula culture (Rubenstein and Ziewacz 2014).

### 5.2.5 INDUSTRIAL BOOM YEARS AND THE DEPRESSION, 1900–1940

Michigan's industrial base developed greatly in the first two decades of the twentieth century. The copper and iron mining regions were still experiencing success, even with the contraction of active copper mines to the Portage Lake region and major competition with western mines. It was the automobile industry, however, that would define Michigan industry in the twentieth century. By 1900, Ransom Olds had already established Michigan's first automobile manufacturing company, and thanks in part to a mass-market advertising campaign, became rather successful. Olds' success inspired many others to enter the automobile industry. The most famous name in the industry is that of Henry Ford, who founded the Ford Motor Company in 1903. Ford is credited with the introduction of many innovations to the industry, including the assembly line and providing a living wage for his workers, based on the idea that the people who made his products should also be able to afford them. Other Michigan-based automobile companies that sprang up at the turn of the century include General Motors, created in 1908 out of an amalgamation of 30 different car companies purchased by William Durant.

The Great Depression had a tremendous effect on Michigan. The automobile industry was hard-hit, as cars were still viewed as a luxury item. The mining districts were devastated, and the copper mines in particular never recovered. State efforts to provide relief were hampered by a Red Scare that occurred in the 1920s, lending a stigma to state welfare programs. Numerous strikes occurred during this period of labor disruption and unrest. Towards the end of the depression years, however, federal programs such as the Civilian Conservation Corps and Works Progress Administration had hired thousands of out-of-work Michigan residents, resulting in what has been described as 20 years' worth of infrastructure and societal improvements in the span of three years (Rubenstein and Ziewacz 2014).

### 5.2.6 WORLD WAR II AND THE POST WAR YEARS,1941–1967

Michigan was a major player in materiel supply during World War II. Its industries were well-positioned to convert to production of vehicles, ammunition, and other supplies for the war, while its mines provided valuable copper and iron. Indeed, World War II is likely responsible for the survival of the copper industry in Michigan past the mid-century mark. Ten percent of all federal war contracts

went to Michigan companies, second only to New York. After the war, numerous developments, such as middle-class families with substantial savings to spend and the development of the interstate highway system, helped grow the automobile industry even more. The copper industry essentially collapsed completely after the war, with only two major mining companies barely managing to struggle along. Many of the rural counties in Michigan, especially in the Upper Peninsula, saw drastic population declines as families moved elsewhere to take advantage of better economic opportunities.

The development of a car-centric culture is a key factor in suburban growth, with a more negative contribution coming from systematic racism, as white families fled cities like Detroit with rising Black populations. Race relations were always a simmering issue in Michigan, with a surge in the Ku Klux Klan in the 1920s and a major race riot in Detroit in 1943. Because of its large Black population, Detroit was a hotbed of civil rights activity in the postwar years. In 1963, the city was the location of a national civil rights conclave attended by key figures in the movement, including Reverend Martin Luther King, Jr. Despite efforts to improve social and economic conditions, unemployment reached 11 percent by 1967, and civil discontent reached the boiling point in July of that year, with the infamous 1967 Detroit Riot. Sparked by a police raid on a night club during a severe heat wave, riots spread uncontrollable throughout the city, with entire city blocks destroyed by fire, the deaths of 44 people, and over $50 million in property damage. The city is still trying to recover from the effects of this event to this day (Rubenstein and Ziewacz 2014).

### 5.2.7 THE MODERN ERA

Beginning in the 1970s, Michigan has experienced a series of declines in its industrial base. The automobile industry in the state has been effected through enticements by southern states to relocate factories with the promise of tax abatements and an anti-union governmental stance, while increased automation in the auto plants reduced the need for large workforces. The oil embargo of the early 1970s and governmental efforts to mandate fuel efficiency and emissions reductions also challenged the industry. By the 1980s, the state had one of the highest unemployment rates in the nation. The state economy has begun to diversify in recognition that depending largely on one dominant economic sector was not sustainable. New sources of business development appeared in the form of wineries and tourism. A series of political reforms of varying strategies helped pull the state out of severe economic woes by the 1990s, although it still lags behind much of the rest of the nation in key areas (Rubenstein and Ziewacz 2014).

### 5.2.8 ONTONAGON COUNTY HISTORY

Prior to the opening of the copper range in the mid-1840s, Houghton County was primarily occupied by the Ojibwa tribe. This area was visited by fur traders and Jesuit missionaries in the seventeenth and eighteenth century, but with no attempts at establishing any sort of European community. A French Jesuit mission was established at L’Anse in Baraga County by the mid-1600s. By the

late 1700s, an Ojibwa village was present at the mouth of the Ontonagon River (Tanner 1987). This village would be the primary Ojibwa community in the county, although a small village was present near the north end of Lake Gogebic around 1870. By the 1850s, the local Ojibwa people were hemmed into reservations, established at L'Anse and Ontonagon by 1854, although tribal members continued to work and hunt outside tribal lands (Tanner 1987). Currently, there is not a resident population at the Ontonagon Reservation, which is maintained by the Keweenaw Bay Indian Community.

French fur trappers were the first Europeans to visit the region including Ontonagon County. The first recorded European mining effort in Ontonagon County was by Alexander Henry in 1771 near the Ontonagon River. His efforts were hampered by poor planning and lack of any reliable transportation, and he abandoned his efforts in 1772. In1820, this general location was visited by Michigan Territorial Governor Lewis Cass, where he famously observed the Ontonagon Boulder, a huge piece of float copper on the banks of the river (now on display at the Smithsonian Institution). Ontonagon County was organized in 1843 as one of the original six counties of the Upper Peninsula. James Paul was the first permanent white settler that year, at the mouth of the Ontonagon River. The following year, the federal government put up a building for the Mineral Agency on the east side of the river. In 1845, the Minesota Mine began operations. In 1849, the first copper ore shipment to leave the Lake Superior region exited the Ontonagon River on a steamboat, from the same Minesota Mine. A small community sprung up around the mineral agency building, taking its name from the river and county, and became the county seat in 1846. The harbor at Ontonagon was improved in 1867, and the Chicago, Milwaukee and St. Paul Railroad had its northern terminus at this community, from where shipments of ore, fish, and forest products made its way to the industrial centers of the lower Midwest (Sawyer 1911).

Around 60 copper mines operated at one time or another in Ontonagon County, mainly along a stretch of the copper range between Bergland and Greenland (USGS 2019). A few silver mines were also sunk in the county, but were never major producers of that mineral. There were few copper ore reduction facilities such as stamp mills and smelters. Besides being the first American mine, the Minesota mine is notable for being the location where the scale of prehistoric mining was amply demonstrated by the discovery in an ancient mining pit of a 6-ton slab of native copper supported on timber skids, over which a hemlock tree over 400 years old had been growing (Lankton 1993).

Mining companies were known for an employee management system called "paternalism." Born somewhat out of necessity due to the remote nature of most mine sites, a company would set up not only their mining facility, but also worker housing, stores, and schools. These company-owned facilities served to attract employees by providing necessities, but also allowed the company to exert control over their employees' behaviors. Displease the company, and an employee could suddenly find himself and his family thrown out of their company house. At some point, nearly every single mine site had its own community,

many of which are now vanished from the landscape, marked only by perhaps a few surviving company houses and piles of poor rock. Copper mining in the region began to suffer economically after the western copper mines in Montana, Arizona, and New Mexico began operations at the turn of the twentieth century. About this time was when hard rock mining in the Keweenaw began to accrue higher operating costs, due to the exhausting of near-surface veins of copper and the increasing depths of active mines. Labor unrest also made mining difficult, as workers began to chafe under the system of paternalism employed by the mines. Many skilled workers left for better paying jobs in the car factories of Detroit or the western mining districts. Several mines had gone out of business by the 1920s, and the Great Depression dealt a fatal blow to many operations. World War II provided a brief respite, but the drop in copper prices afterwards was the final straw, with the Quincy Mine closing in 1945 and C&H mines finally closing for good in 1968. The White Pine Mine in Ontonagon County opened in 1955 to exploit a copper sulfide deposit, surpassing C&H as the main producer of copper in the state. The White Pine Mine closed in 1997, ending the era of copper mining in the region (Lankton 1993.

While copper mining was a major economic force in the nineteenth century, farming also was a contributor to the local economy once sufficient forest land had been cleared, and timber products were another focus, with the main timber boom occurring between 1880 and 1900 (USDA SCS 2010). A paper mill operated in Ontonagon, but closed in 2009; this facility is under conversion into a biofuels plant (Tucker 2018). Featuring huge tracts of public land, outdoor tourism is now a significant driver of the local economy, with both the Ottawa National Forest and the Porcupine Mountains Wilderness State Park within the county offering year-round recreational opportunities (USDA SCS 2010).

Apart from Ontonagon, other communities of interest in the county include Rockland, Greenland, Mass City, Bergland, and Bruce Crossing, all except the latter representing former mining company towns. Bruce Crossing was where the Duluth, South Shore & Atlantic Railroad crossed the old Military Road, named after the first postmaster. Today it is the junction of US 45 and State Route M-28.

### 5.2.9 HISTORY OF THE PROJECT AREA

The project area is located in Township 51 North, Range 40 West, Section 3 of Ontonagon Township. The earliest detailed historical map showing this area located for this report is a 1917 plat map, which shows the property owned by Norton & Br. Co. (Figure 6). The next available map is the 1955 USGS topographic map (Figure 7), which shows the project area undeveloped. The predecessors to this airport, a landing strip and the privately-operated Schuster Field, are shown east of the Ontonagon River. The airport, built in the late 1950s, does not appear on any other maps apart from the modern topographic map (Figure 2). Historical aerial photographs available online (NETR 2019) date back to 1938 and 1943, when the project area was mostly within an agricultural field and the airport area was completely wooded. There is a 40-year gap in coverage provided by the website. The 1983 photograph shows the airport, with only a few of the buildings present that are there today. Additionally, the area north of the

airport (including the project area) has been completely cleared, and there are indications of soil borrowing activity and a subsurface utility line running along the north edge of the project area. In 1992, this area was still largely clear, but with vegetation growing back, and the modern airport administration building is visible. A drainage is clearly visible in the area north of the landing strip. The 1999 photograph shows few changes, with some of the current airport buildings showing up for the first time. By 2005, current conditions had been attained.

Ontonagon County had a landing strip for aircraft as early as 1927. This strip was condemned in 1946, and a privately-owned airfield opened in 1947 to replace. Named Schuster Field after a local WWII airman who was killed during a training exercise in Australia, this facility was started by attorney Lawrence Walsh, who wanted to start a flying school (*Ironwood Daily Globe* 1947). Both of these airfields were located east of the Ontonagon River and east-southeast of the village of Ontonagon. Neither field exists today. The 1927 field is under the Ontonagon High School, while the original Schuster Field was where the water treatment plant is today. Studies to assess the need for an airport capable of providing commercial service for the county began in the mid-1950s (*Ironwood Daily Globe* 1956). The Federal Aviation Administration approved the construction of a small airport west of Ontonagon in 1959, and construction was completed in 1962 on the new airfield (*Ironwood Daily Globe* 1959; *Escanaba Daily Press* 1962). Improvements to the airport were completed in 1969, with the lengthening of the landing strip to 3,500 and widening to 75 feet. Grading occurred at the north and south ends of the strip (*Ironwood Daily Globe* 1969). Further improvements over the years largely consisted of upgrading administration and hanger facilities, as observable in aerial photography. When the original Schuster Field was abandoned in the late 1970s (Johanson 1984), that appellation was transferred to the Ontonagon County Airport, and a commemorative plaque detailing the life of Julian Schuster is present outside the airport office building today.

## 5.3 RESEARCH QUESTIONS 1 AND 2 DISCUSSION

The first two research questions address the relationship of previous surveys and previously recorded sites/resources to the proposed project and the likelihood of encountering previously recorded cultural resources within the proposed project. These questions can be answered using the information collected from the literature review and application of the environmental and cultural contexts to the specific ecological history of the project location.

1. *Has the project been subjected to previous cultural resources investigations, and are there any previously recorded resources located within or immediately adjacent to the project?*

   The literature review indicates that the project area has never been surveyed for cultural resources and there are no previously recorded resources within or adjacent to the project location.

2. *What is the likelihood of identifying previously unrecorded cultural resources within the project?*

The likelihood to encounter previously unidentified cultural resources seems low, based on the land use history. The project area is located between two streams and is close to Lake Superior, but is located in an area with poorly drained soils. Prehistoric use of the area therefore may have included resource acquisition forays that may have left limited evidence of use, such as low-density lithic scatters from expedient tool maintenance and use, but occupational sites are not likely to be present due to the poor drainage. Historically, the project area was part of a farm complex, but only occupied the very back end of the agricultural field, with no buildings or structures present. More recently, aerial photography suggests disturbance from soil borrowing and a utility corridor, which may have resulted in large portions of the original land surface being removed or severely disturbed.

# 6.0 METHODS

## 6.1 ARCHAEOLOGICAL FIELD METHODS

The field crew used two methods of investigation during the archaeological survey: visual inspection and subsurface excavation.

### 6.1.1 VISUAL INSPECTION

The crew visually inspected the entire surveyed area to identify readily apparent cultural resources, such as mounds, earthworks, buildings, or structural remnants of such. The crew also documented areas of disturbance, steep slope, and any inundated areas (i.e. wetlands, streams, ponds, etc.), which would preclude physical testing.

### 6.1.2 SUBSURFACE EXCAVATION

Shovel probe excavation took place in areas with suspect disturbance activity. The shovel probes measured 30 cm on a side and were excavated to a depth that allowed for an accurate depiction of the disturbed nature of the area (usually 15-20 cmbs). The crew excavated probes at 15 m and 30 m intervals depending on the severity and readily identifiable nature of the disturbance. The crew visually inspected and troweled through soil in shovel probes, but did not systematically screen for artifacts. If a crew member found the soils in a shovel probe to be relatively intact, the crew member excavated a full shovel test unit instead.

Systematic STU excavation took place in areas with less than 15 degrees of slope and poor ground surface visibility (less than 50 percent) that had not previously been subjected to standardized archaeological survey. The crew excavated STUs at 15 m (50 ft) intervals, and each unit measured 50 $cm^2$ (19.7 $in^2$). Crew members troweled the walls and floor of each unit clean to determine the depth of the plow zone and if *in situ* cultural remains were present. The crew screened all soil from each STU through 0.64 cm (0.25 in) hardware cloth to aid in the recovery of any cultural material present. The field director maintained notes on the soil color, texture, depth, and the presence or absence of artifacts for each STU.

The field director recorded additional information such as field conditions, methods of investigation, and site locations. The crew documented all identified cultural resource locations using a Trimble R1 GNSS receiver (sub-meter accuracy) with a GPS enabled iPad operating Esri ArcGIS for data collection. The crew took photographs of the project as deemed appropriate. The field director kept a photolog record of the photographs, keyed to project mapping.

## 6.2 ARTIFACT ANALYSIS METHODS

Artifact analysis is tailored to the specific classes of material recovered during the survey. As the survey did not result in the recovery of archaeological material, this standard report section is omitted from this report.

## 7.0 RESULTS OF THE ARCHAEOLOGICAL SURVEY

The crew conducted fieldwork in late August of 2019. The weather during the survey was cool with scattered rain showers and cloudy to sunny conditions with temperatures ranging from 55 to 72°F). The weather did not hinder the completion of the fieldwork. The crew used subsurface testing and visual inspection to survey the project. The vast majority of the project was located within an overgrown weedy field north of the runway (Photos 1-6), with a small portion within the grassy lawn area within the currently developed airport portion of the project area. No locations precluded subsurface testing through obvious disturbance, although some areas had irregular microtopography suggesting some type of landform alteration. Parts of the project area showed hydric soils with tall wetland-adapted grasses throughout these portions.

## 7.2 SUBSURFACE EXCAVATIONS

A total of 65 STUs and 6 shovel probes were excavated within the project area (Figure 8). A typical STU and shovel probe are shown in Figure 9. Clearly disturbed soils were encountered inside the mowed and maintained grassy verge directly north of the runway, and these locations were excavated as shovel probes. Soils in the STUs generally matched the Belding soil series, although the soils associated with the wetland grasses along the western edge of the project area appear similar to the Cathro series, which is a muck soil that is a minor component occurring in areas mapped as Trap Falls clay loam (USDA NRSC 2019). Some locations within the project area showed evidence of shallow soil borrowing activities, with the STUs showing no remnants of an A horizon. These areas coincided with the locations visually noted as having irregular microtopography. No archaeological material was encountered during subsurface testing of the project area, and no evidence for archaeological features were noted on the surface.

## 7.6 RESEARCH QUESTIONS 3 AND 4 DISCUSSION

After completing analysis of the results of fieldwork, the second two research questions regarding whether the proposed project will affect any cultural resources and if so, are those affected resources listed, eligible, or potentially eligible for the NRHP can be addressed.

3. *Will the proposed project affect any archaeological resources?*

No archaeological resources were identified as a result of the survey.

4. *If archaeological resources will be affected, are any of those affected resources listed, eligible, or require further study for inclusion on the National Register of Historic Places?*

   No archaeological resources were identified as a result of the survey.

## 8.0 SUMMARY AND CONCLUSIONS

Lawhon & Associates, Inc. (L&A) conducted a a Phase I archaeological survey for a proposed runway clearance and grading project at the Ontonagon County Airport in Ontonagon County, Michigan. The literature review did not indicated any previously recorded cultural resources within or adjacent to the project area. L&A archaeologists tested the area through shovel test unit excavation and visual inspection. No archaeological material was encountered in any of the shovel test units. No further archaeological studies are recommended for the project.

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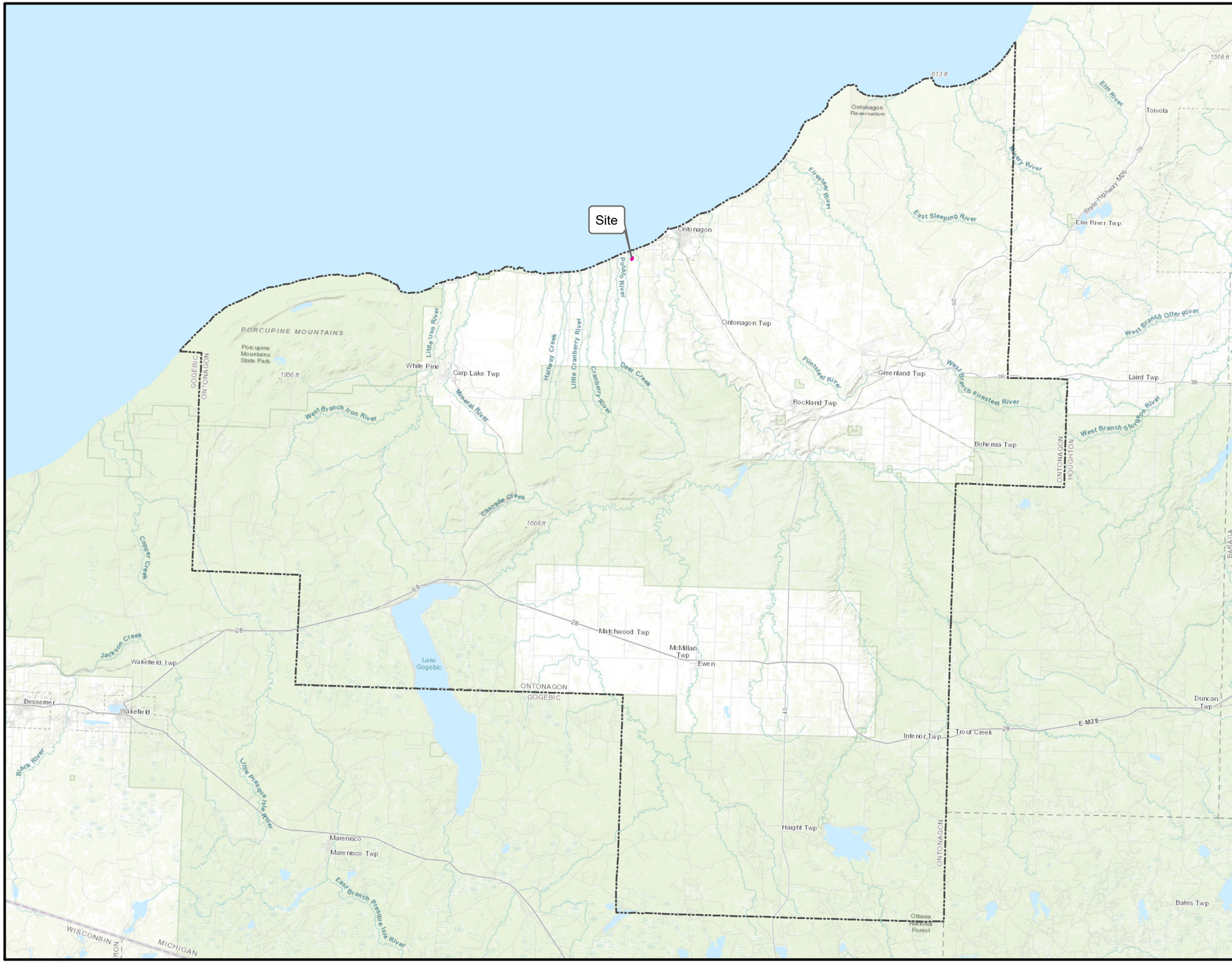
# 10.0 FIGURES





Overview of Michigan

## Legend

- Ontonagon County
- Study Area

N

0 2 4 8 Miles

**Ontonagon Co. Airport**

Ontonagon County Map with an Overview of Michigan

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 1 |

Source: Esri World Topo

File Name: 01-County.mxd Edited: 9/20/2019 By: dwilliams



Site Location Map

**Legend**

Study Area

N

0 500 1,000 2,000 Feet

**Ontonagon Co. Airport**

USGS Topographic Map
Ontonagon South Quad

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 2 |

Source: Esri USA Topo

File Name: 02-Topo.mxd

Edited: 9/20/2019 By: dwilliams



Site Location Map

**Legend**

Study Area

N

0 50 100 200 Feet

**Ontonagon Co. Airport**

Modern Aerial Imagery Map

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 3 |

Source: Esri World Imagery

File Name: 03-Aerial.mxd Edited: 9/20/2019 By: dwilliams



Site Location Map

## Legend

Study Area

**Soil Type**

102A

20B

N

0 50 100 200 Feet

**Ontonagon Co. Airport**

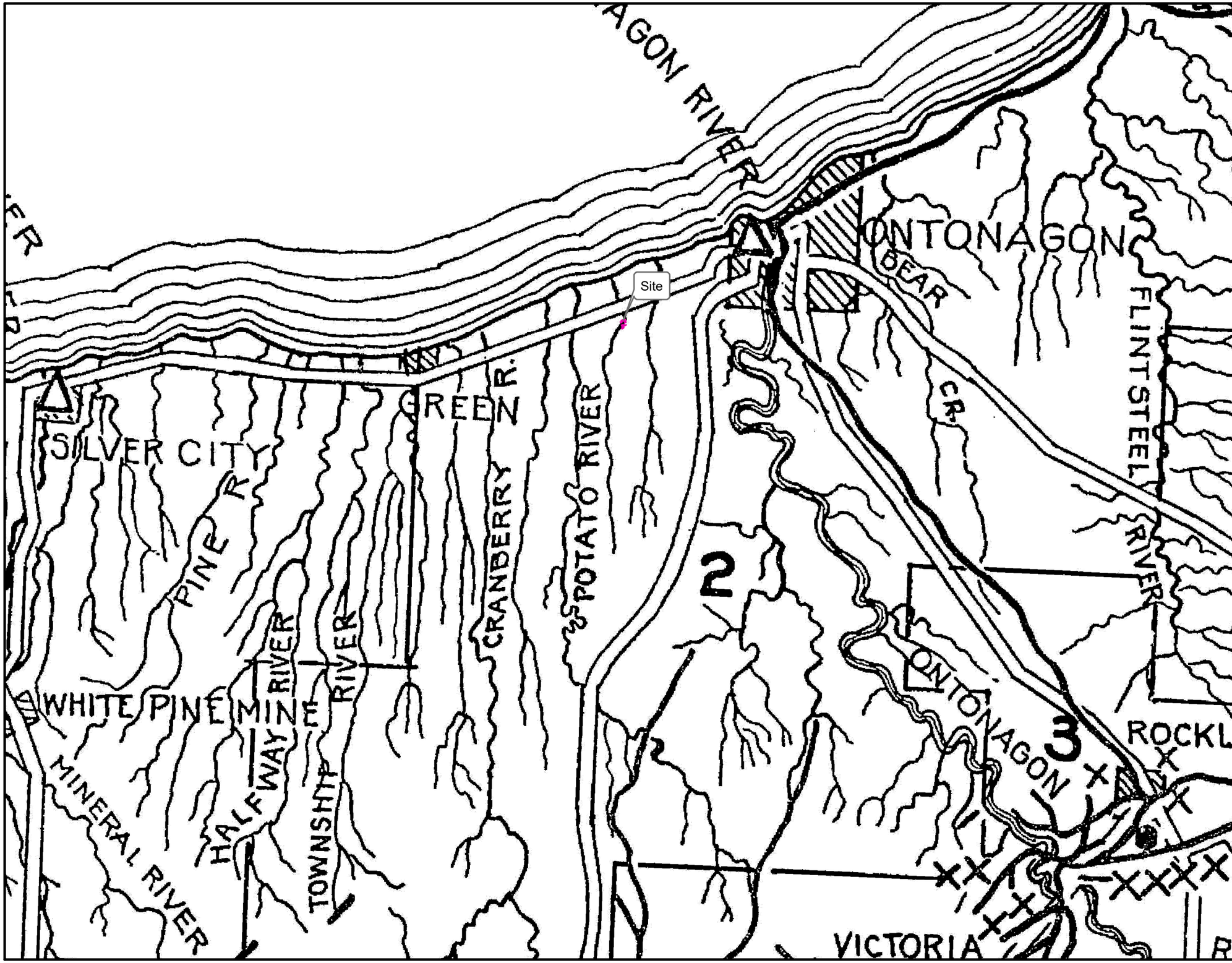
Soils Map

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 4 |

Source: Esri World Imagery

File Name: 04-Soils.mxd Edited: 9/20/2019 By: dwilliams





Site Location Map

**Legend**

Study Area

N

0 0.5 1 2 3 Miles

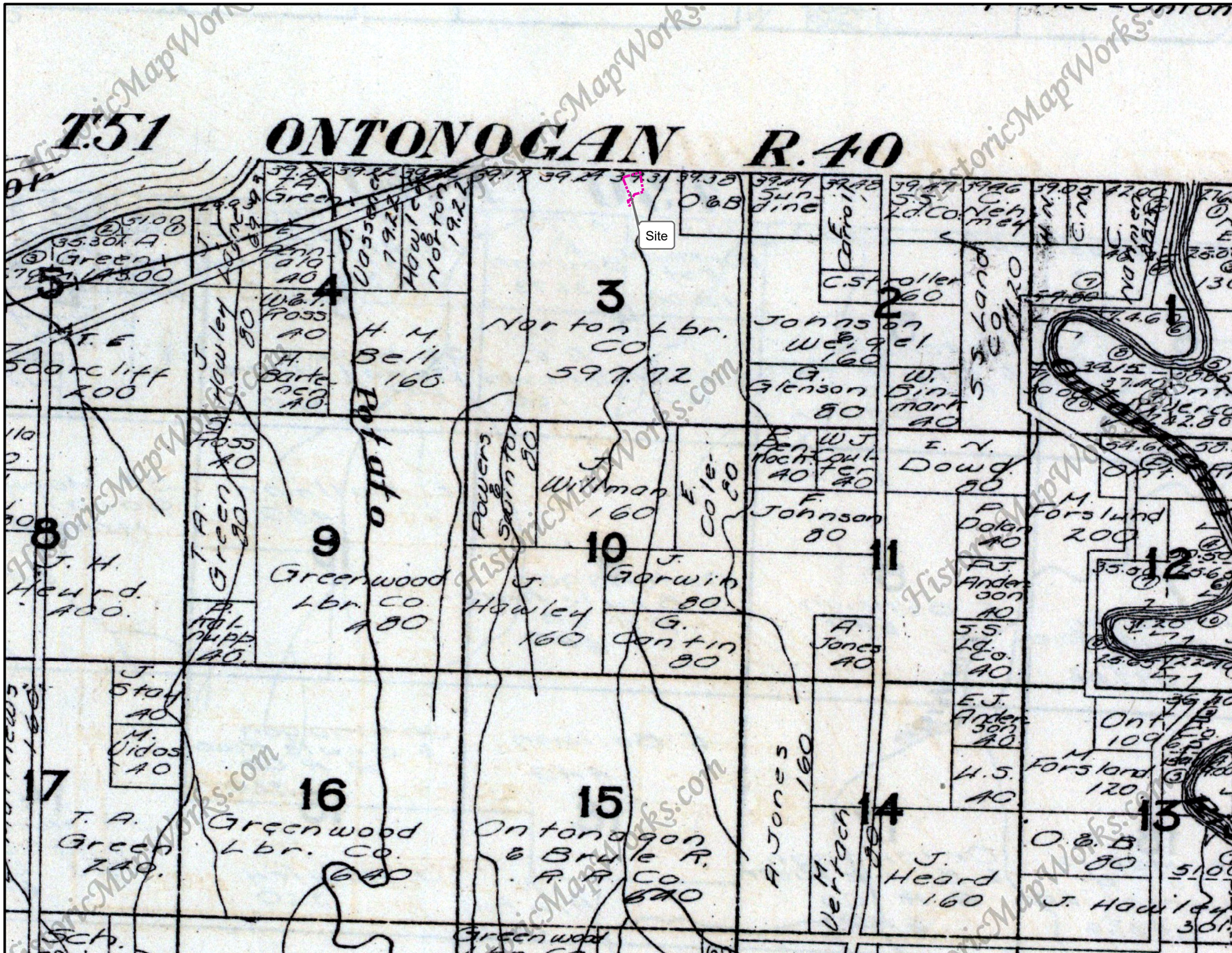
**Ontonagon Co. Airport**

Detail of Ontonagon County Map from Hinsdale 1931

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 5 |

File Name: 05-1931.mxd Edited: 9/20/2019 By: dwilliams





Site Location Map

**Legend**

Study Area

N

0 1,000 2,000 4,000 Feet

**Ontonagon Co. Airport**

1917 Ontonagon County Atlas, Township 51N Range 40W

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 6 |

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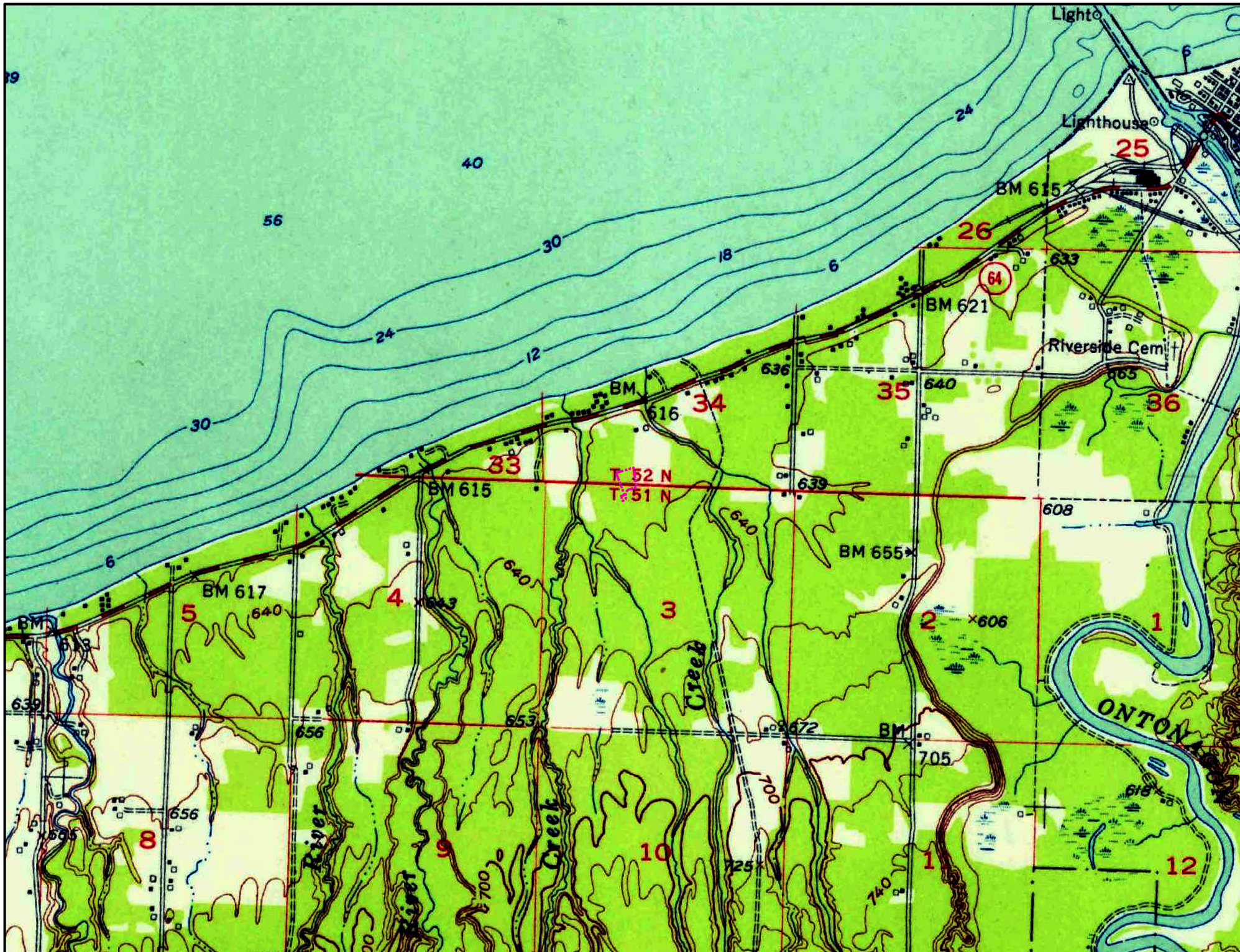



Site Location Map

**Legend**

Study Area

N

0 1,000 2,000 4,000 Feet

**Ontonagon Co. Airport**

1955 Ontonagon, Michigan
7.5' Series Topographic Map

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 7 |

File Name: 07-1955.mxd Edited: 9/20/2019 By: dwilliams



Site Location Map

## Legend

- Study Area
- Datum
- Negative Shovel Test Unit
- Disturbed Shovel Probe
- Photo Location

N

0 50 100 200 Feet

**Ontonagon Co. Airport**

Fieldwork Schematic
with Photo Orietnations

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 8 |

Source: Esri World Imagery

File Name: 08-Fieldwork.mxd Edited: 9/20/2019 By: dwilliams

Typical Shovel Test Unit
N100 W50
Belding Series

0-18 cmbs: 7.5 YR 3/3 sandy loam
18-20 cmbs: 7.5YR 4/4 fine sand

Typical shovel probe showing fill material within  mowed edge north of runway


Site Location Map

**Ontonagon Co. Airport**

Typical Test Unit and
Shovel Probe

Lawhon & Associates, Inc.

| Date: | Approved by: | L&A No. | Figure |
|---|---|---|---|
| Sep 2019 | JZ | 19-0421 | 9 |

File Name: 09-Typical.mxd  Edited: 9/20/2019  By: dwilliams

# 11.0 PHOTOS

Photo 1. Conditions within the APE, facing northwest from southeast corner

Photo 2: Conditions within the APE, facing north from center of APE

Photo 3. Conditions within the APE, facing east from center of APE

Photo 4. Conditions within the APE, facing south from center of APE

Photo 5. Conditions within the APE, facing west from center of APE

Photo 6. Conditions within the southwest corner of the APE, facing southwest

# Attachment: Agency Coordination Information

July 31, 2019

«Contact_Name»
«Title»
«Organization»
«Address»
«City_State_Zip»

Re: Early Coordination Review of Proposed Improvements
Ontonagon County Airport-Schuster Field, Ontonagon, Michigan

Dear «Salutation_line»:

The Ontonagon County Airport – Schuster Field (Airport) is proposing to selectively clear and grub areas around Runway 17/35 to remove potential obstructions in the Runway Protection Zones (RPZs), approach surfaces, and transitional surfaces to create an area that can be easily maintained by the Airport.

Federal Aviation Administration (FAA) regulations require RPZs and approach surfaces be clear of all obstacles. The proposed project is necessary for the Airport to remain in compliance with FAA Order 5190.B, *Airport Compliance Manual*, and is part of the Airport's on-going effort to keep safety areas free of potentially hazardous obstructions.

To address potential obstructions in the RPZ and approach surface located off the end of Runway 17 (north end of Runway 17/35), the Airport proposes to clear and grub approximately four acres of land to create a surface that can be easily maintained and managed by the Airport. Unmaintained vegetation off the end of Runway 17 has the potential to become obstructions soon.

To address potential obstructions associated with the recently implemented FAA "localizer performance with vertical guidance" (LPV) precision approach to Runway 35 (south end of the Runway 17/35), the Airport proposes to clear obstructions identified as possible penetrations to the approach and transitional surfaces. Preliminary investigations indicate there are numerous obstructions to the new LPV approach, primary surface and transitional surface.

The Airport is subject to federal and state environmental review because it is a federally obligated airport and must meet its federal grant assurance requirements. To proceed with the proposed action, an Environmental Assessment (EA) is necessary to define and analyze potential impacts of the proposed action and evaluate any reasonable alternatives. This EA will also be developed to further determine

whether any potential impacts are significant enough to necessitate an Environmental Impact Statement (EIS). During the EA project, investigations will be conducted to identify potential social, economic, and environmental (SEE) impacts related to the improvements being proposed. Any SEE impacts will be documented and considered as required by the National Environmental Policy Act (NEPA).

The Michigan Department of Transportation, Office of Aeronautics (MDOT AERO) acting on behalf of the FAA is the lead agency and as such, the EA will be prepared in accordance with NEPA, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* and FAA Order 5050.4B. *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

It should be noted that MDOT AERO does not necessarily endorse the proposed project, nor have they agreed to a Preferred Alternative. MDOT AERO is requiring the Airport to fully evaluate the Purpose and Need, any prudent and feasible alternatives including the No-Build Alternative and identify associated impacts in order to select a Preferred Alternative.

A summary of the proposed action includes:

- Clearing, grubbing, and grading a 4.4-acre area off the end of Runway 17
- Potential clearing of obstructions associated with the new Runway 35 LPV approach procedure
- Possible impacts to wetland and other water resources including regulated streams

As part of our early agency coordination effort, we are attempting to identify key issues that will be addressed during the NEPA process. To accomplish this, your organization's comments are being requested for the above referenced project as it relates to the following:

- Your specific areas of concern / regulatory jurisdiction
- Specific benefits of the project for your organization or to the public
- Any available technical information / data for the project site
- Potential mitigation / permitting requirements for project implementation

For your convenience, several maps and figures are enclosed that illustrate the site location and approximate project area limits. In order to sufficiently address key project issues and maintain the project schedule, your comments are requested by **September 27, 2019**.

Please send your written or email comments to:

MEAD & HUNT, Inc.
William Ballard, AICP
2605 Port Lansing Road
Lansing, MI 48906
517-321-8334
william.ballard@meadhunt.com

In addition to the early coordination request described above, the Airport and MDOT AERO would like to invite you or a representative from your organization to an onsite scoping meeting on **Wednesday, October 2, 2019 at 12:00 PM (EST)**. The purpose of this meeting is to provide project background information, tour the project area, discuss agency concerns, and solicit comments to assist the Airport and MDOT AERO in developing a comprehensive EA.

The meeting will start in the Airport's terminal building located three miles west of Ontonagon, Michigan on Airport Road off M-64. Due to previous GPS mapping errors, see attached Vicinity Map for the location of the Airport.

If you plan on attending, please call or email your RSVP to William Ballard at the Mead & Hunt contact information listed above by **September 23, 2019**.

Sincerely,

Steve Houtteman
Aeronautics Environmental Specialist
Michigan Department of Transportation

Enclosures

Cc: Lisa Linna, Airport Manager
William Ballard, Mead & Hunt

July 31, 2019

«Contact_Name»
«Title»
«Organization»
«Address»
«City_State_Zip»

Re: Early Coordination Review of Proposed Improvements
Ontonagon County Airport-Schuster Field, Ontonagon, Michigan

Dear Chairperson:

The Ontonagon County Airport – Schuster Field (Airport) is proposing to selectively clear and grub areas around Runway 17/35 to remove potential obstructions in the Runway Protection Zones (RPZs), approach surfaces, and transitional surfaces to create an area that can be easily maintained by the Airport.

To address potential obstructions in the RPZ and approach surface located off the end of Runway 17 (north end of Runway 17/35), the Airport proposes to clear and grub approximately four acres of land to create a surface that can be easily maintained and managed by the Airport. Unmaintained vegetation off the end of Runway 17 has the potential to become obstructions soon.

To address potential obstructions associated with the recently implemented FAA "localizer performance with vertical guidance" (LPV) precision approach to Runway 35 (south end of the Runway 17/35), the Airport proposes to clear obstructions identified as possible penetrations to the approach and transitional surfaces. Preliminary investigations indicate there are numerous obstructions to the new LPV approach, primary surface and transitional surface.

The Airport is subject to federal and state environmental review because it is a federally obligated airport and must meet its federal grant assurance requirements. To proceed with the proposed action, an Environmental Assessment (EA) is necessary to define and analyze potential impacts of the proposed action and evaluate any reasonable alternatives. This EA will also be developed to further determine whether any potential impacts are significant enough to necessitate an Environmental Impact Statement (EIS). During the EA project, investigations will be conducted to identify potential social, economic, and environmental (SEE) impacts related to the improvements being proposed. Any SEE impacts will be documented and considered as required by the National Environmental Policy Act (NEPA).

The Michigan Department of Transportation, Office of Aeronautics (MDOT AERO) acting on behalf of the FAA is the lead agency and as such, the EA will be prepared in accordance with NEPA, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* and FAA Order 5050.4B. *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

It should be noted that MDOT AERO does not necessarily endorse the proposed project, nor have they agreed to a Preferred Alternative. MDOT AERO is requiring the Airport to fully evaluate the Purpose and Need, any prudent and feasible alternatives including the No-Build Alternative and identify associated impacts in order to select a Preferred Alternative.

A summary of the proposed action includes:

- Clearing, grubbing, and grading a 4.4-acre area off the end of Runway 17
- Potential clearing of obstructions associated with the new Runway 35 LPV approach procedure
- Possible impacts to wetland and other water resources including regulated streams

MDOT AERO would be pleased to receive your comments regarding this project, any information you wish to share pertaining to archaeological or historical resources located in the project area, or notification that you would like to become an interested party under Section 106 of the National Historic Preservation Act. In order to sufficiently address key project issues and maintain the project schedule, your comments are requested by **September 27, 2019**.

Your response should be addressed to:

Mr. Steve Houtteman
Michigan Department of Transportation
Office of Aeronautics
2700 Port Lansing Road
Lansing, MI 48906
(616) 299-2654
HouttemanS@michigan.gov

Sincerely,

Steve Houtteman
Aeronautics Environmental Specialist
Michigan Department of Transportation

Enclosures

## Federal Agency Coordination - Master List

| | | | | | | |
|---|---|---|---|---|---|---|
| Mr. Conway | Brian Conway | State Historic Preservation Officer | State Historic Preservation Office, State Housing Development Authority | 735 E. Michigan Avenue, P.O. Box 30044 | Lansing, Michigan 48909 | 517-373-1630 |
| Mr. Gubry | Ernest Gubry | Environmental Protection Specialist | FAA-Detroit ADO | 11677 South Wayne Road, Suite 107 | Romulus, MI 48174 | 734-229-2905 |
| Mr. Duffiney | Tony Duffiney | State Director | USDA - APHIS Wildlife Services | 2803 Jolly Rd., Suite 100, | Okemos, MI 48864 | 517-336-1928 |
| Mr. Watling | Jim Watling | Supervisor | EGLE, Michigan Department of Enviornment, Great Lakes, and Energy | P.O. Box 30458 | Lansing, MI 48909-7958 | 517-599-9002 |
| Mr. Gustafson | John Gustafson | Upper Peninsula Permit Administrator | EGLE, WRD | 1504 W. Washington Street | Marquette, Michigan 49855 | 906-203-9887 |
| Mr. Simon | Charlie Simon | Chief | U.S. Army Corps of Engineers, Detroit District, Regulatory & Permits | 477 Michigan Avenue, Room 603 | Detroit, MI 48226-2550 | 313-226-2218 |
| Mr. Joseph | James K. Joseph | Regional Director | Federal Emergency Management Agency, Region 5 | 536 South Clark Street, 6th Floor | Chicago, Illinois 60605 | 312-408-5500 |
| Ms. Gagliardo | Jean Gagliardo | District Conservationist | USDA, Natural Resource Conservation Service, Portage Service Center | 5950 PORTAGE RD | PORTAGE, MI 49002 | 269-382-5121 ext 3 |
| Mr. Hicks | Scott Hicks | Field Office Supervisor | US Fish and Wildlife - Michigan Field Office | 2651 Coolidge Road, Suite 101 | East Lansing, Michigan 48823 | 517-351-6274 |
| Mr. Westlake | Kenneth Westlake | Chief | EPA Region 5 , NEPA Implementation Section | 77 West Jackson Boulevard | Chicago, Illinois 60604 | |
| Mr. O'Neill | William O'Neill | Natural Resources Deputy | Michigan Department of Natural Resources, Executive Division | P.O. Box 30028 | Lansing, MI 48909 | 517-284-5810 |

## Local & Political Coordination - Master List

| | | | | | | |
|---|---|---|---|---|---|---|
| Mr. Nykanen | Carl Nykanen | Chairman | Ontonagon County Commission Board | 725 Greenland Rd. | Ontonagon, MI 49953 | |
| Ms. Preiss | Stacy Preiss | County Clerk | Ontonagon County Clerk & Register of Deeds | 725 Greenland Rd. | Ontonagon, MI 49953 | |
| Mr. Bourdeau | Richard Bourdeau | Airport Committee Member | Ontonagon Airport Board | 725 Greenland Rd. | Ontonagon, MI 49953 | |
| Mr. Cane | John Cane | Airport Committee Member | Ontonagon Airport Board | 725 Greenland Rd. | Ontonagon, MI 49953 | |

## Native American Coordination - Master List

| Salutation line | Contact Name | Title | Organization | Address | City, State, Zip | Phone |
|---|---|---|---|---|---|---|
| Chairperson | | | Bay Mills Indian Community of Michigan | 12140 West Lakeshore Drive | Brimley, MI 49715 | |
| Chairperson | | | Grand Traverse Band of Ottawa and Chippewa Indians of Michigan | 2605 NW Bayshore Drive | Suttons Bay, MI 49682 | |
| Chairperson | | | Hannahville Indian Community of Michigan | N14911 Hannahville B1 Road | Wilson, MI 49896-9728 | |
| Chairperson | | | Huron Potawatomi, Inc | 2221 1-1/2 Mile Road | Fulton, MI 49052 | |
| Chairperson | | | Keweenaw Bay Indian Community of Michigan | Keweenaw Bay Tribal Center, 107 Beartown Road | Baraga, MI 49908 | |
| Chairperson | | | Lac Vieux Desert Band of Lake Superior Chippewa of Michigan | N4698 US 45 | Watersmeet, MI 49969 | |
| Chairperson | | | Little River Band of Ottawa Indians | 2608 Government Center Drive | Manistee, MI 49660 | |
| Chairperson | | | Little Traverse Bay Bands of Odawa Indians | 7500 Odawa Circle | Harbor Springs, MI 49740-9692 | |
| Chairperson | | | Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians | 2872 Mission Dr. | Shelbyville, MI 49344 | |
| Chairperson | | | Pokagon Band of Potawatomi Indians of Michigan | 58620 Sink Rd | Dowagiac, MI 49047 | |
| Chairperson | | | Saginaw Chippewa Indian Tribe of Michigan | 7070 East Broadway | Mt. Pleasant, MI 48858 | |
| Chairperson | | | Sault-Ste. Marie Tribe of Chippewa Indians of Michigan | 523 Ashman Street | Sault Ste. Marie, MI 49783 | |
| Chairperson | | | Burt Lake Band of Ottawa and Chippewa Indians | 6461 Brutus Road, Box 206 | Brutus, MI 49716 | |
| Chairperson | Fred Jacko, Jr. | Culture Department Manager | Nottawaseppi Huron Band of Potawatomi | 1485 Mno-Bmadzewen Way | Fulton, MI 49052 | 269.704.8307 |
| Chairperson | | | Grand River Band of Ottawa Indians | 1316 Front Ave NW | Grand Rapids, MI 49504 | |