

**ADDENDUM NUMBER #1**

| <u>PROJECT</u>   | <u>BIDS DUE</u>   |
|--|---|
| Charter Township of Garfield<br>Grand Traverse Commons Natural Area<br>North Loop Trail<br>GFA Project No: 24069 | Date: May 20, 2026<br>Time: 9:15 AM<br>Location: Charter Township of Garfield<br>3848 Veterans Drive<br>Traverse City, MI 49684 |

The Addendum is issued prior to the receipt of bid proposals to amend the Contract Documents as follows. Bidders shall acknowledge receipt of this addendum by means of acknowledging on Page 1 of the Bid Form (EJCDC C-410).

CLARIFICATIONS

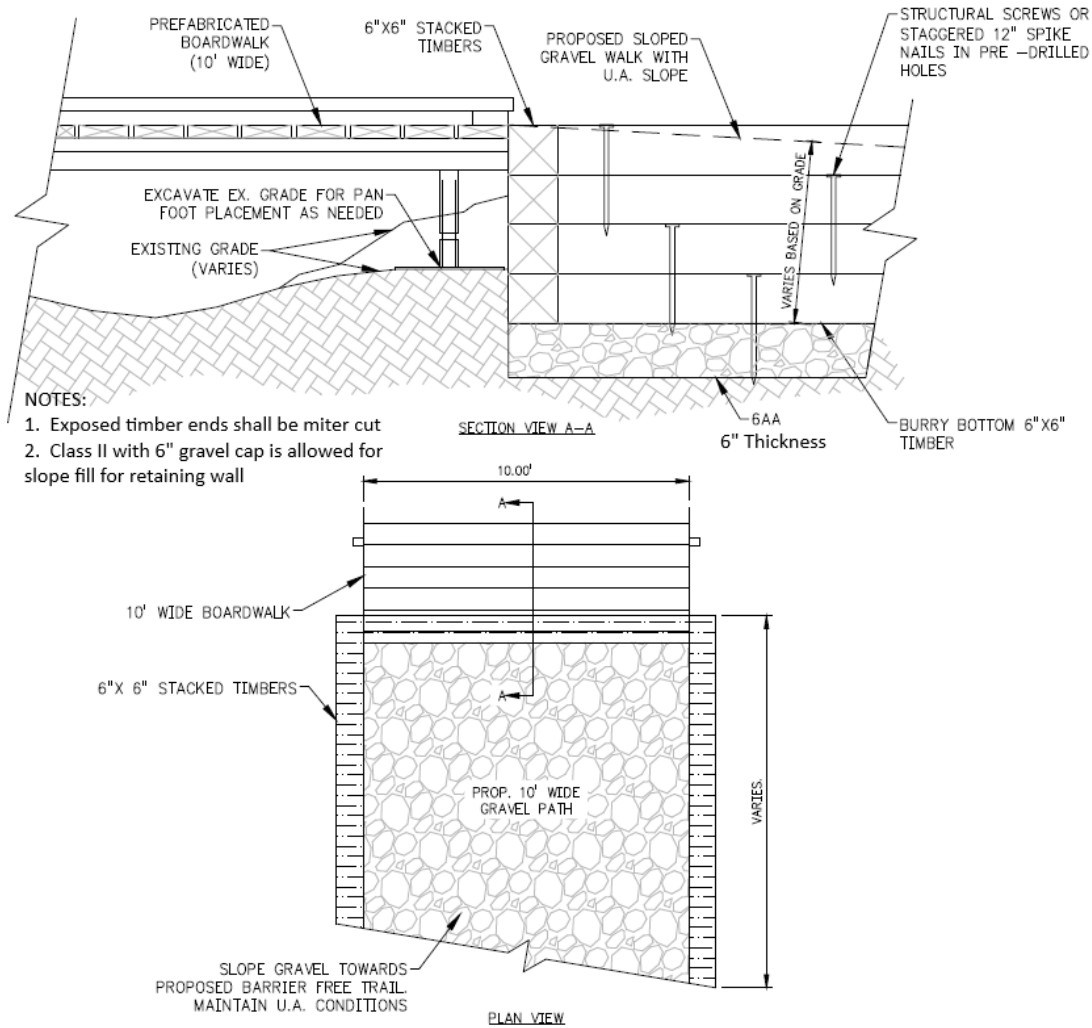
1. Substitutions and/or Equals: As identified in Section 10.01 of EJCDC C-200, Instructions to Bidders, contractor shall provide bids based upon equipment and materials specified in the bid documents. Considerations for approved equals and/or alternatives do not require preapproval during bidding process and will be evaluated after bid award, if applicable.
2. This project is funded in part through a State of Michigan Department of Natural Resources Grant. State and federal wage rate requirements - Federal Davis-Bacon Wage Rates- Compliance with the federal Davis-Bacon Act (40 USC 276a to 276a-7) is NOT required for this project.
3. Site and Public Access – The plans denote locations of the public trail network and areas identified for closure. The site is a public park and segments of the trail not affected will remain open and accessible by the general public. The contractor is responsible to provide adequate identification and barricades to protect public safety and the limits of the project with these costs included in the cost of the project. In addition, the contractor shall coordinate both with the Owner and Engineer for mobilization, staging and points of ingress / egress.
4. Clearing and Grubbing- Contractor may be permitted to chip / mulch smaller trees and shrubs onsite and place along the trail path as coordinated with the Engineer and Owner. IN addition, contractor may dispose of unsuitable materials encountered related to construction of the trail onsite in areas as coordinated with Engineer and Owner. This applies only to material not regulated under the EGLE LWMD permit or that is contaminated. Costs to be included with cost of the project.
5. Costs for construction staking, testing and field inspection are to be provided by the Owner utilizing Gourdie Fraser.

## SPECIFICATIONS

1. Specification 01151- Hazardous Conditions shall be incorporated into the bid documents. A portion of the parcel was used as a landfill until the 1980s. An Environmental Phase I was completed in 2021 and also included as part of the bid documents and attached to this Addendum. In event contractor encounters contaminated soil conditions, contractor shall be responsible for removal and proper disposal to a licensed landfill with costs to be included in the cost of the project. This is in addition to material handling and disposal that is outlined in the EGLE LWMD permit.
2. Specification 323420 – Prefabricated Steel Pedestrian Bridge shall be stricken and replaced with the updated and attached specification
3. Specification 01270- Measurement and Payment shall be stricken and replaced with the updated and attached specification

**DRAWINGS**

1. Detail 5 on Sheet 11 shall be stricken and replaced with the attached updated detail.



**5**  
**11**

**TIMBER RETAINING WALL TRANSITION**

NO SCALE

Addendum No. 1 becomes part of the Contract Documents as of this date and supersedes the information in the originally issued Contract Documents where applicable. The Contractor shall acknowledge receipt of the Addendum in the Bid Schedule included with his/her bid.

## SECTION 01151 – HAZARDOUS MATERIAL HANDLING PLAN

Supplemental Condition for Section 5.06 - Michigan Law pertaining to Hazardous Environmental Conditions

Appendix I, Part 115, Public Act 451 of 1994 Rules 129 and 130

R 299.4129 Storage of solid waste in uncontained waste piles. Rule 129.

- 1.00 Except as provided in subrule (2.00) of this rule, the storage of waste in a pile that is not “contained in accordance with R 299.4130 constitutes disposal and requires a permit or license under the act. A waste pile that is required to have a permit or license under the act shall be in compliance with the hydrogeological report, groundwater monitoring, and groundwater performance standards which are applicable to Type III landfills and which are specified in Part 3 of these rules.
- 2.00 The storage of the following waste in piles before reuse or disposal does not require a permit or license under the act and these rules if the conditions specified in subrule (3) of this rule are met:
  - A. Low-hazard industrial waste that is separated and stored before being returned to the original process from which the waste was generated or was being used or reused as ingredients in an industrial process to make a product, unless the materials are being stored in a manner which constitutes speculative accumulation.
  - B. Low-hazard industrial waste that is stored in a waste pile which was in existence on October 8, 1993, if the pile does not expand horizontally.
  - C. Low-hazard industrial waste that is stored for less than 60 days before being transported for disposal.
  - D. Construction and demolition waste that is stored at the site of generation for less than one year before being transported for disposal.
- 3.00 Owners and operators of waste piles that are specified in subrule (2.00) of this rule shall ensure that the unit is not in violation of Part 31 or Part 55 of the act, does not create a nuisance, and does not result in environmental contamination after closure.

R 299.4130 Storage of solid waste in contained waste piles. Rule 130.

- 1.00 The storage of solid waste in a pile shall not constitute disposal if the pile has a containment system that is designed, installed, and operated to prevent any migration of accumulated liquids out of the system to the soil, groundwater, or surface water at any time during the use of the system. To prevent the migration of liquids, the system shall be in compliance with the provisions of this rule and have 1 of the following:
  - A. A natural soil barrier which is in compliance with the provisions of R 299.4307(3)(a).
  - B. A liner that is in compliance with the provisions of R 299.4307(4).
  - C. A vault or pad that is in compliance with the provisions of subrule (5) of this rule.
- 1.01 Waste pile containment systems shall be constructed of, or lined with, materials that are compatible with the waste to be placed in the system and shall have sufficient strength and thickness to prevent failure due to all of the following:
  - A. Pressure gradients, including static head and external hydrological forces.
  - B. Physical contact with the waste to which the materials are exposed.
  - C. Climatic conditions.

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1. The stress of daily operation, including stresses from nearby vehicular traffic.
- 1.02 Waste pile containment systems shall be placed on a foundation or base which is capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and which is capable of preventing structural failure due to settlement, compression, or uplift.
- 1.03 Waste pile containment systems shall be sloped or otherwise designed or operated to drain and remove liquids that result from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within 24 hours.
- 1.04 Vaults or pads that are used for waste pile containment shall be constructed of steel, poured reinforced concrete, precast concrete, solid masonry, or an equivalent material and shall be designed to do all of the following:
  - A. Withstand the full loads to which they will be subjected.
  - B. Have water stops in place at all joints, if any.
  - C. Prevent the migration of the material out of the containment system.
  - D. Prevent migration of moisture into the vault, if the vault is subject to hydraulic pressure.
  - E. Have walls which will prevent runoff and run-on and which are not more than 6 feet in height above interior grade, unless normal access is provided. .
  - F. Have a stable foundation.
- 1.05 The owner and operator of a waste pile shall do all of the following:
  - A. Design, construct, operate, and maintain a run-on control system that is capable of preventing flow onto the pile during peak discharge from not less than a 24 hour, 25-year storm.
  - B. Design, construct, operate, and maintain a runoff management system to collect and control, at a minimum, the water volume resulting from a 24 hour, 25-year storm.
  - C. Manage collection and holding facilities associated with run-on and runoff control systems such that design capacity of the system is maintained.
- 1.06 Waste that is being accumulated speculatively in piles shall be separated from general refuse and other waste.
- 1.07 The owner and operator of a waste pile that could be subject to dispersal by wind shall cover or otherwise manage the pile so wind dispersal is controlled.
- 1.08 The owner and operator of a waste pile shall manage runoff from the pile as leachate in accordance with the provisions of R 299.4308.
- 1.09 At closure, the owner and operator of a waste pile shall remove or decontaminate all of the following in accordance with the act and these rules:
  - A. Waste residues.
  - B. Contaminated liners.
  - C. Subsoils.
  - D. Structures.
  - E. Equipment.

END OF SECTION

Supplemental Condition to General Conditions 4.06 for Hazardous Environmental Conditions

A 2021 Phase I Environmental Assessment was performed for the site on behalf of the Township and is attached.

2021 Phase I Environmental Assessment Figure 3 (pg 46) identifies the landfill site. 1992 Study included soil borings and water sampling of this area, identified in Figure 3 (pg 27).

PART 1 - GENERAL

1.1 Description

- A. Contractor shall continuously evaluate soil and groundwater conditions to determine if contamination is present. Should, on the basis of visual, olfactory, or instrument indications, contaminated soils be encountered these materials must be handled and disposed as per this plan. Contractor shall take necessary action to protect all personnel working in and around the excavation area when contaminated soil is encountered. Contractor shall comply with all applicable regulations including Title 29 CFR 1910 and 1926 and Public Act No. 154 of 1954, Occupational Safety and Health Act, as amended.
- B. Contractor shall provide all labor, materials, equipment and incidentals required to perform removal, staging, and reuse of all soil and demolition debris contaminated with petroleum products.
- C. Soils in the proposed excavation area have not been sampled and analyzed by the Owner/Engineer. One area of concern has been identified where contaminated soils may be encountered. The Contractor shall use care to evaluate soil conditions in this area prior to beginning work.
- D. If necessary, stockpiled contaminated material shall be underlain and covered by plastic. Stockpiling of soil shall be limited as much as possible with no stockpiling of soil overnight or during days when work is not scheduled. Stockpiling overnight or during days when no work is scheduled may be performed, only if extenuating circumstances warrant stockpiling and the Owner's Representative approves of such stockpiling of soil.
- E. Contaminated material is to be replaced in the immediate area from where the material was removed. Contaminated material must not be moved to other areas of the job site and must remain on the parcel of property from which it was removed.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 Removal

- A. Contractor shall perform all removal activities required to complete the Work. Removal shall include, but not be limited to, any petroleum contaminated demolition debris, contaminated soil and weathered stone, as needed to complete the scope of work for the project.
- B. Contractor shall comply with all air quality standards as determined by applicable Federal, State, and local regulations.
- C. Contaminated materials shall be removed and temporarily stockpiled on the parcel where the soil was excavated from and stored in a weatherproof manner.

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- D. The Contractor shall ensure the weatherproofing of contaminated material accumulated using plastic sheeting, as approved by Owner's Representative. The weatherproofing shall be in accordance with Part 115, Rules 129 and 130 of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. Parts 129 and 130.

3.2 General Handling

- A. All loading and transportation of contaminated materials shall comply with all applicable Federal, State, and local laws and regulations.
- B. Contractor shall furnish all labor, materials, equipment, and incidentals required to excavate, stockpile and reuse contaminated materials from the site.
- C. Contractor shall perform handling activities to minimize the formation of dust.

END OF SECTION

# > Phase I Environmental Site Assessment

## of the Grand Traverse Commons Natural Area Garfield Township, Michigan

July 30, 2021  
ECT No. 210334-0100

for  
Charter Township of Garfield and  
Grand Traverse County Brownfield Redevelopment Authority  
Traverse City, Michigan

***ECT***

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Traverse City, MI 49684  
[www.ectinc.com](http://www.ectinc.com)

## Document Review

The dual signatory process is an integral part of Environmental Consulting & Technology, Inc.'s (ECT's) Document Review Policy No. 9.03. All ECT documents undergo technical/peer review prior to dispatching these documents to any outside entity.

The environmental assessment described herein was conducted by the undersigned employees of ECT. ECT's investigation consisted solely of the activities described in the Introduction of this report, and in accordance with the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment, as applicable.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professionals as defined in §312.10 of 40 C.F.R. 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.


This document has been authored and reviewed by the following employees:

\_\_\_\_\_  
Brian Baumann  
Author

\_\_\_\_\_  
  
Signature

\_\_\_\_\_  
July 29, 2021  
Date

\_\_\_\_\_  
Dirk Mammen  
Peer Review

\_\_\_\_\_  
  
Signature

\_\_\_\_\_  
July 30, 2021  
Date

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## List of Acronyms and Abbreviations

|        |   |
|--------|---|
| AAI    | All Appropriate Inquiry   |
| AST    | Aboveground Storage Tank  |
| ASTM   | American Society for Testing and Materials                            |
| AUL    | Activity Use Limitations  |
| BEA    | Baseline Environmental Assessment                                     |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CREC   | Controlled Recognized Environmental Condition                         |
| ECT    | Environmental Consulting & Technology, Inc.                           |
| EDR    | Environmental Data Resources, Inc.                                    |
| EGLE   | Michigan Department of Environment, Great Lakes, and Energy           |
| EPA    | Environmental Protection Agency                                       |
| ESA    | Environmental Site Assessment   |
| HREC   | Historical Recognized Environmental Condition                         |
| LUST   | Leaking Underground Storage Tank                                      |
| NREPA  | Natural Resources Environmental Protection Act                        |
| PCB    | Polychlorinated Biphenyls   |
| RCRA   | Resource Conservation and Recovery Act                                |
| REC    | Recognized Environmental Condition                                    |
| SEMS   | Superfund Enterprise Management System                                |
| SWF/LF | Solid Waste Facilities/Landfill                                       |
| TSD    | Treatment, Storage or Disposal  |
| USGS   | United States Geological Survey                                       |
| UST    | Underground Storage Tank  |

## 1.0 Summary

Environmental Consulting & Technology, Inc. (ECT) was retained by the Charter Township of Garfield and the Grand Traverse County Brownfield Redevelopment Authority (the Client) to perform a Phase I Environmental Site Assessment (ESA) of the Grand Traverse Commons Natural Area, located to the west of the Grand Traverse Commons Complex west of Traverse City, in Garfield Township, Grand Traverse County, Michigan (herein referred to as the Subject Property). Comprised of three parcels and containing approximately 183.1 acres of land, the Subject Property is situated along the southeast side of North Long Lake Road, approximately one quarter of a mile north of Silver Lake Road, and immediately west of Red Drive. The Site Location Map is provided as **Figure 1**.

The Subject Property is currently undeveloped and contains an extensive network of hiking and cross-country skiing trails. Based on a review of historical records, the Subject Property has been largely undeveloped since the 1930's with past uses including farmland and one roadway (1930's-1970's), sand/gravel pit operations (1950's-1980's), radio towers (1980's-2000's), and a landfill (1930's-1980's). The surrounding area of the Subject Property is comprised of a mixture of commercial and residential development. The Site and Surrounding Properties Map is provided as **Figure 2**.

The purpose of this assessment was to identify potential adverse environmental conditions associated with the Subject Property, which include any Recognized Environmental Conditions (RECs), Historical Recognized Environmental Conditions (HRECs) or Controlled Recognized Environmental Conditions (CRECs) that may exist or have existed on the Subject Property. The research attempted to identify conditions indicative of an existing release, past release, or a material threat of a release of any hazardous substances or petroleum products. RECs, HRECs and CRECs do not include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

ECT has performed this Phase I ESA in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Standard E 1527-13 of the Subject Property. This assessment has revealed evidence of one REC, no HRECs, and no CRECs associated with the Subject Property. Below is a summary of the identified REC:

- An area comprised of approximately 3.13 acres on the central portion of the Subject Property was formerly used as a landfill associated with the adjacent state hospital facility as early as the 1930's through the early 1980's. The Approximate Former Landfill Boundary is represented as **Figure 3**. At the time of the site visit, ECT observed debris fill, trash and waste fill, and metal scrap including a rusted drum of unknown former content at this area. In 1992, three soil samples were collected from the landfill area and four surface water samples were collected from the adjacent stream with one upgradient surface water sample also collected. The soil borings indicated that the fill material mostly consisted of incinerator ash. The samples were analyzed for the Michigan ten metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), halocarbons (soil samples only), and aromatics (soil samples only). Arsenic, selenium, lead, and zinc were detected in the soil samples at concentrations that exceed the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Part 201 groundwater surface water interface protection criteria and the statewide default background levels. Therefore, the Subject Property is considered a "Facility" as defined by the Natural Resources Environmental Protection Act (NREPA). Detectable concentrations of arsenic, barium, cadmium, lead, selenium, and zinc were noted in various surface water samples. The concentration of arsenic in one surface water sample was approximately four times greater than the concentration detected in the background sample.

Based on the findings with reference to various due care obligations, ECT recommends avoiding the landfill area with respect to future development or improvements in an effort to eliminate any potential exposure risks. Should any future property transfers occur, ECT recommends the completion of the Baseline Environmental Assessment (BEA) process for liability protections.

## 2.0 Introduction

At the request of the Client, ECT has conducted a Phase I ESA of the Subject Property, representing the Grand Traverse Commons Natural Area, located to the west of the Grand Traverse Commons Complex west of Traverse City, in Garfield Township, Grand Traverse County, Michigan. The Site Location Map is provided as **Figure 1**. The area subject to this Phase I ESA is comprised of three parcels and contains approximately 183.1 acres of land. The Subject Property is undeveloped and contains an extensive network of hiking and cross-country skiing trails.

The purpose of ASTM Practice E 1527-13 is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of commercial real estate properties with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA; 42 U.S.C. §9601) and petroleum products. The goal of the processes established by ASTM Practice E 1527-13 is to identify RECs and *de minimis* conditions. Any exceptions to, or deletions from, this practice are described in Section 9.0 of this report.

The objective of Phase I ESAs is to provide all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35) (B) to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (a.k.a., landowner liability protections). The goal of Phase I ESAs is to identify current, historical, and controlled RECs and *de minimis* conditions in connection with the property, to the extent feasible pursuant to the processes prescribed in the ASTM E 1527-13 guidelines. The terms current, historical, and controlled RECs and *de minimis* conditions are defined by ASTM in the following paragraphs.

A REC is the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term includes hazardous substances or petroleum products even under conditions in compliance with laws.

A historical REC is a past release of any hazardous substances or petroleum products that has occurred in connection with the Subject Property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the Subject Property to any required controls.

A controlled REC is a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

A *de minimis* condition is a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* conditions are not current, historical, or controlled RECs.

## **2.1 Detailed Scope of Services**

The Phase I ESA conducted by ECT included, but was not limited to, the following services:

- A site visit of the Subject Property to look for evidence of a release(s) or potential release of petroleum products and hazardous materials;
- Observations of adjacent properties and the vicinity of the Subject Property;
- Interviews with individuals familiar with the Subject Property, as available;
- Review of regulatory agency and local files, as necessary;
- Review of historical documents, as available; and,
- Preparation of a report presenting ECT's findings, including a summary of conclusions and recommendations.

## **2.2 Significant Assumptions**

ECT assumes that the information provided by the regulatory database electronic search report provider, the regulatory agencies, the local unit of government, and the current Subject Property owner is true and reliable.

### **2.3 Limitations and Exceptions**

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ECT and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, expressed or implied, is intended or given. To the extent that ECT relied upon any information prepared by other parties not under contract to ECT, ECT makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

The findings presented in this report apply solely to site conditions existing at the time when ECT's assessment was performed. It must be recognized, however, that an ESA is intended for the purpose of determining the potential for contamination through limited research and investigative activities and in no way represents a conclusive or complete site characterization. Conditions in other parts of the Subject Property may vary from those at the locations where data were collected. ECT's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100 percent confidence in ESA conclusions cannot reasonably be achieved.

ECT, therefore, does not provide any guarantees, certifications, or warranties that a property is free from environmental contamination. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

## **2.4 Special Terms and Conditions**

The scope of work for this Phase I ESA did not include testing of electrical equipment for the potential presence of polychlorinated biphenyls (PCBs), lead based paint, or the assessment of natural hazards such as naturally-occurring asbestos, radon, or methane gas, assessment of the potential presence of radionuclides, or assessment of non-chemical hazards such as the potential for damage from earthquakes or floods. This Phase I ESA also did not include an extensive assessment of the environmental compliance status of the Subject Property or of the businesses that have operated on-site, or a health-based risk assessment.

## **2.5 User Reliance**

This Phase I ESA was conducted for the use of and reliance by the Client and their assignees and may be relied upon by these parties only. No use of the information contained in this report by others is permissible without receiving prior written authorization to do so from ECT. ECT is not responsible for independent conclusions, opinions, or recommendations made by others or otherwise based on the findings presented in this report.

## 3.0 Subject Property Description

### 3.1 Location and Legal Description

The Subject Property is situated along the southeast side of North Long Lake Road, approximately one quarter of a mile north of Silver Lake Road, and immediately west of Red Drive. Comprised of three parcels, the Subject Property contains approximately 183.1 acres of land. The Subject Property is located in Sections 8 and 9, Township 27 North, Range 11 West in Grand Traverse County, Michigan. Provided by the Grand Traverse County online property records, the legal description for the Subject Property is below:

Parcel #05-009-005-10:

COM AT W 1/4 COR SEC 9 T27N R11W TH N 00 DEG 54'19" E 962.96' TH N 0 DEG 54'26" E 300' TO CTR LI N LONG LK RD TH N 65 DEG 53'9" E 270.53' TH 680.92' ALG CRV LEFT (R=1145.92' D=34 DEG 02'46" CHD=N48 DEG 51'45" W, 670.95') TH CONT ALG SD CTR LI N 30 DEG 13'39" E 196.65' TO N LI SEC 9 TH N 89 DEG 10'34" E 756.6' TH N 88 DEG 50'42" E 62.22' TJ S 0 DEG 2'38" E 1030.6' TH N 89 DEG 59'55" E 675.01' TH S 113.8' TH S 57 DEG 24'47" E 148.66' TH S 34 DEG 33'44" W 606.63' TH N 88 DEG 53'43" W 70' TH S 01 DEG 05'58" W 197.04' TH S 88 DEG 54'23" E 210.47' TH S 36 DEG 46'34" E 43.15' TH S 1 DEG 26'2" E 687.03' TH S 68 DEG 11'47" W 1816.48' TH S 89 DEG 36'42" W 659.34' TH N 00 DEG 49'10" E TO POB, EXC RD ROWS. CONT 139.09 AC +/- SPLIT/COMBINED ON 01/30/2014 FROM 05-009-004-00, 05-009-005-00, 05-360-020-00; (ERROR IN DESCR CORRECTED 9/29/14)

Parcel #05-008-049-00:

NE 1/4 SE 1/4 SEC 8 T27N R11W

Parcel #05-008-045-00:

PRT SE 1/4 SEC 8 & SW 1/4 SEC 9 COM SE COR SEC 8 TH N 0 DEG 7' W 1314.33' TO POB TH N 88 DEG 42' E 659.34' TH S 0 DEG 8' E 151.99' TH N 89 DEG 24' W 118.95' TH S 52 DEG 11' W 336.15' TH N 67 DEG 28' W 210.25' TH N 55 DEG 3' W 444.63' TH N 88 DEG 41' E 283.66' TO POB CONTAINS 4.38 ACRES  
T27N R11W

The Parcel Records are included as **Appendix A**. Parcel #05-008-049-00 is currently addressed as 4145 North Long Lake Road, Traverse City, Michigan. The remaining two parcels do not have an assigned address.

### **3.2 Vicinity General Characteristics**

The Subject Property is located just west of Traverse City. The surrounding area of the Subject Property is comprised of a mixture of commercial and residential development. Commercial businesses in the surrounding area include various retail stores, restaurants, and office spaces in addition to multiuse Grand Traverse Commons complex. The Site and Surrounding Properties Map is provided in **Figure 2**.

Additionally, Kids Creek is located approximately one quarter of a mile to the east of the Subject Property, with smaller tributaries transecting the Subject Property. Boardman Lake is located approximately one and one half miles to the east of the Subject Property, and West Grand Traverse Bay of Lake Michigan is located approximately one mile to the northeast of the Subject Property.

### **3.3 Current Use of the Subject Property**

The Subject Property is currently undeveloped and contains an extensive network of hiking and cross-country skiing trails.

### **3.4 Previous Investigations**

ECT was provided with a limited study of the Subject Property, prepared by Snell Environmental Group, Inc., and dated July 1992. The study was primarily concerned with the known landfill area of the Subject Property. The study noted that the landfill contained construction or demolition rubble, numerous rusted metal debris piles, and a locked underground storage tank (UST). Three soil samples were collected from three soil borings within the landfill boundary and four surface water samples were collected from the adjacent stream with one upgradient surface water sample also collected. The soil borings indicated that the fill material mostly consisted of incinerator ash. The samples were analyzed for the Michigan ten metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), halocarbons (soil samples only), and aromatics (soil samples only). Arsenic, selenium, lead, and zinc were detected in the soil samples at concentrations that exceed the EGLE Part 201 groundwater surface water interface protection criteria and the statewide default

background levels. Therefore, the Subject Property is considered a "Facility" as defined by the NREPA. Detectable concentrations of arsenic, barium, cadmium, lead, selenium, and zinc were noted in various surface water samples. The concentration of arsenic in one surface water sample was approximately four times greater than the concentration detected in the background sample.

### **3.5 Descriptions of Structures, Roads, and Other Improvements**

#### **3.5.1 General Descriptions of Structures**

The Subject Property contains no structures.

#### **3.5.2 Roads**

The Subject Property can be accessed by North Long Lake Road from the northwest and Red Drive from the east. Formerly, Brown Road transected the Subject Property from northwest to southeast.

#### **3.5.3 Potable Water Supply**

Potable water is not currently supplied at the Subject Property.

#### **3.5.4 Sewage Disposal System**

No sewage disposal system currently exists at the Subject Property.

### **3.6 Current Uses of the Adjoining Properties**

The Subject Property is adjoined by the Grand Traverse Commons Complex to the east. The complex contains a mixture of residential and commercial-use structures. Many structures are also vacant, abandoned, or in the process of redevelopment. To the northeast is the Munson Medical Center Hospital campus. A retail development adjoins the Subject Property to the north along with several residential properties. An office and retail complex (Copper Ridge) adjoins the Subject Property to the south along with additional park land titled the Historic Barns Park. Residential properties adjoin the Subject Property to the west and southwest.

## 4.0 User Provided Information

This section identifies information provided by the user Client representative (Mr. John Sych – Planning Director/Charter Township of Garfield).

### 4.1 Title Records

Provided by the Grand Traverse County online property records, the Subject Property is owned by Charter Township of Garfield. The records did not reveal the presence of any environmental property liens.

### 4.2 Environmental Liens or Activity and Use Limitations

The Client representative was asked the following questions as part of the assessment:

- Are you aware of any environmental cleanup liens against the Subject Property that are filed or recorded under federal, tribal, state or local law?
- Are you aware of any activity or land use limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the Subject Property and/or have been filed or recorded in a registry under federal, tribal, state or local law?

The Client representative indicated that he was aware of an activity use limitation on the Subject Property that limits the use of the Subject Property to hiking and cross-country skiing trails.

### 4.3 Specialized Knowledge

The Client representative was asked the following questions as part of the assessment:

- Do you have any specialized knowledge or experience related to the Subject Property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Subject Property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?
- Are you aware of commonly known or reasonably ascertainable information about the Subject Property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:
  - a) Do you know the past uses of the Subject Property?

- b) Do you know of specific chemicals that are present or once were present at the Subject Property?
- c) Do you know of spills or other chemical releases that have taken place at the Subject Property?
- d) Do you know of any environmental cleanups that have taken place at the Subject Property?
- Do you know of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Subject Property?
- Do you know of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Subject Property?
- Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

The Client representative was not aware of any chemical storage, releases, or environmental violations in connection with the Subject Property.

#### **4.4 Commonly Known or Reasonably Ascertainable Information**

The Client representative indicated that he had no knowledge of any environmental response activities to have taken place, and no knowledge of any obvious indicators that point to the presence or likely presence of releases at the Subject Property.

#### **4.5 Valuation Reduction for Environmental Issues**

The Client representative was not aware of any valuation reduction due to environmental issues associated with the Subject Property.

#### **4.6 Owner, Property Manager, Occupant Information**

The Subject Property is currently owned by the Charter Township of Garfield; however, the Subject Property is currently unoccupied.

#### **4.7 Reason for Performing Phase I ESA**

The reason for performing this Phase I ESA is to evaluate the presence/absence of RECs in anticipation of potential property redevelopment/renovation.

## 5.0 Records Review

The following section presents the results of a review of regulatory agency file information and ECT’s historical records review pertaining to the Subject Property, adjoining properties, and surrounding properties.

### 5.1 Standard Environmental Record Sources

Regulatory agency database information was obtained from Environmental Data Resources, Inc., (EDR), which maps and lists properties in federal and state environmental databases with existing conditions or statuses that may have the potential to affect the Subject Property. The EDR Radius Map Report is provided as **Appendix B**. Below is a summary of the databases that were reviewed in accordance with the ASTM E 1527-13 requirements:

| Type    | Regulatory Agency Database   | Approximate Minimum Search Distance | Number of Sites within Approximate Minimum Search Distance |
|---------|--|-------------------------------------|--|
| Federal | National Priority List (NPL)   | 1 mile                              | 0  |
| Federal | Delisted National Priority List (NPL)  | 1 mile                              | 0  |
| Federal | Superfund Enterprise Management System (SEMS) formerly known as Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) | ½ mile                              | 1  |
| Federal | SEMS-ARCHIVE, formerly known as the CERCLIS No Further Remediation Action Planned (NFRAP)  | ½ mile                              | 1  |
| Federal | Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS)  | 1 mile                              | 0  |
| Federal | RCRA non-CORRACTS Treatment, Storage or Disposal (TSD)   | ½ mile                              | 0  |
| Federal | RCRA Large Quantity Generators (LQG)   | ¼ mile                              | 0  |
| Federal | RCRA Small Quantity Generators (SQG)   | ¼ mile                              | 0  |
| Federal | RCRA Very Small Quantity Generators (VSQG)   | ¼ mile                              | 3  |
| Federal | RCRA Non-Generators  | ¼ mile                              | 4  |
| Federal | Institutional/Engineering Controls   | ½ mile                              | 0  |
| Federal | Emergency Response Notification System (ERNS)  | Site                                | 0  |
| State   | State and Tribal Equivalent CERCLIS (SHWS)   | 1 mile                              | 0  |
| State   | Solid Waste Disposal/Landfill (SWF/LF)   | ½ mile                              | 0  |
| State   | Leaking Underground Storage Tanks (LUST)   | ½ mile                              | 5  |
| State   | Underground Storage Tanks (UST)  | ¼ mile                              | 1  |
| State   | Institutional/Engineering Controls (AUL)   | ½ mile                              | 1  |
| State   | Brownfields  | ½ mile                              | 9  |
| State   | Local List of Hazardous Waste/Contaminated Sites (Including BEA, Inventory, and Part 201)  | ½ mile                              | 48   |

The Subject Property is identified under the following name in one environmental database:

**Harris Pit:** This site is unaddressed, but it is mapped on the east-central portion of the Subject Property. This site is listed as a sand and gravel surface mining pit from 1975 through 1983. This location correlates with the broken dam currently present on the Subject Property.

Multiple adjoining properties and properties in the surrounding area are also identified in several environmental regulatory databases. Below is a summary of the environmentally relevant adjoining and surrounding properties:

**Grand Traverse Regional Land Conservancy/Wellington Cleaners:** Addressed as 3860 North Long Lake Road and located on a northwestern adjoining property along the northwest side of North Long Lake Road, this site is listed in the RCRA Non-Generator and RCRA-VSQG databases. No violations or releases have been reported for this property. Based on the name of the entity, ECT suspects that this site may have formerly operated as a drycleaner. Based on the proximity, there could be environmental risks associated with migrating contamination towards the Subject Property from this potentially adjoining former drycleaner should a release occur.

**Grand Traverse Commons (GTC)/GTC Core Campus:** Multiple properties on the GTC Core Campus (the eastern adjoining properties to the Subject Property) are listed in multiple databases including the BEA, Inventory, Brownfields, and Part 201 databases, indicating that environmental impact has been identified at these sites east of the Subject Property. No other information was provided by EDR, but based on ascertainable information, these properties are impacted with heavy metals in the surficial soils. Based on the topography sloping away from the Subject Property, ECT does not believe these properties represent environmental risks to the Subject Property.

**GTC Historic Barns Park:** Addressed as 1500 Red Street and located on the southeastern adjoining property, this site is listed in the brownfields database.

**Copper Ridge/Northwest Michigan Surgical Center:** Multiple properties at the Copper Ridge office and medical center complex (the southern adjoining properties to the Subject Property) are listed in multiple databases including the BEA, RCRA-VSQG, Brownfields, Inventory, and UST databases. The

property addressed as 4100 Forest Drive is listed in the UST database for one, 2,500-gallon diesel UST currently in use at the site. No releases have been reported in connection with the UST.

**TC/Royal Drive Mercury Spill:** Addressed as 5015 North Royal Drive and located approximately 800 feet north of the Subject Property on a non-adjoining property, this site is listed in the SEMS database for a mercury spill. EPA oversight is indicated in the EDR Radius Report listing, and no site assessment work is needed. ECT does not believe this site represents an environmental risk to the Subject Property.

**Fiebing Property/R C Warren:** Addressed as 3643 West Front Street and located approximately one quarter of a mile north-northeast of the Subject Property on a non-adjoining property, this site is listed in the LUST, Part 201, Inventory, Brownfields, and BEA databases. The property is listed in the LUST database for an open release dated April 26, 1985. Based on the relative distance, ECT does not believe this site represents an environmental risk to the Subject Property.

**Grand Traverse County Road Commission:** Addressed as 3949 West Silver Lake Road and located approximately one quarter of a mile south-southwest of the Subject Property on a non-adjoining property, this site is listed in the AUL, Part 201, Inventory, BEA, LUST, and UST databases. The property is listed in the LUST database for releases closed in 2001 and 2002 of diesel and an unknown substance, respectively. The property is listed in the UST database for five USTs which were removed from 1990 to 1998. The property is listed in the AUL database for a restricted covenant preventing the consumption of groundwater at the property. Based on the relative distance, ECT does not believe this site represents an environmental risk to the Subject Property.

**The Concrete Service Inc:** Addressed as 3742 West Front Street and located approximately one quarter of a mile south-southwest of the Subject Property on a non-adjoining property, this site is listed in the LUST and UST databases. The property is listed in the LUST database for a diesel release that received closure in 1995. The property is listed in the UST database for two removed UST's and one active UST. Based on the relative distance, ECT does not believe this site represents an environmental risk to the Subject Property.

**Munson Medical Center:** Addressed as 1105 6<sup>th</sup> Street and located approximately one half of a mile northeast of the Subject Property on a non-adjointing property, this site is listed in the RCRA-SQG, LUST, and UST databases. Violations in relation to the property's small quantity generator status have been received. The property is listed in the LUST database for releases closed in 1993, 1996, and 2011. The property is listed in the UST database for six UST's which have been removed. Based on the relative distance, ECT does not believe this site represents an environmental risk to the Subject Property.

**Grand Traverse Medical Care Facility:** Addressed as 410 South Elmwood Avenue and located approximately one half of a mile northeast of the Subject Property on a non-adjointing property, this site is listed in the LUST, UST, Inventory, and WDS databases. The property is listed in the LUST database for a gasoline release dated September 8, 1998. The release has an open status. The property is listed in the UST database for a used oil tank that was removed in 1998. Based on the relative distance, ECT does not believe this site represents an environmental risk to the Subject Property.

## **5.2 Additional Environmental Record Sources**

Referring to **Appendix B**, EDR also provides Exclusive Records containing manufactured gas plants, historical auto stations, and historical cleaner sites. However, no properties are listed in EDR's Exclusive Records. Although, based on the entity name, ECT believes Wellington Cleaners, addressed as 3860 North Long Lake Road and located to the northwest of the Subject Property, may have formerly operated as a drycleaner.

Additionally, the orphan summary list in the EDR Radius Map Report identifies properties that cannot be mapped due to poor or inadequate address information. One orphan property is identified by EDR:

**Front Street Area:** Reportedly located at Front Street between Park Street and Boardman Avenue, this site is listed the SEMS Archive database. Based on the provided crossroads, ECT believes this site is located over one mile to the northeast of the Subject Property; therefore, the potential for contaminant migration to pose an environmental risk to the subsurface conditions at the Subject Property is minimal. This orphan property is not considered an environmental risk to the Subject Property.

ECT also reviewed EGLE's Oil and Gas Well Interactive Map to determine if oil/gas wells are located on or adjoining the Subject Property. No active or abandoned oil/gas wells are indicated on or adjoining the Subject Property.

### **5.3 Physical Setting Source(s)**

ECT reviewed the 2014 U.S. Geological Survey (USGS) 7.5-minute series quadrangle map of Traverse City, Michigan. The Subject Property has an approximate elevation of 700-feet above mean sea level on the eastern half and climbs steeply to approximately 900-feet on the western half. North Long Lake Road, Red Drive, and Silver Lake Road are depicted where they lie today.

### **5.4 Historical Use Information on the Subject Property**

To evaluate historical use of the Subject Property, ECT reviewed readily available topographic maps, aerial photographs, fire insurance maps, and street directories.

#### **5.4.1 Topographic Maps**

ECT obtained available historical topographic maps of the Subject Property and vicinity from EDR. The USGS 15-minute series quadrangle map of Traverse City and Kingsley, Michigan is dated 1956/1957. The USGS 7.5-minute series quadrangle maps of Traverse City Southwest, Traverse City Southeast, Mayfield, and Grawn, Michigan are dated 1983 and 2014. However, most development features are not represented on the topographic map dated 2014. Copies of the historic topographic maps are provided as **Appendix C**.

North Long Lake Road, Red Drive, and Silver Lake Road are depicted where they are today on all available topographic maps. No structures are depicted on the Subject Property on any of the available topographic maps. The topographic map dated 1956 depicts a road transecting the Subject Property connecting Red Drive to North Long Lake Road; the road is located on what is now a hiking trail. This road is shown to only run halfway through the Subject Property from Red Drive on the topographic map dated 1983 and is absent from the topographic map dated 2014.

The topographic map dated 1956 map also depicts an open quarry on the southern parcel of the Subject Property which is absent beginning on the 1983 topographic map. A radio tower is also

depicted west of central portion of the Subject Property on the topographic maps dated 1956 and 1983. A second radio tower also appears west of the original tower on the topographic map dated 1983.

Lastly, a stream is shown transecting the northern portion of the Subject Property with a small pond located along its path on the topographic map dated 1956. The location of the small pond corresponds with the broken dam presently located on the Subject Property. The stream is depicted as intermittent on the map dated 1983 with no pond on the map dated 2014.

### 5.4.2 Aerial Photographs

ECT obtained historical aerial photographs of the Subject Property and vicinity from EDR. A review of historical aerial photographs documents changes that have occurred in land uses and features located at the Subject Property and on adjoining properties. The historical aerial photographs are dated 1938, 1954, 1963, 1977, 1987, 1993, 1999, 2006, 2009, 2012, and 2016. Copies of the historical aerial photographs are provided in **Appendix D**.

North Long Lake Road, Red Drive, and Silver Lake Road are depicted where they are today in all available aerial photographs. The northeast half of the Subject property appears mostly clear of vegetation while the southwest portion appears to be forested as early as the aerial photograph dated 1938 except for a cleared agricultural area and a small orchard. The use of the orchard is no longer visible beginning with the aerial photograph dated 1954; based on the age of this land use, ECT does not believe there is a risk of impact from potential lead arsenate pesticides as these materials were commonly used beginning in the 1950's.

The Subject Property is transected by a road which connects North Long Lake to Red Drive as early as the aerial photograph dated 1938. The road corresponds with a hiking trail that was observed during site reconnaissance. The landfill area, depicted on **Figure 3**, adjacent the transecting road is clearly visible as early as the aerial photographs dated 1938. Additionally, noticeable dumping activity is depicted approximately halfway up the center road which corresponds with the known landfill area. An additional area just south of the known landfill also appears to be accessed for landfill or excavation purposes. Landfill activities along the transecting road appear to continue on the aerial

photograph dated 1954 through 1977. Landfill activity along the road appears to have ceased by the aerial photograph dated 1987.

Additionally, as early as the aerial photograph dated 1954, an area of surface gravel mining is visible on the southern portion of the Subject Property with paths connecting the mining area to a larger surface mine to the south. The quarry appears more overgrown suggesting disuse by the aerial photograph dated 1963. By the aerial photograph dated 1987, one small structure is visible immediately west of the central portion of the Subject Property which corresponds with the radio tower noted on the topographic maps. Another small structure is visible on the far western portion of the Subject Property which corresponds with the second radio tower depicted on topographic maps. The structures related to the radio towers are visible on the aerial photographs dated 1987 through 2009.

Beginning with the aerial photograph dated 1977, most open spaces on the Subject Property appear disused and vegetative growth begins to overtake them. The central road appears unmaintained by the aerial photograph dated 1999. The Subject Property appears relatively unchanged on the aerial photographs dated 1999 through 2016, with the exception of increased vegetation cover.

### 5.4.3 Fire Insurance Maps

ECT attempted to obtain available Sanborn fire insurance maps for the Subject Property and its vicinity from EDR. However, EDR indicated the Subject Property and its vicinity as an unmapped property. A copy of the fire insurance map summary is provided as **Appendix E**.

### 5.4.4 Street Directories

ECT obtained a City Directory Image Report for the Subject Property and its vicinity from EDR. Street directories for North Long Lake Road are available for years 1982, 1987, 1992, 1995, 2000, 2005, 2010, 2014 and 2017. Street directories for Red Drive are available for years 2000, 2005, 2010, 2014 and 2017. Copies of the street directories are provided as **Appendix F**.

Two parcels of the Subject Property are unaddressed. Parcel #05-008-049-00 is addressed a 4145 North Long Lake Road, but the Subject Property is not listed on the available street directories under the 4145 North Long Lake Road address.

## 5.5 Historical Use Information on Adjoining Properties

To evaluate historical use of the adjoining properties, ECT reviewed readily available topographic maps, aerial photographs, fire insurance maps, and street directories.

### 5.5.1 Topographic Maps

ECT obtained available historical topographic maps of the Subject Property and vicinity from EDR. The USGS 15-minute series quadrangle map of Traverse City and Kingsley, Michigan is dated 1956/1957. The USGS 7.5-minute series quadrangle maps of Traverse City Southwest, Traverse City Southeast, Mayfield, and Grawn, Michigan are dated 1983 and 2014. However, most development features are not represented on the topographic map dated 2014. Copies of the historic topographic maps are provided as **Appendix C**.

Several structures are depicted to the north and northeast of the Subject Property, notably the extensive State Hospital campus, on the topographic maps dated 1956. A water tower is also labeled on an eastern adjoining property to the Subject Property. A mining area is labeled on the southern adjoining property to the Subject Property on the area that is presently developed as the Copper Ridge complex. The 1983 topographic map shows significant development to the south and west of the Subject Property. There is also additional development to the north and at the hospital campus. A road running along the north of the Subject Property is also absent on the 1983 map.

### 5.5.2 Aerial Photographs

ECT obtained historical aerial photographs of the Subject Property and vicinity from EDR. A review of historical aerial photographs documents changes that have occurred in land uses and features located at the Subject Property and on adjoining properties. The historical aerial photographs are dated 1938, 1954, 1963, 1977, 1987, 1993, 1999, 2006, 2009, 2012, and 2016. Copies of the historical aerial photographs are provided in **Appendix D**.

The main building of the former Traverse City State Hospital and its campus facilities occupied the eastern adjoining properties to the Subject Property since the late 1800's. The campus remains the dominate feature on the eastern adjoining properties on the 1938 aerial photograph, surrounded by farm fields and a large water cistern. Scarce visible development is noted until the aerial photograph

dated 1977 when the southeastern farm field is replaced by commercial buildings. Further development to the northeast appears on the 1987 photograph. There are few structural changes to building footprints on the eastern adjoining properties to Subject Property through the aerial photograph dated 2016 with the exception of the construction of a connecting road between Red Drive and North Long Lake Road between 1993 and 1999.

The northern vicinity of the Subject Property appears to have been primarily farmland on the aerial photograph dated 1938. Increasing residential developments, including the rerouting of North Long Lake Road, appears on aerial photographs dated through 1993. Oleson Grocery is first seen on the aerial photograph dated 1999 on a northern adjoining property along with other commercial developments. Likewise, the western adjoining properties to the Subject Property appear to have been farmland and orchards as early as the aerial photograph dated 1938. The northwestern adjoining properties depict minimal residential development through the early 2000's. The western adjoining properties also appear as vacant or farmland until the aerial photograph dated 1987 when a residential subdivision appears.

The 1938 aerial photograph depicts the Traverse City State Hospital's barns on the southern adjoining property to the Subject Property. A surface mining operation and several orchards are also visible on the southern vicinity of the Subject Property on the aerial photograph dated 1938. Significant expansion to the surface mining operation on the southern adjoining property appears on the aerial photograph dated 1954. Two commercial structures appear on the aerial photograph dated 1963 and remain until they are replaced by the larger commercial developments of the Copper Ridge complex and a residential subdivision by the aerial photograph dated 2006.

### 5.5.3 Fire Insurance Maps

ECT attempted to obtain available Sanborn fire insurance maps for the Subject Property and its vicinity from EDR. However, EDR indicated the Subject Property and its vicinity as an unmapped property. A copy of the fire insurance map summary is provided as **Appendix E**.

### 5.5.4 Street Directories

ECT obtained a City Directory Image Report for the Subject Property and its vicinity from EDR. Street directories for North Long Lake Road are available for years 1982, 1987, 1992, 1995, 2000, 2005, 2010,

2014 and 2017. Street directories for Red Drive are available for years 2000, 2005, 2010, 2014 and 2017. Copies of the street directories are provided as **Appendix F**.

Occupants in the surrounding area of the Subject Property appear predominantly as residential owners on the directory dated 1982. An increasing number of commercial entities appear on directories dated 1987 through 2017.

## 6.0 Site Visit

On May 26, 2021, Mr. Dirk Mammen of ECT performed a site visit of the Subject Property to observe general site conditions and indications of the possible release(s) of chemicals to the subsurface. A walkover site inspection was conducted to identify visible evidence of any RECs. Photographs taken during ECT's site inspection are included in **Appendix G**.

Mr. Brian Baumann prepared this Phase I ESA report documenting ECT's observations and documentation review. Mr. Mammen provided the final technical review of this report. Qualifications for Mr. Mammen are included in **Appendix H**.

### 6.1 Methodology and Limiting Conditions

ECT was provided full access to the Subject Property. A site perimeter walk was conducted of the Subject Property and adjoining properties were viewed from all public right of ways. The interior of the site was walked, making use of the extensive trail system

### 6.2 General Site Setting

#### 6.2.1 **Current Use of the Subject Property**

The Subject Property is currently undeveloped and consists of an extensive network of hiking and cross-country ski trails.

#### 6.2.2 **Past Use of the Subject Property**

A section on the central portion of the Subject Property contained several large pieces of broken concrete, construction debris, metal scrap, and a deteriorating metal drum. The shape of the topography and contents of the debris suggests the historical use as a landfill and/or dumpsite. This area was located off a hiking trail which extends from Red Drive to North Long Lake Road suggesting the trail was an historical roadway. Refer to **Figure 3 for the location of the former landfill area.**

Additionally, ECT observed an additional area southeast of the landfill site with raised topography and artificial ridges which also suggests excavation activities or sediment fill. This area correlates with the broken dam on the east-central portion of the Subject Property in which a stream runs through.

The Subject Property was also occasionally used for sand/gravel pits as early as the 1950's. However, there was no evidence from the site visit that indicated these former pits have been backfilled with improper backfilled material.

### **6.2.3 Current Use of the Adjoining Properties**

The Subject Property is adjoined by the Grand Traverse Commons Complex to the east. The complex contains a mixture of residential and commercial-use structures. Many structures are also vacant, abandoned, or in the process of redevelopment. To the northeast is the Munson Medical Center Hospital campus. A retail development adjoins the Subject Property to the north along with several residential properties. An office and retail complex (Copper Ridge) adjoins the Subject Property to the south along with additional park land titled the Historic Barns Park. Residential properties adjoin the Subject Property to the west and southwest.

### **6.2.4 Past Use of the Adjoining Properties**

No observations were seen to indicate the past uses of the adjoining properties other than for their current uses with the exception of the eastern adjoining properties which is a renovated psychiatric hospital grounds.

### **6.2.5 Current or Past Uses of the Surrounding Area**

The surrounding area of the Subject Property is comprised of a mixture of commercial and residential development.

### **6.2.6 Geological and Hydrogeologic Conditions**

Based on surface topography as interpreted from the USGS topographic map, regional shallow ground water in the site vicinity is anticipated to flow to the east-northeast.

The EDR Radius Map report stated that the Subject Property is underlain by bedrock of the Paleozoic Era, Devonian System, and Upper Devonian Series. The dominant soil composition in the general vicinity of the Subject Property is Emmet sandy clay loam.

## 6.3 Observations

The following items were searched for, or identification was attempted, as indicated in the ASTM standard.

### 6.3.1 Hazardous Substances and Petroleum Products in Connection with Identified Uses

A search for hazardous substances or petroleum product containers was completed during the site visit. At the time of the site visit, no hazardous substances or petroleum product storage containers were observed on the Subject Property.

### 6.3.2 Storage Tanks

A search for aboveground storage tanks (ASTs), USTs or vent pipes, fill pipes, or access ways indicating the presence of USTs was completed during the site visit. No ASTs, USTs, or evidence of USTs were observed on the Subject Property at the time of the site visit.

### 6.3.3 Odors

The Subject Property was checked for strong, pungent, or noxious odors and their sources during the site visit. No odors were observed on the Subject Property at the time of the site visit.

### 6.3.4 Pools of Liquid

A search for standing surface water and pools or sumps containing liquids likely to contain hazardous substances or petroleum products was completed during the site visit. No standing water suspected of containing hazardous substances or petroleum products was observed on the Subject Property at the time of the site visit.

### 6.3.5 Storage Drums and Totes

Storage drums or bulk chemical containers were looked for during the site visit. No storage drums or bulk chemical containers were observed on the Subject Property at the time of the site visit with the exception of one rusted drum of unknown former content located at the landfill area (see Section 6.2.2 for further details). The former landfill area is depicted on **Figure 3**.

### **6.3.6 Hazard Substance and Petroleum Product Containers (not in connection with identified uses)**

A search for hazardous substances or petroleum products containers was completed during the site visit. At the time of the site visit, no hazardous substances or petroleum product storage containers were observed on the Subject Property.

### **6.3.7 Unidentified Substance Containers**

A search for open or damaged containers containing unidentified substances suspected of being hazardous substances or petroleum products was completed during the site visit. No such containers were observed on the Subject Property at the time of the site visit.

### **6.3.8 PCBs**

A search for electrical or hydraulic equipment known to contain PCBs or likely to contain PCBs was completed during the site visit. No equipment suspected of containing PCBs was observed on the Subject Property at the time of the site visit.

### **6.3.9 Pits, Ponds, or Lagoons**

A search for pits, ponds, or lagoons on the Subject Property and adjoining properties was completed during the site visit. Pits, ponds, or lagoons on properties adjoining the Subject Property were looked for to the extent they were visually and/or physically observable from the Subject Property. No pits, ponds or lagoons were observed on the Subject Property or on the surrounding properties.

### **6.3.10 Stained Soil or Pavement**

Areas of stained soil or pavement were searched for during the site visit. No areas of staining were observed on the Subject Property at the time of the site visit.

### **6.3.11 Stressed Vegetation**

Areas of stressed vegetation (from other than insufficient watering) were looked for during the site visit. No areas of stressed vegetation were observed on the Subject Property at the time of the site visit.

### 6.3.12 Solid Waste

A search for areas that are apparently filled or graded by non-natural causes (or filled by unknown material) suggesting trash construction debris, demolition debris, or other solid waste disposal, or mounds or depressions suggesting trash or other solid waste disposal was completed during the site visit.

ECT observed two areas on the central portion of the Subject Property which appeared to contain evidence of solid waste at the time of the site visit. One of the areas appeared as a former landfill adjacent to a former road that transected the Subject Property; this area contained significant debris fill, trash and waste fill, and metal scrap including a rusted drum of unknown former content. See Sections 3.4 and 6.2.2 for more details. The other area of solid waste, which was located to the southeast from the former landfill area, displayed signs of sediment fill at the time of the site visit. This area correlates with the broken dam currently present on the Subject Property.

### 6.3.13 Wastewater

A search for wastewater or other liquids (including storm water) or any discharge into a drain, ditch, underground injection system, or stream on or adjacent to the Subject Property was completed during the site visit. Storm water runoff is expected to seep into the ground and follow the natural topography to the closest body of water and/or storm water collection drain. Storm drains were observed on parking lots and streets adjacent to the Subject Property, however, no wastewater appeared to be discharging on the Subject Property at the time of the site visit.

### 6.3.14 Wells

Wells, including dry wells, irrigation wells, injection wells, monitoring wells, abandoned wells, or other wells, were looked for during the site visit. No wells were observed on the Subject Property at the time of the site visit.

### 6.3.15 Septic Systems

Indications of onsite septic systems or cesspools were searched for during the site visit. No septic tank was observed on the Subject Property at the time of the site visit.

### **6.3.16 Other**

ECT did not observe any other relevant environmental concerns.

## 7.0 Interviews

### 7.1 Interviews with Site Contacts

The Client representative was asked if they knew whether any of the documents below exist and, if so, whether copies would be provided:

- Environmental site assessment reports
- Environmental audit reports
- Environmental permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, National Pollutant Discharge Elimination System permits, underground injection permits)
- Registrations for USTs and ASTs
- Registrations for underground injection systems
- Material safety data sheets
- Community right-to-know plan
- Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc.
- Reports regarding hydrogeologic conditions on the property or surrounding area
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property
- Hazardous waste generator notices or reports
- Risk assessments
- Recorded Activity Use Limitations

A previous assessment for the Subject Property was summarized in Section 3.4 of this report.

The Client representative was also asked to answer the following questions as part of the assessment:

- Do you know of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property?
- Do you know of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property?

- Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

The Client answered no to the above questions.

## **7.2 Interviews with Local Government Officials**

No other local government officials other than the Client representative were interviewed for this Phase I ESA. ECT believes enough information was collected from the interviews, previous assessments, and regulatory information for the conclusions of this report.

## 8.0 Findings, Opinions, and Conclusions

ECT has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 and the 30 CFR 312 (All Appropriate Inquiry) of the Subject Property, representing the Grand Traverse Commons Natural Area, located to the west of the Grand Traverse Commons Complex west of Traverse City, in Garfield Township, Grand Traverse County, Michigan. Any exceptions to, or deletions from, this practice are described in Section 9.0 of this report. This assessment has revealed evidence of one REC, no HRECs, and no CRECs associated with the Subject Property. The following summary provides a description of the known or suspect RECs, historical RECs, controlled RECs, and *de minimis* conditions that were discovered during the Phase I ESA investigation.

### 8.1 RECs

One REC was identified during this Phase I ESA:

- An area comprised of approximately 3.13 acres on the central portion of the Subject Property was formerly used as a landfill associated with the adjacent state hospital facility as early as the 1930's through the early 1980's. The Approximate Former Landfill Boundary is represented as **Figure 3**. At the time of the site visit, ECT observed debris fill, trash and waste fill, and metal scrap including a rusted drum of unknown former content at this area. In 1992, three soil samples were collected from the landfill area and four surface water samples were collected from the adjacent stream with one upgradient surface water sample also collected. The soil borings indicated that the fill material mostly consisted of incinerator ash. The samples were analyzed for the Michigan ten metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), halocarbons (soil samples only), and aromatics (soil samples only). Arsenic, selenium, lead, and zinc were detected in the soil samples at concentrations that exceed the EGLE Part 201 groundwater surface water interface protection criteria and the statewide default background levels. Therefore, the Subject Property is considered a "Facility" as defined by the NREPA. Detectable concentrations of arsenic, barium, cadmium, lead, selenium, and zinc were noted in various surface water samples. The concentration of arsenic in one surface water sample was approximately four times greater than the concentration detected in the background sample.

## 8.2 Historical RECs

No HRECs were identified during this Phase I ESA.

## 8.3 Controlled RECs

No CRECs were identified during this Phase I ESA.

## 8.4 De Minimis Conditions

No *de minimis* conditions were identified during this Phase I ESA.

## 8.5 Opinion

Based on the findings with reference to various due care obligations, ECT recommends avoiding the landfill area with respect to future development or improvements in an effort to eliminate any potential exposure risks. Should any future property transfers occur, ECT recommends the completion of the BEA process for liability protections.

## 8.6 Conclusion

ECT performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-13 of the Subject Property, representing the Grand Traverse Commons Natural Area, located to the west of Grand Traverse Commons Complex west of Traverse City, in Garfield Township, Grand Traverse County, Michigan. This assessment has revealed evidence of one REC, no HRECs, and no CRECs associated with the Subject Property. Based on the findings with reference to various due care obligations, ECT recommends avoiding the landfill area with respect to future development or improvements in an effort to eliminate any potential exposure risks. Should any future property transfers occur, ECT recommends the completion of the BEA process for liability protections.

## 9.0 Deviations and Significant Data Gaps

Although the uses of the Subject Property prior to 1938 were not identified, ECT was able to determine the historical usage of the Subject Property from the information sources available for review. No deviations or “significant” data gaps were identified in this Phase I ESA.

## 10.0 Additional Services

The following additional services were not provided as part of this Phase I ESA:

- Asbestos containing materials assessment
- Lead-based paint survey
- Lead assessment in drinking water
- Radon assessment
- Wetlands determination
- Regulatory compliance analysis
- Inventory of cultural and historic resources
- Assessment of ecological resources
- Biological agents inventory
- Industrial hygiene assessment
- Endangered species assessment
- Health and safety assessment
- Mold assessment
- Indoor air quality characterization

## 11.0 References

American Society for Testing and Materials (ASTM) Standard E 1527-13: Specification Standard Practice for the Phase I Environmental Site Assessment Process, 2013.

Snell Environmental Group, Inc, Report of Site Investigation, State Hospital, Traverse City, Michigan, July 1992

Environmental Data Resources, Inc., (EDR), Aerial Photographs: Inquiry No. 6447355.8, April 13, 2021.

EDR, Certified Sanborn Map Report: Inquiry No. 6447355.3, April 13, 2021.

EDR, City Directory Image Report: Inquiry No. 6447355.5, April 20, 2021.

EDR, EDR Radius Map Report: Inquiry No. 6447355.2s, April 13, 2021.

EDR, Historical Topographic Map Report: Inquiry No. 6447355.4, April 13, 2021.

Michigan Department of Environment, Great Lakes, and Energy, Oil and Gas Well GeoWebFace, July 29, 2021.

## Figures



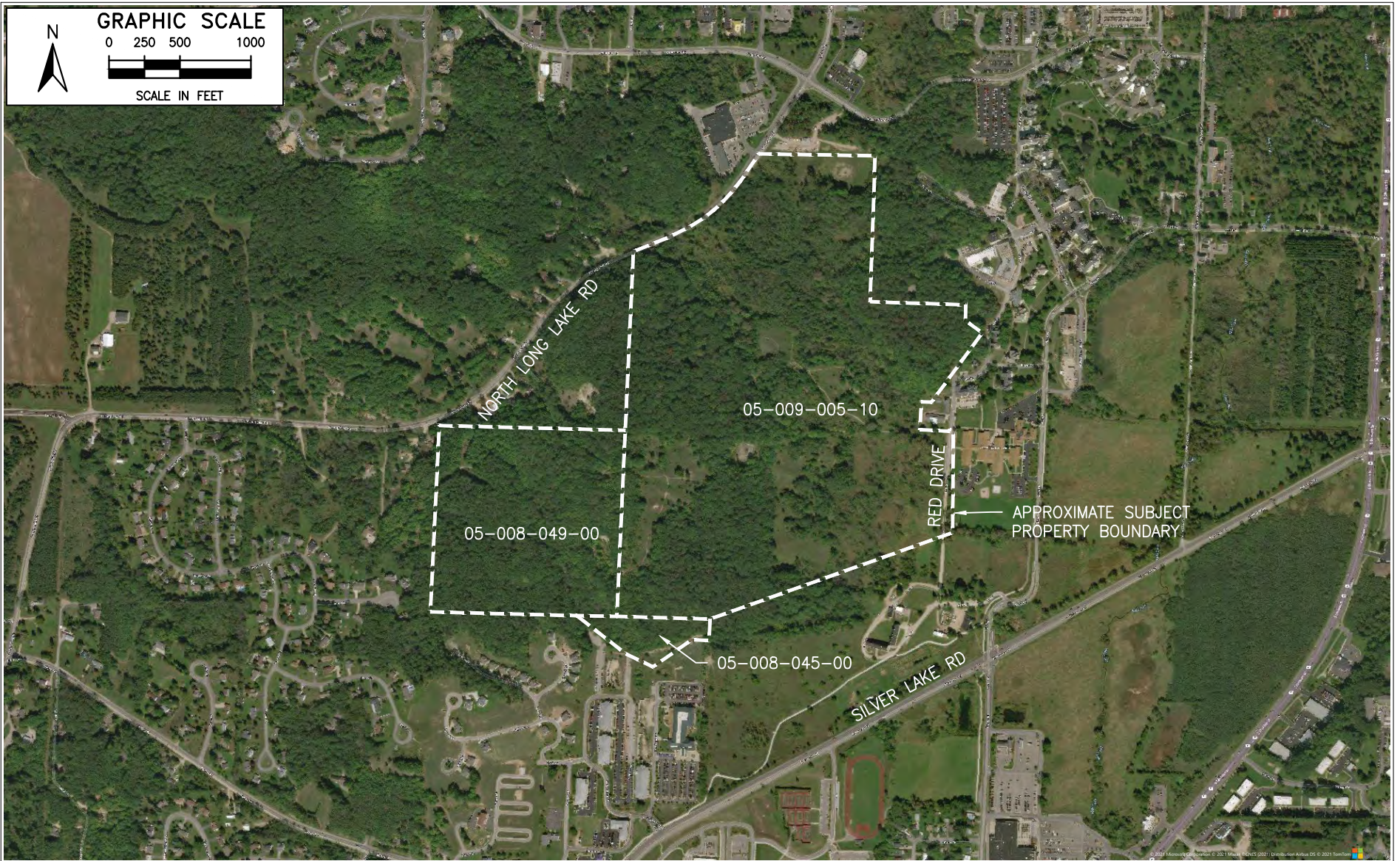


FIGURE 2  
SITE AND SURROUNDING PROPERTY MAP

Source: ECT, 2021.

**ECT**

## SECTION 012700 – MEASUREMENT AND PAYMENT

### PART 1 - GENERAL

#### 1.01 SUMMARY

- A. Refer to Article of the General Conditions.
- B. Bid price includes all labor, tools, equipment, materials, transportation, applicable fees, and sales tax necessary to complete the work in accordance with the Plans and Specifications. In addition, where applicable, all excavation, dewatering, stone bedding, backfilling, density, thrust blocks, and all accessories and related work not paid for separately in order to complete the installation according to the plans and specifications.
- C. All measurement and payment will be based on completed work, ready for use, performed in strict accordance with the Plans and Specifications.
- D. Owner reserves the right to delete any line item or quantity on the BID SCHEDULE.
- E. All work shall conform to all applicable OSHA standards.

#### 1.02 APPLICATION FOR PAYMENT

- A. Pay period: Begins on the 1st of the month and continues through the end of the current month.
- B. Payment requests shall be submitted on the forms included in the Specifications.

#### 1.03 PAY ITEM DESCRIPTIONS

1. **Mobilization:** The completed work for *Mobilization* will be paid for at the contract lump sum (LS) price. This payment shall be payment in full for equipment and material delivery, transportation and storage, bonds, insurances, permits and all coordination with the Township, Engineers, Regulatory Agencies, utility companies, local permitting and fees, public and all other labor and materials.
2. **Clearing and Grubbing:** The completed work for *Clearing and Grubbing* shall be paid for at the contract unit price per the station (STA) as quoted in the Bid and shall include all work necessary as shown on the plans and called for in the specifications. The Work includes all necessary utility coordination, traffic maintenance, and exploratory excavation, within the project area as shown on the plans or as directed by the Engineer. The work shall include, but is not limited to, the removal, disposal and/or abandonment trees, tree stumps, bushes, brush, and other items which may be within the project construction area not paid for under a separate bid item. All cleared or grubbed material must be legally disposed of off-site. Disposal of non-salvageable items are to be the responsibility of the contractor at no additional cost. The price will consist of all labor, material, and equipment necessary to complete the clearing and grubbing work for the project. Any concrete and/or bituminous damaged outside of the limits defined on the drawings will be repaired/replaced at no additional cost to the project.

3. **Trail Removals and Soil Erosion and Sedimentation Controls:** The completed work for *Trail Removals and Soil Erosion and Sedimentation Controls* shall be paid for at the contract unit price lump sum (LS) as quoted in the proposal. The price will consist of all labor, material and equipment necessary for trail removals trail preparation work to set the proper soil erosion and sedimentation controls to protect the surrounding land, wetland areas, and creek system. The work shall include the installation, maintenance, and necessary adjustment of all temporary and permanent soil erosion and sediment control measures through the project duration. Trail Removals shall consist of the miscellaneous removals including debris, trash, abandoned infrastructure confirmed cut and capped by the authority with jurisdiction/ utility company, boulders that are within the trail route. The work will also include and the demolition, proper disposal, and restoration of existing trail tread to be abandoned by the project as indicated on the plan. Any concrete bituminous, and/or gravel pavements damaged outside of the limits defined on the drawings will be repaired/replaced at no additional cost to the project. Disposal of items all materials to be the responsibility of the contractor at no additional cost.
  
4. **Trail Grading:** The completed work for *Trail Grading* shall be paid for at the contract unit price per the station (STA) as quoted in the proposal. The price will consist of all labor, material and equipment necessary to complete the grading and trail preparation work for the project. Trail Grading shall include topsoil stripping, screening, and spreading, hauling, dewatering, and peat/organic soil removal necessary to construct the project as indicated on the plans and specifications. The work will include all exploratory excavations. This price will include all subgrade undercutting, material stockpiling, unsuitable material disposal, encountered contaminated material handling, offsite removal and disposal, excavation, embankment, structure backfilling, compaction (including subbase per MDOT Granular Class II material standards), ditching, construction access stabilization/restoration, and grading necessary to construct the project to the grades and lines indicated on the plans and specifications. Payment shall also include, but not be limited to, all removal and/or replacement of topsoil, grading, any earthwork related to swales and all other required site earthwork, salvage and re-installation of designated signs and bollards by the Township, and any other labor, equipment, or materials required not paid for separately to complete the work as specified and detailed on plans. Disposal of items all materials to be the responsibility of the contractor at no additional cost.
  
5. **10' Wide Crushed Gravel Trail, New:** The completed work for *10' Wide Crushed Gravel Trail, New* shall be paid for at the contract unit price by the lineal foot (LF) on the basis of the actual quantity constructed for placing gravel base as needed to desired width and depth as designated on the project plans. This price shall include, but not limited to, subgrade undercutting, subbase, geotextile separator, aggregate base, gravel surfacing and all other labor, materials and equipment necessary to complete the work according to the plans and specifications. This item shall include project security fencing, signing and any work involved with the temporary closure and the re-routing of park users and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. Any damage outside the limits will be repaired/replaced shall be at no additional cost of the project.

6. **8' Wide Crushed Gravel Trail, New:** The completed work for *10' Wide Crushed Gravel Trail, New* shall be paid for at the contract unit price by the lineal foot (LF) on the basis of the actual quantity constructed for placing gravel base as needed to desired width and depth as designated on the project plans. This price shall include, but not limited to, subgrade undercutting, subbase, geotextile separator, aggregate base, gravel surfacing and all other labor, materials and equipment necessary to complete the work according to the plans and specifications. This item shall include project security fencing, signing and any work involved with the temporary closure and the re-routing of park users and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. Any damage outside the limits will be repaired/replaced shall be at no additional cost of the project.
7. **10' Wide Crushed Gravel Trail, Upgrade Existing:** The completed work for *10' Wide Crushed Gravel Trail, Upgrade Existing Trail* shall be paid for at the contract unit price by the lineal foot (LF) on the basis of the actual quantity constructed for placing gravel base as needed to desired depth as designated on the project plans. This price shall include, but not limited to, removal of existing trail tread, trenching for the expanded trail tread, subgrade undercutting, subbase, geotextile separator, and gravel surfacing and all other labor, materials and equipment necessary to complete the work according to the plans and specifications. This item shall include project security fencing, signing and any work involved with the temporary closure and the re-routing of park users and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. Any damage outside the limits will be repaired/replaced shall be at no additional cost of the project.
8. **8 Wide Crushed Gravel Trail, Upgrade Existing:** The completed work for *8' Wide Crushed Gravel Trail, Upgrade Existing Trail* shall be paid for at the contract unit price by the lineal foot (LF) on the basis of the actual quantity constructed for placing gravel base as needed to desired depth as designated on the project plans. This price shall include, but not limited to, removal of existing trail tread, trenching for the expanded trail tread, subgrade undercutting, subbase, geotextile separator, and gravel surfacing and all other labor, materials and equipment necessary to complete the work according to the plans and specifications. This item shall include project security fencing, signing and any work involved with the temporary closure and the re-routing of park users and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. Any damage outside the limits will be repaired/replaced shall be at no additional cost of the project.
9. **8' Wide Crushed Gravel Trail, Upgrade Existing Trail, Swale Section:** The completed work for *8' Wide Crushed Gravel Trail, Upgrade Existing Trail, Swale Section* shall be paid for at the contract unit price by the lineal foot (LF) on the basis of the actual quantity constructed for placing gravel base as needed to desired depth as designated on the project plans. This price shall include, but not limited to, removal of existing trail tread, trenching for the expanded trail tread, subgrade undercutting, subbase, geotextile separator, and gravel surfacing and all other labor, materials and equipment necessary to complete the work according to the plans and specifications. This item shall include project security fencing, signing and any work involved with the temporary closure and the re-routing of park users and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. This work shall include the labor and materials to provide the open-graded drainage course, grading and restoration vegetated swales with check dams as indicated on the plans. Any damage outside the limits will be repaired/replaced shall be at no additional cost of the project.

10. **10' Wide Boardwalk, Incl. Toe-Kick, Pan Foot:** The completed work for furnishing and installation of *10' Wide Boardwalk* per the plans and manufacturers specifications shall be paid for at the unit price per lineal foot (LF) as quoted in the Bid. This price shall include, but is not limited to, the design for the foundations, supports and decking systems shall account for pedestrian loading and occasional service vehicles, shall include toe-kick edge protection were required and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. Shop drawings are required and shall be signed and sealed by a registered professional engineer. The work shall include all labor, materials and equipment necessary to complete the work, including sizing and installation of on-grade spread-footing supports depending on the suitability of the base.
11. **10' Wide Boardwalk, Incl. Toe-Kick, Helical Piles:** The completed work for furnishing and installation of *10' Wide Boardwalk* per the plans and manufacturers specifications shall be paid for at the unit price per lineal foot (LF) as quoted in the Bid. This price shall include, but is not limited to, the design for the foundations, supports and decking systems shall account for pedestrian loading and occasional service vehicles, shall include toe-kick edge protection were required and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. Shop drawings are required and shall be signed and sealed by a registered professional engineer. The work shall include all labor, materials and equipment necessary to complete the work, including sizing and installation of helical pile supports depending on the suitability of the base.
12. **10' Wide Boardwalk, Stream Crossing, Incl. Toe-Kick, Safety Railings, Helical Piles:** The completed work for furnishing and installation of *10' Wide Boardwalk Stream Crossing, Incl. Toe-Kick, Safety Railings, Helical Piles* per the plans and manufacturers specifications shall be paid for at the unit price per lineal foot (LF) as quoted in the Bid. This price shall include, but is not limited to, the design for the foundations, supports and decking systems shall account for pedestrian loading and occasional service vehicles, shall include toe-kick edge protection and safety railings were required and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications. Shop drawings are required and shall be signed and sealed by a registered professional engineer. The work shall include all labor, materials and equipment necessary to complete the work, including sizing and installation of helical pile supports depending on the suitability of the base.

13. **Prefabricated Steel Pedestrian Bridge:** The completed work for *Prefabricated Steel Pedestrian Bridge* shall include furnishing and installation of a 30-foot span 10-foot clear width pedestrian bridge per the plans and manufactures specifications shall be paid for at the unit price per lump sum (LS) as quoted in the Bid. The prefabricated bridge shall include the design of the foundations (assumed to be precast concrete abutments), truss bridge, timber decking, and railing systems for pedestrian loading and occasional service vehicles and meet universal accessibility requirements. Shop drawings are required and shall be signed and sealed by a registered professional engineer. The work shall include furnishing all materials, fabrication, and shipping of the prefabricated bridge, decking, railings, and prefab foundation. The unit price shall include the preparation of the site for staging various equipment, coordination for the delivery route over the existing Township and Private trail systems, delivery fees including offloading and transport, including and not limited to improvement, temporary expansion, and restoration of the gravel trail systems not to influence the adjacent wetland areas. The unit price shall include sediment testing as required by EGLE LWMD permit conditions to verify presence of contaminated sediments in the excavation area and obtain proper approvals for landfill disposal prior to excavation activities. The unit price shall include all labor, equipment, furnishing of all materials, accessories and all related items for the excavation and installation foundation system, density of backfill materials, material testing required by bridge manufacturer, erection of the entire bridge system to complete the installation according to the plans and approved methods.
14. **Dewatering:** The completed work for *Dewatering* shall be paid for at the contract unit price lump sum (LS) as quoted in the proposal. The price will consist of all labor, material and equipment necessary for dewatering work to excavate and install the work items on the plans and is anticipated at the Prefabricated Steel Pedestrian Bridge location as needed to prepare the excavation and subgrade for engineered fill and foundation systems per the manufactures' recommendations. The work shall include the installation, maintenance, and necessary adjustment of all temporary and permanent soil erosion and sediment control measures through the project duration. Proper disposal of items all materials to be the responsibility of the contractor at no additional cost.
15. **Timber Retaining Walls:** The completed work for furnishing and installation of *Timber Retaining Wall* shall be paid for by linear foot (LF) as quoted in the Bid. The installation shall provide transitions from gravel trail to boardwalk segments and to limit grade out at rest areas per the plans and specifications. The payment shall include, but is not limited to, timber (all sizes and types) including pre-drilled holes, spike nails, excavation, installation and construction of timber wall sections, and all other labor, materials, and equipment, including all accessories and related work not paid for separately necessary to complete the work according to plans and specifications.
16. **Riprap:** The completed work for installing the *Riprap* shall be paid for by the square yard (SYD) as quoted in the Bid. The work shall be as specified on the plans and per 2020 MDOT Standard Specifications for Construction. The work shall include, but is not limited to, geotextile filter fabric below the riprap, toed in place and all accessories and related work not paid for separately in order to complete the installation according to plans and specifications..
17. **Rest Areas:** The completed work for the *Rest Areas* shall be paid for at the unit price per (EA) as quoted in the Bid and shall include all work necessary as shown on the plans and called for in specifications. This unit price for the work shall include, but not be limited to, excavation, concrete, forms, rebar, subbase, aggregate base, and all other labor, materials and equipment and all accessories and related work not paid for separately necessary to complete the work according to

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the plans and specifications. The work shall be coordinated as necessary to install bench systems provided by the Township.

18. **Culvert, 12-inch:** The completed work for *Culvert, 12-inch* shall be paid for at the contract unit price by the linear foot (LF). Payment shall be based on field measurements of the actual length of material installed according to the plans and specifications. The unit price shall include, but is not limited to, all excavation, density of backfilled materials, labor, equipment, furnishing all materials, accessories and all related items not paid for separately necessary to complete the installation according to the plans and approved methods.
19. **Restoration and Cleanup:** The completed work for *Restoration and Cleanup* will be paid for at the contract lump sum (LS) price. This payment shall be payment in full for soil erosion control measures, price shall include, but is not limited to, disposal of materials, raking, seedbed preparation, providing seed, fertilizer, mulch, topsoil at 4” minimum as required for seeding, landscaping, seeding and bedding, and any labor, materials or equipment necessary to complete the work as per the plans and specifications. Restoration within wetland limits shall include wetland seeding mix. If winter seeding is necessary, spring seeding will be required and included in the cost of this item. This item includes the restoration of any area where construction activity has taken place, and includes the work required to restore areas to their pre-construction condition or better. Ten percent (10%) of the contract unit price may be withheld from the periodic pay estimate until the restoration work is accepted. This restoration retainage is in addition to the standard contract retainage. Cleanup of the project include the removal and proper disposal of all construction trash and debris in the project limits and repair to damage caused by the construction activities to the adjacent pavements and variegated areas.

PART 2 – PRODUCTS            Not used

PART 3 – EXECUTION        Not used

END OF SECTION 01270

## SECTION 323420 – PREFABRICATED STEEL PEDESTRIAN BRIDGE

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Description: This work consists of design, fabricating, furnishing, any preservation treatment necessary, delivery and erection/installation for a fully engineered prefabricated girder-style bridge as shown on the plans, and per the standard specifications except as modified herein. The bridge must have the span, width, and skew angle as shown on the plans. Deviation from dimensions shown on the plans must be approved by the Engineer.
- B. Qualified Suppliers: The design and fabrication of the bridge must be done by one of the following prefabricated bridge suppliers, or approved equal:

1. Cadillac Fabrication
2. Contech Engineered Solutions
3. Bridge Brothers

The fabricator must be regularly engaged in the design and fabrication of structural steel and steel elements and must furnish independent records or certification of competency upon request of the Engineer.

- C. Definitions: The following definitions apply when used herein and on the plans:

Checker. A Professional Engineer licensed in the State of Michigan who is employed by the same company as the Designer and is responsible for verifying and checking the design and working drawings developed by or under supervision of the Designer.

Designer. The individual who is a Professional Engineer licensed in the State of Michigan, is employed by a company that is a subcontractor to the Contractor and is responsible for the design and working drawings required herein.

- D. Requirements

All specifications, certifications, materials, fabrication and installation shall comply with Universal Accessibility and ADA. This includes railings and edge protection to be provided.

All specifications, certifications, materials, fabrication and installation shall comply the American Institute of Steel Construction (AISC)

AASHTO Load and Resistance Factor Design (LRFD). The latest AASHTO LRFD Bridge Design Specifications, which the design must satisfy unless otherwise specified herein.

AASHTO Signs. The latest AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, which the design must satisfy unless otherwise specified herein.

Manufacturer. The individual or legal entity that performs part of the work through a contract agreement with the Contractor. This includes an individual or legal entity that owns the patent, product trademark, product copyright or product name for the bridge. This includes an individual or legal entity that supplies materials for construction of bridge. This includes an individual or legal entity that fabricates components of the bridge through a licensing

- E. Related Sections: Michigan Department of Transportation 2020 Standard Specifications for Construction.

## 1.2 SOIL CONDITIONS

- A. The Contractor is responsible for visiting the site and acquainting themselves with all existing conditions prior to bidding. Bidders may make their own subsurface investigation to satisfy themselves as to site and subsurface conditions. Contractor shall coordinate any boring activity with the owner.

## PART 2 - PRODUCTS

### 2.1 SUBMITTALS

- A. Shop Drawings. A detailed bridge and prefabricated footing(s) plan and supporting calculations sealed by a professional engineer registered in the state of Michigan and experienced in steel bridge design shall be submitted to the owner within two weeks of the awarded contract. The bridge plan shall be unique and include all design details and all details necessary for fabrication and installation of the bridge superstructure and associated footings. Details of the individual fabricated pieces are not required. Structural calculations for the design of the bridge superstructure shall include complete design analysis and code checks. Plans shall include actual elevation data collected from the bridge site along with the ordinary high-water mark shown.
- B. Materials. Provide materials in accordance with the following MDOT 2020 Standard Specification for Construction Section:

Structural Steel.....707

- o Steel shall be Weathering Steel
- o Wood Decking shall be Southern Yellow Pine

Steel Reinforcement ..... 905

High Strength Bolts and Hardware ..... 906

Anchor Bolts, Nuts and Washers ..... 908

Elastomeric Bearings ..... 914

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- C. Erection Plan. Prepare detailed written instructions for the installation of the bridge. The instructions must include as a minimum:
- Weight of the sections to be lifted into place. Estimated weight is 20,000 pounds.
  - Proper lifting instructions
- D. Fabrication and Welding. Ensure all fabrication is in accordance with subsection 707.03 of the Standard Specifications for Construction except as modified herein. Department quality assurance inspection will be in accordance with subsections 707.03.A and 707.03.B of the Standard Specifications for Construction.

PART 3 - EXECUTION

- 3.1 Construct the bridge in accordance with subsection 707.03.D of the Standard Specifications for Construction and with the approved erection working plan. The Contractor is responsible for the proper handling, lifting, storage, transporting and erection of all elements so that they may be placed without damage.

Store, lift and/or move elements in a manner to prevent torsion and other undue stress. Apply equal loads to all lifting devices. Support elements in a manner that will minimize warping.

Inspect each element visually for evidence of damage or defect before, during and after critical operations and as often as necessary to ensure adequate quality control. Immediately bring all such evidence of damage or defect to the attention of the Engineer. The extent and frequency of inspection by the Engineer for quality assurance is the Engineer's prerogative. Elements may be inspected at any time during construction as deemed necessary by the Engineer to monitor compliance with this specification. Ensure prior to shipment and upon arrival at the erection site, each element is inspected for damage. During transport, ensure the elements are fully secured against shifting. Upon arrival at the erection site, ensure each element is again inspected.

If any damage has occurred during shipment, immediately notify the Engineer. Erection of such damaged elements into the structure cannot proceed without authorization from the Engineer.

Develop a method of construction that is also consistent with the overall design. The Contractor is solely responsible for design, fabrication, assembly and operation of all equipment to be used for handling and erecting elements. Contractor also responsible for all local permitting and fees and specialty testing and inspection as required by the manufacturer.

No extra payment will be made to the Contractor for any cost incurred in modifying the permanent structure due to temporary loading induced by the Contractor's handling and erection equipment or his erection scheme.