



# Final Environmental Assessment for Site 12 Development

November 2024



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**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

**GREAT LAKES REGION  
DETROIT AIRPORTS DISTRICT OFFICE  
ROMULUS, MICHIGAN**

**FINDING OF NO SIGNIFICANT IMPACT**

**for**

**SITE 12 DEVELOPMENT**

**at**

**GERALD R. FORD INTERNATIONAL AIRPORT  
GRAND RAPIDS, MICHIGAN**



**November, 2024**

## **I. INTRODUCTION**

The Federal Aviation Administration (FAA) prepared this Finding of No Significant Impact (FONSI) for the development of Site 12 at the Gerald R. Ford International Airport (Sponsor).

In accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*; FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and based on the evaluation of the Final Environmental Assessment (Final EA), there are no significant impacts associated with the Sponsor's Proposed Project. Therefore, an Environmental Impact Statement (EIS) will not be prepared and a FONSI is being issued. This FONSI provides a review of the Sponsor's Proposed Project and the basis of the FAA's finding. Expected environmental consequences of the Proposed Project and mitigation commitments are defined and described further in the Final EA.

## **II. AIRPORT SPONSOR'S PROPOSED PROJECT & FEDERAL ACTION**

The Sponsor's Proposed Project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Gerald R. Ford International Airport.

The FAA analyzed the project's nexus to Section 743 of the 2024 FAA Reauthorization Act. For FAA's NEPA review. The Sponsor's Proposed Project requires the following Federal Actions from the FAA, which is subject to NEPA review:

- Unconditional approval of portions of the Airport Layout Plan (ALP) depicting those portions of the Sponsor's Proposed Project subject to FAA review and approval pursuant to 47107(a)(16)(B).
- And land use change approval.

## **III. PURPOSE & NEED**

The purpose of the Project is to develop an unused parcel at GRR for non-aeronautical uses to maximize the revenue potential of land under its ownership. The need for the Project is to generate airport revenue, promote orderly land use planning, and meet the demand for economic growth.

## **IV. ALTERNATIVES CONSIDERED**

In accordance with FAA Order 1050.1F, the Final EA (Section 5) identified and evaluated all reasonable alternatives to the Proposed Project. The following Final EA alternatives were reviewed for the development of Site 12.

### **Alternative 1 - No Action Alternative**

The No Action Alternative assumes land not needed for aeronautical purposes would remain vacant, not allowing for development or additional revenue to offset airport operating costs. The No Action Alternative does not meet the Sponsor's purpose and need for the project; however, it has been included in the analysis per NEPA and FAA Order 1050.1F. The No Action Alternative would be carried forward as a baseline alternative for environmental consequences to be compared to the preferred alternative.

### Alternative 2 - Airport Sponsor's Proposed Project (Preferred Alternative)

The Sponsor's Proposed Project is the alternative that meets the need to generate airport revenue. This alternative includes a 21.5-acre site developed for non-aeronautical purposes.

The proposed project includes the following actions:

- Construction of five stockpile areas (approximately 14,750 square yards)
- Construction of loader and storage container area
- Construction of Rail spur on north side of site within CSX right-of-way (approximately 2,150 linear feet)
- Construction of two-way gravel access roads (approximately 5,700 linear feet)
- Construction of truck scale area
- Extension of utilities (electric, water, telecommunications) along Tim Dougherty Drive
- Use of five parcels on Airport property (2, 5, 4a, 6, and 7)

### Alternative 3 – South Side Rail Spur

Alternative 3 includes a 20-acre site that avoids wetland impacts by running the rail spur on the south side of the project site.

This alternative includes the following actions:

- Construction of six stockpile areas (approximately 12,400 square yards)
- Construction of loader and storage container area
- Construction of rail spur extending from CSX railroad right-of-way to south side of site (approximately 2,450 linear feet)
- Construction of two-way gravel access roads (approximately 6,000 linear feet)
- Construction of truck scale area
- Extension of utilities (electric, water, telecommunications) along Tim Dougherty Drive
- Use of five parcels on Airport property (2, 5, 4a, 6, and 7)

Alternative 3 was eliminated from further consideration for the following reasons:

- Requires use of parcel adjacent to the Kent County Road Commission which is needed for planned development by the Commission
- Significant grade changes in southeastern portion of site make it likely that wetland impacts would occur for site grading activities.
- Larger amount of ground disturbance than Alternative 2 due to larger project limits.
- More/longer access circulation roads needed for the longer rail spur.

## **V. PUBLIC REVIEW & COMMENT**

Public involvement and agency coordination was conducted by the Sponsor at the beginning of the EA process.

The Notice of Availability (NOA) of the Draft EA and opportunity for a Public Meeting was published through a public notice on September 12<sup>th</sup>, 2024, in the Grand Rapids Press. Written statements were

accepted through October 14th, 2024. The Draft EA was available for review to the public, government agencies, affected property owners, and interested parties on September 13<sup>th</sup>, 2024, through October 14<sup>th</sup>, 2024.

No public or agency comments were received. No request for a public meeting was received.

## **VI. ENVIRONMENTAL CONSEQUENCES & MITIGATION**

The Final EA (Section 6) describes the environmental consequences of the Sponsor's Proposed Project and proposed avoidance and mitigation measures. The Sponsor shall implement the following mitigation measures as a condition of environmental approval of the Proposed Project listed in this FONSI.

### **1. Climate**

The Sponsor's Proposed Project includes constructing several components and the filling of wetland resources. There would be a temporary increase in emissions from use of heavy equipment and travel by contractors during construction. Once construction is complete, operations at the site will consist of unloading aggregate from the gondola cars at the rail to stockpiles on site and loading of aggregate from the stockpile to customer trucks.

#### **Mitigation**

The following voluntary emissions reductions measures could be incorporated to assist the GFIAA and State of Michigan in achieving its climate action goals and commitments:

- Use construction equipment that can operate on alternative fuels or electricity wherever possible to minimize emissions associated with diesel and gasoline powered equipment.
- Reduce idling time on equipment.

### **2. Biological Resources**

The Sponsor's Proposed Project includes constructing several components and the filling of wetland resources. According to the USFWS Official Species letter, there are 23 migratory birds of concern identified in the project area (Attachment #2, pages 2-116 to 2-118). Based on the wetland delineation and a desktop review of habitat, the Project area has suitable foraging habitat for nine of the 23 identified migratory birds, and suitable nesting/breeding habitat for five of the 23 identified migratory birds (Attachment #3, pages 3-33 to 3-36). Quality habitat is important for migratory birds during breeding season. If that habitat is destroyed or disturbed during the breeding season, nests may be lost or abandoned or productivity may be reduced, which can lead to population declines.

#### **Mitigation**

The following mitigation measures are recommended to minimize effects on migratory birds:

- For construction activities taking place during the migratory birds nesting season, an approved biologist will survey the construction work areas no more than five days prior to ground disturbing activities taking place to determine presence/absence of nesting birds
- If an active nest is detected during the survey, no vegetation removal/ground disturbing activities will be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If activity must occur, a buffer zone around the nest will be established until nestlings

have fledged and left the nest area. The dimensions of the buffer zone will be established in coordination with the local or regional USFWS office.

- If a buffer zone is needed, a barrier will be constructed to protect the area (e.g., plastic fencing)
- If a buffer zone is established, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs.
- If establishing a buffer zone is not feasible, the USFWS will be contacted for guidance to minimize impacts to migratory birds with the proposed project or removal of an active nest. Prior to removal of an active nest, a permit would be obtained from the local Migratory Bird Permit Office.

### **3. Water Resources**

The Sponsor's Proposed Project includes constructing several components and the filling of wetland resources.

#### **Surface Waters:**

The total impervious area associated with the proposed project would increase from 0.9 acres to 20.6 acres related to site grading and fill activities and construction of the rail spur, gravel access roads, and stockpile areas. Stormwater runoff from the newly created impervious areas will be contained onsite through the construction of stormwater management infrastructure (i.e., stormwater drainage basins, dry swales, and/or installation of new drainage pipes).

#### **Wetlands:**

Three (3) wetland resources totaling approximately 1.30 acres were identified within the project area (Attachment #6). Approximately 0.39 acres of wetlands will be filled for the proposed project to construct the rail spur and gravel access roads. The acreage of impact is based on a preliminary plan and will be refined further during the design and permitting phase.

#### **Mitigation**

#### **Surface Waters:**

The following mitigation measures are proposed to minimize impacts to surface water resources.

- Preparation of a Stormwater Pollution Prevention Plan.
- BMPs will be followed to avoid accidental spills of fuel oils, chemicals, sediments into aquatic habitats. These practices include proper storage, use, and cleanup of all construction-related chemicals. Erosion and sediment control features may include silt fences, straw bales, hydroseeding of exposed soils, and mulching.
- Construction entrances and exits will be stabilized to prevent tracking onto roadways.
- Periodic cleaning and maintenance of soil erosion and sediment control features.
- Any additional BMPs identified as part of the permitting process will be incorporated into the design of the proposed project.

#### **Wetlands:**

Coordination with EGLE identified the need for an individual permit for resources protected under Part 303 (Wetlands Protection). Construction activities will be conducted consistent with State requirements and any mitigation measures associated with this permit. During construction, installation, and maintenance of soil erosion control devices in accordance with the Kent County Soil Erosion and Sediment Control (SESC) permits will ensure there are no impacts to water quality.

#### **4. Solid Waste**

The Sponsor's Proposed Project includes constructing several components and the filling of wetland resources. Insignificant amounts of solid waste will be generated during construction only. This waste will be recycled when possible but otherwise disposed of in accordance with federal, state, and local rules and regulations.

#### **Mitigation**

Solid waste would be generated during construction. If possible, portions of this waste would be recycled (such as concrete). Otherwise, solid waste from construction will be disposed of in accordance with federal, state, and local rules and regulations. If encountered, hazardous materials identified within the project area will be either stored on site or disposed of in accordance with federal, state, and local rules and regulations.

### **VII. FAA FINDING**

After careful and thorough consideration of the facts contained in the Final EA, the undersigned finds the proposed Federal Actions are consistent with existing national environmental policies and objectives as set forth in Section 101(a) of NEPA and other applicable environmental requirements, and will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to section 102(2)(C) of NEPA. As a result, the FAA will not prepare an EIS for these Federal Actions.

Having met all relevant requirements for environmental considerations and consultations, the proposed Federal Actions are authorized to be taken at such time as other requirements are met.

These decisions are taken pursuant to 49 U.S.C. § 40101, et seq. The FAA finding regarding the proposed airport improvements for the Gerald R. Ford International Airport, constitute an order of the Administrator, which is subject to review by the Court of Appeals of the United States, in accordance with the provisions of Section 1006 of Federal Aviation Act of 1958, as amended, 49 U.S.C. § 46110.

APPROVED: X

DISAPPROVED: \_\_\_\_\_

  
\_\_\_\_\_  
John L. Mayfield Jr., Manager  
Detroit Airports District Office  
Federal Aviation Administration

11/20/24  
\_\_\_\_\_  
Date



# FEDERAL AVIATION ADMINISTRATION

AIRPORTS DIVISION

## Short Environmental Assessment Form for AIRPORT DEVELOPMENT PROJECTS



Airport Name: Gerald R. Ford International Airport

Identifier: GRR

Project Title: Site 12 Development

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA official.

J. L. Mayfield Jr.  
Responsible FAA Official

11/20/24  
Date

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## INSTRUCTIONS

**THIS FORM IS FOR LIMITED USE ON SPECIFIC TYPES OF PROJECTS. AIRPORT SPONSORS MUST CONTACT YOUR LOCAL AIRPORTS DISTRICT OFFICE (ADO) ENVIRONMENTAL PROTECTION SPECIALIST (EPS) BEFORE COMPLETING THIS FORM.**

**This form was prepared by FAA Eastern Region Airports Division and is being used by the Great Lakes Region Detroit Airports District Office, in coordination with Regional Airports General Counsel.**

**Introduction:** This Short Environmental Assessment (EA), is based upon the guidance in Federal Aviation Administration (FAA) Orders 1050.1F – *Environmental Impacts: Policies and Procedures*, and the *Environmental Desk Reference for Airport Actions* and 5050.4B – *NEPA Implementing Instructions for Airport Actions*. These orders incorporate the Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA), as well as US Department of Transportation environmental regulations, and other applicable federal statutes and regulations designed to protect the Nation's natural, historic, cultural, and archeological resources. The information provided by sponsors, with potential assistance from consultants, through the use of this form enables the FAA ADO offices to evaluate compliance with NEPA and the applicable special purpose laws.

**Use:** For situations in which this form may be considered, refer to the APPLICABILITY Section below. The local ADO has the final determination in the applicability of this form to a proposed Federal Action. Proper completion of the Form will allow the FAA to determine whether the proposed airport development project can be processed with a short EA, or whether a more detailed EA or EIS must be prepared. **If you have any questions on whether use of this form is appropriate for your project, or what information to provide, we recommend that you contact the environmental specialist in your local ADO.**

This Form is to be used in conjunction with applicable Orders, laws, and guidance documents, and in consultation with the appropriate resource agencies. Sponsors and their consultants should review the requirements of special purpose laws (See 5050.4B, Table 1-1 for a summary of applicable laws). Sufficient documentation is necessary to enable the FAA to assure compliance with all applicable environmental requirements. Accordingly, any required consultations, findings or determinations by federal and state agencies, or tribal governments, are to be coordinated, and completed if necessary, prior to submitting this form to FAA for review. Coordination with Tribal governments must be conducted through the FAA. We encourage sponsors to begin coordination with these entities as early as possible to provide for sufficient review time. Complete information will help FAA expedite its review. This Form meets the intent of a short EA while satisfying the regulatory requirements of NEPA for an EA. Use of this form acknowledges that all procedural requirements of NEPA or relevant special purpose laws still apply and that this form does not provide a means for circumvention of these requirements.

**Submittal:** When using this form for an airport project requesting *discretionary funding*, the documentation must be submitted to the local ADO by April 30<sup>th</sup> of the fiscal year preceding the fiscal year in which funding will be requested. When using this form for an airport

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project requesting *entitlement funding*, the documentation must be submitted to the local ADO by November 30<sup>th</sup> of the fiscal year in which the funding will be requested.

**Availability:** *An electronic version of this Short Form EA is available by contacting your local FAA ADO EPS. Other sources of environmental information including guidance and regulatory documents are available on-line at [http://www.faa.gov/airports\\_airtraffic/airports/environmental](http://www.faa.gov/airports_airtraffic/airports/environmental).*

## APPLICABILITY

**Local ADO EPSs make the final determinations for the applicability of this form. If you have questions as to whether the use of this form is appropriate for your project, contact your local EPS BEFORE using this form.** Airport sponsors can consider the use of this form if the proposed project meets either Criteria 1 or Criteria 2, 3, and 4 collectively as follows:

- 1) It is normally categorically excluded (see paragraphs 5-6.1 through 5-6.6 in FAA Order 1050.1F) but, in this instance, involves at least one, but no more than two, extraordinary circumstance(s) that may significantly impact the human environment (see paragraph 5-2 in 1050.1F and the applicable resource chapter in the 1050.1F Desk reference).
- 2) The action is one that is not specifically listed as categorically excluded or normally requires an EA at a minimum (see paragraph 506 in FAA Order 5050.4B).
- 3) The proposed project and all connected actions must be comprised of Federal Airports Program actions, including:
  - (a) Approval of a project on an Airport Layout Plan (ALP),
  - (b) Approval of Airport Improvement Program (AIP) funding for airport development,
  - (c) Requests for conveyance of government land,
  - (d) Approval of release of airport land, or
  - (e) Approval of the use of Passenger Facility Charges (PFC).
- 4) The proposed project is not expected to have impacts to more than two of the resource categories defined in the 1050.1F Desk Reference.

**This form cannot be used when any of the following circumstances apply:**

- 1) The proposed action, including all connected actions, requires coordination with another Federal Agency outside of the FAA.
- 2) The proposed action will likely result in the need to issue a Record of Decision.
- 3) The proposed action requires a construction period exceeding 3 years.
- 4) The proposed action involves substantial public controversy on environmental grounds.

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- 5) The proposed project would have impacts to, or require mitigation to offset the impacts to more than two resources<sup>1</sup> as defined in the 1050.1F Desk Reference.
- 6) The proposed project would involve any of the following analyses or documentation:
- a. The development of a Section 4(f) Report for coordination with the Department of the Interior,
  - b. The use of any Native American lands or areas of religious or cultural significance,
  - c. The project emissions exceed any applicable *de minimis* thresholds for criteria pollutants under the National Ambient Air Quality Standards, or
  - d. The project would require noise modeling with AEDT 2b (or current version).

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<sup>1</sup> A resource is any one of the following: Air Quality; Biological Resources (including Threatened and Endangered Species); Climate; Coastal Resources; Section 4(f); Farmlands; Hazardous Materials, Solid Waste, and Pollution Prevention; Historical, Architectural, Archaeological, and Cultural Resources; Land Use; Natural Resources and Energy Supply; Noise and Noise-Compatible Land Use; Socioeconomics; Environmental Justice; Children's Environmental Health and Safety Risks; Visual Effects; Wetlands; Floodplains; Surface Waters; Groundwater; Wild and Scenic Rivers; and Cumulative Impacts.

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**Complete the following information:**

**Project Location**

Airport Name: [Gerald R. Ford International Airport](#) Identifier: [GRR](#)  
Airport Address: [5500 44th Street SE](#)  
City: [Grand Rapids](#) County: [Kent](#) State: [MI](#) Zip: [49512](#)

**Airport Sponsor Information**

Point of Contact: [Michelle Baker](#), [Gerald R. Ford International Airport](#), [Environmental Manager](#)  
Address: [5500 44th Street, SE – Terminal Building](#)  
City: [Grand Rapids](#) State: [MI](#) Zip: [49512](#)  
Telephone: [\(616\) 233-6022](#) Fax:  
Email: [mbaker@grr.org](mailto:mbaker@grr.org)

**Evaluation Form Preparer Information**

Point of Contact: [Kara Young](#)  
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**1. Introduction/Background:**

The Gerald R. Ford International Airport (GRR, Airport) is a commercial service airport located in Kent County, Michigan. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. GRR is owned and operated by the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority). The Airport is set on approximately 3,133 acres of land at an elevation of 794 feet above mean sea level (MSL).

The Airport Authority is looking to request a land use change for a portion of airport property, known as “Site 12”, for non-aeronautical development (i.e., industrial use) (**Attachment #1 – Figure 1**).

**2. Project Description** (List and clearly describe ALL components of project proposal including all connected actions). **Attach a map or drawing of the area with the location(s) of the proposed action(s) identified:**

The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport. A private developer is proposing to construct a rail spur off of the adjacent CSX Railroad track for loading/unloading of freight. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution from the site for use within the region. Construction of the proposed project would involve the following:

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- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars at a time
  - Installation of truck scale, ticket booth, and lighting around truck scale area
  - Limited extension of electric and telecommunications utilities
  - Connection to existing water supply for dust suppression
  - Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.
  - On-site gravel vehicle access and circulation roads
  - Designated stockpile areas
  - Site grading
  - Best management practices for drainage

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

Once construction is complete, operations at the site will consist of unloading aggregate from the gondola cars at the rail to stockpiles on site and loading of aggregate from the stockpile to customer trucks. Operations are detailed below:

- Unloading aggregate from the gondola cars:
  - Typically limited to the summer construction months, from approximately March to November.
  - Typical weekday hours would be Monday to Friday, from 7:00am to 5:00pm, with weekend hours occurring on Saturday from 7:00am-12:00pm. Nighttime shipments are on an occasional schedule, and typically do not occur unless demand for aggregate is present from construction projects in the surrounding area.
  - It is anticipated that rail cars will need to be unloaded once per week, at which time a crew of approximately five employees will be on site to unload the aggregate from the rail cars to the stockpile locations.
  - Unloading activities will be conducted by “top loading” or driving an excavator to the top of the rail car (sometimes with the aid of a built stone ramp), where the excavator will transport the material from the car to a stockpile on site.
- Loading of aggregate from stockpiles to trucks:
  - Pickups will be available year-round.
  - Operations could occur between Monday to Friday from 7:00am to 5:00pm, and Saturdays from 7:00am to 12:00pm. Although unloading operations (i.e. described in previous bullets) could occur outside of operational hours, customer loading operations would only occur during regular hours.
  - One employee will be on site during business hours to load materials for customers who purchase aggregate on demand or by calling ahead to schedule a pickup.
  - Estimated average of 25 trucks per day throughout the year, with peak activity of 50-100 trucks per day occurring during the construction season
  - Loading activities will involve moving aggregate with a front loader and placing on top of the truck scale for distribution to the buyer.

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### 3. Project Purpose and Need:

The purpose of the Project is to develop an unused parcel at GRR for non-aeronautical uses to maximize the revenue potential of land under its ownership. The need for the Project is to generate airport revenue, promote orderly land use planning, and meet the demand for economic growth.

#### Generate Airport Revenue

Revenue sources at commercial service airports typically include charges for services to passenger airlines, ground transportation, car rental agencies, cargo airlines, general aviation (i.e., hangar rentals, ground leases, fuel sales, Fixed Base Operator (FBO) fees, and aircraft tie-down fees), and concessions. The Airport Authority's intent is to lease Site 12 for non-aeronautical purposes, to generate revenue from one tenant who will assume the cost of developing their own facilities. The revenue will be used to construct, improve, and maintain Airport facilities and services. The Project has the potential to generate additional land lease rents of \$116,400 annually based on a 2021 appraisal valuation of \$9,700 per acre (**Attachment #7**).

#### Promote Orderly Land Use Planning

Orderly land use planning at the Airport ensures that surrounding activities are compatible with its purpose of providing aviation services. FAA Advisory Circular 150/5190-4B, Airport Land Use Compatibility Planning, states:

*"the opportunity for increased development, both on and near an airport, can benefit an airport and the local community financially. Likewise, protecting an airport's approaches and complying with design standards provides clear operating areas for aircraft utilizing an airport. Planning for compatible development can provide more opportunities for the efficient development of on-airport property (both aeronautical and non-aeronautical) and expansion of airport facilities. When incompatible uses are developed near airports, the airport may not be able to develop facilities to meet increasing airport user needs or take advantage of beneficial on-airport development".*

The proposed project promotes orderly development on the Airport through implementation of a comprehensive site layout plan that will be developed in coordination with local, state, and federal agencies.

#### Meet Demand for Economic Growth

The Airport Authority's goal for GRR is to expand its economic impact to ensure that the community achieves the maximum benefit from the Airport's potential for enhancing economic growth. The project site is underutilized / unused, and is not needed for aviation purposes, as indicated in the 2023 Airport Layout Plan and Future Airport Land Use drawings (**Attachment #1 – Figures 2 and 3**). This land can be developed without affecting the Airport's long-term ability to achieve its purpose of meeting aviation demand. The proposed development uses Airport property that is not needed for aviation purposes, supports employment opportunities in the area, and provides a benefit to local contractors by providing a closer source of aggregate materials for construction.

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**4. Describe the affected environment (existing conditions) and land use in the vicinity of project:**

**Existing Conditions**

The proposed project area consists of mowed and maintained grassland that was previously disturbed for concrete batch plant operations, along with wetland areas. The site is bordered by the CSX railway to the north, the Kent County Road Commission development to the west, and Tim Dougherty Drive to the south and east. There are no unique or natural features within or surrounding the project area.

**Land Use and Zoning**

The proposed project is located in Cascade Township, MI. The Zoning Map for the Township (**Attachment #1 – Figure 4**) indicates that the project is zoned as a *Planned Unit Development (PUD) – 48*. Zoning to the south, east, and west of the proposed project area is *AC – Airport Commerce Zoning District* and zoning to the north is *I - Industrial*. These districts are described as follows:

- *PUD – 48*: This PUD was designated in 1988 for the Kent County Road Commission’s (KCRC) development of a proposed South District Facility. An appraisal conducted by Integra Realty Resources on December 2, 2021, for the subject site established a land lease rate for the future tenant and identified the property as zoned Planned Unit Development (PUD) with no direct runway access. The appraisal determined the highest and best use of the property was for “airport commerce development, developed to the normal market density level permitted by zoning”, which confirms that the proposed project is a good fit for this site and market area.
- *I - Industrial*: Per Chapter 13 of Cascade Township’s Zoning Ordinance, this zone is intended to permit industrial uses which are not unreasonably offensive, hazardous, or debilitating to the surrounding property or community. Permitted uses include manufacturing.
- *Airport Commerce Zoning District*: This district encompasses GRR and is intended to accommodate and promote aeronautical progress for the public good and to facilitate adequate provision for a system of transportation, while protecting public health and welfare. Uses in this district are not intended to conflict with FAA or State of Michigan regulations for aeronautical development. Although there are several Overlays associated with this District, none overlap the proposed project area.

**5. Alternatives to the Project: Describe any other reasonable actions that may feasibly substitute for the proposed project, and include a description of the “No Action” alternative. If there are no feasible or reasonable alternatives to the proposed project, explain why (attach alternatives drawings as applicable):**

**Alternative 1: No Action Alternative**

The No Action Alternative is shown on **Attachment #1 – Figure 5**. Land not needed for aeronautical purposes would remain vacant, not allowing for development or additional revenue to offset airport operating costs. Although this alternative fails to meet the purpose and need of this EA, it serves as the baseline for comparison to the development alternatives.

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### **Alternative 2: North Side Rail Spur**

This alternative includes a 21.5-acre site developed for non-aeronautical purposes that includes the following (**Attachment #1 – Figure 6**):

- Five stockpile areas (approximately 14,750 square yards)
- Loader and storage container area
- Rail spur on north side of site within CSX right-of-way (approximately 2,150 linear feet)
- Two-way gravel access roads (approximately 5,700 linear feet)
- Truck scale area
- Extension of utilities (electric, water, telecommunications) along Tim Dougherty Drive
- Requires use of five parcels on Airport property (2, 5, 4a, 6, and 7)

### **Alternative 3: South Side Rail Spur**

This alternative includes a 20-acre site that avoids wetland impacts by running the rail spur on the south side of the project site (**Attachment #1 - Figure 7**). Alternative 3 includes the following:

- Six stockpile areas (approximately 12,400 square yards)
- Loader and storage container area
- Rail spur extending from CSX railroad right-of-way to south side of site (approximately 2,450 linear feet)
- Two-way gravel access roads (approximately 6,000 linear feet)
- Truck scale area
- Extension of utilities (electric, water, telecommunications) along Tim Dougherty Drive
- Requires use of five parcels on Airport property (2, 5, 4a, 6, and 7)

### **Evaluation**

Alternative 1 does not meet the Project Purpose and Need.

Alternative 3 was eliminated from further consideration for the following reasons:

- Requires use of parcel adjacent to the Kent County Road Commission which is needed for planned development by the Commission
- Significant grade changes in southeastern portion of site make it likely that wetland impacts would occur for site grading activities.
- Larger amount of ground disturbance than Alternative 2 due to larger project limits.
- More/longer access circulation roads needed for the longer rail spur.

Alternative 2 was selected as the preferred alternative for the following reasons:

- Preserves parcel adjacent to Kent County Road Commission for planned development.
- Shorter rail spur adjacent to current railroad tracks most efficient layout for operations.
- Smaller amount of ground disturbance than Alternative 3 due to smaller project limits
- Less access circulation roads needed for the shorter rail spur.

**6. Environmental Consequences – Special Impact Categories (refer to the Instructions page and corresponding sections in 1050.1F, the 1050.1F Desk Reference, and the Desk Reference for Airports Actions for more information and direction. Note that when the 1050.1F Desk Reference and Desk Reference for Airports Actions provide conflicting guidance, the 1050.1F Desk Reference takes precedence. The analysis under each section must comply with the requirements and significance thresholds as described in the Desk Reference).**

#### **(A) AIR QUALITY**

(1) Will the proposed project(s) cause or create a reasonably foreseeable emission increase? Prepare an air quality assessment and disclose the results. Discuss the applicable regulatory criterion and/or thresholds that will be applied to the results, the specific methodologies, data sources and assumptions used; including the supporting documentation and consultation with federal, state, tribal, or local air quality agencies.

Although the proposed project will not result in an increase in aviation-related pollutant emissions, there will be an increase in operational emissions (from the unloading/loading of aggregate and employee commutes to and from the site) as well as a temporary increase in emissions from use of heavy equipment and travel by contractors during construction. According to FAA's *Aviation Emissions and Air Quality Handbook*, Version 3, Update 1, January 2015 (Air Quality Handbook), if the proposed project will cause a reasonably foreseeable emission increase, an emissions inventory must be prepared. Therefore, an Air Quality Analysis was conducted. The results of the assessment as well as information related to the technical approach, methodology, and data sources developed in support of the calculations are detailed within the **Attachment #8**. To conservatively account for the total increase in emissions for calendar year 2026, the total operational emission increases were added to construction emissions. **Table 1** provides the total increase in emissions for all NAAQS pollutants.

**Table 1: Comparison of Total Project Emissions to *De Minimis* Thresholds**

Year	Source	CO	VOCs	SOx	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>
<i>De Minimis Thresholds</i>		<i>100</i>	<i>50</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>N/A</i>
2026	Onroad	5.890	0.057	0.002	0.300	0.012	0.011	371.309
2026	Nonroad	0.488	0.123	0.004	3.761	0.084	0.081	1,430.036
2026	Fugitive	0.006	0.089	0.000	0.000	0.606		371.309
<i>Subtotal – Construction Emissions</i>		<i>6.385</i>	<i>0.270</i>	<i>0.006</i>	<i>4.061</i>	<i>0.701</i>	<i>0.092</i>	<i>1,801.345</i>
2026	Onroad	1.099	0.198	0.002	1.991	0.112	0.103	480.201
2026	Nonroad	0.050	0.017	0.001	0.729	0.012	0.012	349.755
2026	Fugitive					2.687		480.201
<i>Subtotal – Operational Emissions</i>		<i>1.149</i>	<i>0.215</i>	<i>0.003</i>	<i>2.720</i>	<i>2.811</i>	<i>0.115</i>	<i>829.956</i>
<b>TOTAL PROJECT EMISSIONS</b>		<b>7.53</b>	<b>0.48</b>	<b>0.01</b>	<b>6.78</b>	<b>3.51</b>	<b>0.21</b>	<b>2,631.30</b>

Under NEPA, federal agencies are required to assess the impacts federal actions may have on air quality and the human environment. As part of the NEPA process, the proposed project's impact

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on air quality is assessed by evaluating the impact of the proposed project on the National Ambient Air Quality Standards (NAAQS). The methodology for evaluating the need to conduct an air quality assessment is provided in the Air Quality Handbook. In accordance with procedures outlined in that document, the proposed project impacts to air quality were evaluated based on the following:

#### **Indirect Source Review**

The proposed project is not located within a state that has indirect source review requirements.

#### **General Conformity with State Implementation Plan**

The entirety of Airport property is located within Kent County, which includes the proposed project area. According to the U.S. Environmental Protection Agency (USEPA) Green Book (current as of May 31, 2024), and the Michigan Department of Environmental, Great Lakes, and Energy (EGLE) website (as of May 19, 2023), Kent County is not listed, meaning that Kent County has been designated attainment for all criteria pollutants.<sup>2</sup> Since the proposed project is located in an attainment area, General Conformity Applicability does not apply to this project.

#### **NAAQS Assessment**

In accordance with the requirements in the FAA Air Quality Handbook, the *de minimis thresholds* were used to compare inventory results to determine air impacts. Ozone is not directly emitted from a source but is formed through the reaction of oxides of nitrogen (NOx) and volatile organic compounds (VOCs) in the presence of sunlight. Emissions of ozone are evaluated based on emissions of the ozone precursor pollutants, NOx and VOCs. As detailed in the attached Air Quality Assessment (see **Attachment #8**) and in **Table 1** above, the net emissions resulting from the proposed project were below the *de minimis* threshold levels for all criteria pollutants. Therefore, given the expected emissions and the short time-frame of construction, it is unlikely that the pollutant concentration levels would exceed a NAAQS standard.

#### **Summary**

The results of the Air Quality Assessment indicate that proposed project would not significantly impact air quality.

(2) Are there any project components containing unusual circumstances, such as emissions sources in close proximity to areas where the public has access or other considerations that may warrant further analysis? If no, proceed to (3); if yes, an analysis of ambient pollutant concentrations may be necessary. Contact your local ADO regarding how to proceed with the analysis.

The proposed project does not contain unusual circumstances; construction activities are considered routine. The surrounding land uses are Industrial and Airport Commerce Zoning District. The site is bordered by the CSX railway to the north, the Kent County Road Commission development to the west, and Tim Dougherty Drive to the south and east. There are no unique or natural features within or surrounding the project area.

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<sup>2</sup> <https://www.michigan.gov/egle/about/organization/air-quality/state-implementation-plan/ozone-nonattainment>

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(3) Is the proposed project(s) located in a nonattainment or maintenance area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act?

Based on a review of the USEPA Green Book<sup>3</sup>, GRR is located in Kent County which is in attainment for all criteria pollutants.

4) Are all components of the proposed project, including all connected actions, listed as exempt or presumed to conform (See FRN, vol.72 no. 145, pg. 41565)? If yes, cite exemption and go to (B) Biological Resources. If no, go to (5).

The proposed project consists of construction of a rail spur off of the adjacent CSX Railroad track for loading/unloading of freight. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. FRN, vol. 72 no. 145, page 41565 does not list aggregate storage and handling as an exempt or presumed to conform activity.

(5) Would the net emissions from the project result in exceedances of the applicable *de minimis* threshold (reference 1050.1F Desk Reference and the *Aviation Emissions and Air Quality Handbook* for guidance) of the criteria pollutant for which the county is in non-attainment or maintenance? If no, go to (B) Biological Resources. If yes, stop development of this form and prepare a standard Environmental Assessment.

As detailed in **Table 1** and **Attachment 8**, operational and construction emissions from the proposed project will be below *de minimis* thresholds.

## **(B) BIOLOGICAL RESOURCES**

Describe the potential of the proposed project to directly or indirectly impact fish, wildlife, and plant communities and/or the displacement of wildlife. Be sure to identify any state or federal species of concern (Candidate, Threatened or Endangered).

1) Are there any candidate, threatened, or endangered species listed in or near the project area? The following species are listed as candidate, threatened, or endangered in or near the project area:

### **Federally Protected Species; Critical Habitat; Essential Fish Habitat**

A review of the USFWS Information, Planning, and Consultation (IPaC) system and USFWS Official Species List obtained on April 4, 2024 (**Attachment #3**, pages 3-1 to 3-11 and **Attachment #2**, pages 2-108 to 2-122) indicated that one threatened species (Eastern Massasauga), three endangered species (Indiana Bat, Northern Long-eared Bat, Karner Blue Butterfly), one proposed endangered species (Tricolored Bat), and one candidate species (monarch butterfly) may occur in the vicinity of the Project area.

Therefore, a *Protected Species Evaluation Report* was prepared by Barr Engineering Co. in May 2023 (**Attachment #6**) concluded the following:

- Due to the lack of trees in the Project area there will be no effect on the Indiana Bat, Northern Long-eared Bat or Tricolored Bat.

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<sup>3</sup> [Michigan Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants | Green Book | US EPA](#)

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- No suitable habitat is present with the Project area, due to lack of suitable habitat on-site, the urban setting and site maintenance, the proposed project will have no effect on the Eastern Massasauga Rattlesnake.
  - No suitable habitat was observed on-site as the only upland habitat appeared to be regularly maintained and dominated by field grasses, the proposed project will have no effect on the Karner Blue Butterfly.
  - Due to the maintained nature of the Project area, there is little likelihood of milkweed species being allowed to grow, the proposed project will have no effect on the Monarch Butterfly. However, this species is currently a “candidate” species and there are no legal protections for this species at this time.

No designated or proposed critical habitat or fish hatcheries in the vicinity of the project area were identified by the USFWS IPaC and Official Species List (**Attachment #3**, pages 3-5 and 3-10 and **Attachment #2**, page 2-114). Based on a review of the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service Essential Fish Habitat (EFH) Mapper<sup>4</sup>, there are no EFH's, Habitats of Concern, or EFH areas protected from fishing located within the Project area.

#### **State Protected Species**

State species identified as having the potential to occur on Project area include five threatened species (Creeping Whitlow Grass, Ginseng Panax, Missouri Rock-cress, Prairie Smoke, Virginia Bluebells, Red Mulberry) and one species of special concern (Hairy-fruited Sedge). The *Protected Species Evaluation Report* prepared Barr Engineering Co. in May 2023 concluded there are not state-protected species expected to inhabit the property and no effect on listed species is expected (**Attachment #4**, page 4-3).

(2) Will the action have any long-term or permanent loss of unlisted plants or wildlife species?

No, this action will not cause any long-term or permanent loss of unlisted plants and/or wildlife species. As discussed in the Protected Species Evaluation Report, the project area contains a regularly mowed and maintained field on Airport property.

(3) Will the action adversely impact any species of concern or their habitat?

No, there are no critical habitats located within the project area and the project will not impact any species of concern or their habitats.

(4) Will the action result in substantial loss, reduction, degradation, disturbance, or fragmentation of native species habitats or populations?

No, this action will not result in substantial loss, reduction, degradation, disturbance, or fragmentation of native species habitats or populations.

(5) Will the action have adverse impacts on a species' reproduction rates or mortality rate or ability to sustain population levels?

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<sup>4</sup> [EFH Mapper - Reporting Page \(noaa.gov\)](#)

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No, this action will not have adverse impacts on a species' reproduction rates or mortality rate or ability to sustain population levels.

(6) Are there any habitats, classified as critical by the federal or state agency with jurisdiction, impacted by the proposed project?

There are no habitats classified as critical by federal or state agencies that will be impacted by the proposed project.

(7) Would the proposed project affect species protected under the Migratory Bird Act? (If **Yes**, contact the local ADO).

According to the USFWS Official Species letter, there are 23 migratory birds of concern identified in the project area (**Attachment #2**, pages 2-116 to 2-118). Based on the wetland delineation and a desktop review of habitat, the Project area has suitable foraging habitat for nine of the 23 identified migratory birds, and suitable nesting/breeding habitat for five of the 23 identified migratory birds (**Attachment #3**, pages 3-33 to 3-36). Quality habitat is important for migratory birds during breeding season. If that habitat is destroyed or disturbed during the breeding season, nests may be lost or abandoned or productivity may be reduced, which can lead to population declines. With the implementation of the following, no impacts to Migratory Birds are expected:

- For construction activities taking place during the migratory birds nesting season, an approved biologist will survey the construction work areas no more than five days prior to ground disturbing activities taking place to determine presence/absence of nesting birds
- If an active nest is detected during the survey, no vegetation removal/ground disturbing activities will be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If activity must occur, a buffer zone around the nest will be established until nestlings have fledged and left the nest area. The dimensions of the buffer zone will be established in coordination with the local or regional USFWS office.
- If a buffer zone is needed, a barrier will be constructed to protect the area (e.g., plastic fencing)
- If a buffer zone is established, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs.
- If establishing a buffer zone is not feasible, the USFWS will be contacted for guidance to minimize impacts to migratory birds with the proposed project or removal of an active nest. Prior to removal of an active nest, a permit would be obtained from the local Migratory Bird Permit Office.

If the answer to any of the above is "Yes", consultation with the USFWS and appropriate state agencies is required and attach all correspondence and documentation, including IPaC.

Not applicable.

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## (C) CLIMATE

(1) Would the proposed project or alternative(s) result in the increase or decrease of emissions of Greenhouse gases (GHG)? If neither, this should be briefly explained and no further analysis is required and proceed to (D) Coastal Resources.

There would be a temporary increase in emissions from use of heavy equipment and travel by contractors during construction. Once construction is complete, operations at the site will consist of unloading aggregate from the gondola cars at the rail to stockpiles on site and loading of aggregate from the stockpile to customer trucks.

(2) Will the proposed project or alternative(s) result in a net decrease in GHG emissions (as indicated by quantitative data or proxy measures such as reduction in fuel burn, delay, or flight operations)? A brief statement describing the factual basis for this conclusion is sufficient.

As detailed in **Table 1**, the proposed project will result in an increase in GHG emissions.

(3) Will the proposed project or alternative(s) result in an increase in GHG emissions? Emissions should be assessed either qualitatively or quantitatively as described in 1050.1F Desk Reference or Aviation Emissions and Air Quality Handbook.

As identified in **Table 1** and detailed in **Attachment #8**, the proposed project will cause a temporary increase in emissions from construction of 1,802 MT CO<sub>2</sub>e, and an annual increase of emissions from operations of 830 MT CO<sub>2</sub>e. According to the *USEPA Greenhouse Gas Equivalencies Calculator*<sup>5</sup>, the annual operational emissions equate to 198 gasoline powered passenger cars driving for one year. According to the *USEPA Workbook for Applying SC-GHG Estimates* (v1.0.1, released on March 13, 2024)<sup>6</sup>, the total social cost of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from the operation of the proposed project is between \$140,000 and \$370,000, assuming a 10-year lease, and discount rates of 2.5% to 1.5%.

As part of the Michigan Healthy Climate Plan (released in April 2022), the State of Michigan has set a goal to reach carbon neutrality by 2050<sup>7</sup>. The Airport is in the process of developing a sustainability management plan and has not yet published emissions reductions targets<sup>8</sup>.

While the proposed project will increase GHG emissions, the development will provide a local source of aggregate material for use in the surrounding area, which could reduce the existing travel time and vehicle-miles-traveled (VMT) for trucks transporting aggregate from current distant sources. Therefore, the reduced emissions from a local source could offset the project-level increase in GHG emissions.

There is no current threshold for impacts related to GHG emissions and climate change. However, any reduction in the volume of fuel combusted or electricity used will reduce GHG emissions and would be consistent with the goals set by the State of Michigan. The following voluntary emissions

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<sup>5</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

<sup>6</sup> <https://www.epa.gov/environmental-economics/scghg>

<sup>7</sup> <https://www.michigan.gov/egle/about/organization/climate-and-energy/mi-healthy-climate-plan>

<sup>8</sup> <https://www.grr.org/news/earth-day-2023>

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reductions measures could be incorporated to assist the GFIAA and State of Michigan in achieving its climate action goals and commitments:

- Use construction equipment that can operate on alternative fuels or electricity wherever possible to minimize emissions associated with diesel and gasoline powered equipment.
- Reduce idling time on equipment.

#### **(D) COASTAL RESOURCES**

(1) Would the proposed project occur in a coastal zone, or affect the use of a coastal resource, as defined by your state's Coastal Zone Management Plan (CZMP)? Explain.

According to USFWS Coastal Barrier Resources System map (**Attachment #3**, page 3-12) and the Michigan Coastal Atlas Map Viewer (**Attachment #3**, page 3-13), the proposed project will not take place in or around a coastal zone management area.

(2) If **Yes**, is the project consistent with the State's CZMP? (If applicable, attach the sponsor's consistency certification and the state's concurrence of that certification).

Not applicable.

(3) Is the location of the proposed project within the Coastal Barrier Resources System? (If **Yes**, and the project would receive federal funding, coordinate with the FWS and attach record of consultation).

Not applicable.

#### **(E) SECTION 4(f) RESOURCES**

(1) Does the proposed project have an impact on any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance? Specify if the use will be physical (an actual taking of the property) or constructive (i.e. activities, features, or attributes of the Section 4 (f) property are substantially impaired.) If the answer is “No,” proceed to (F) Farmlands.

The proposed project will take place entirely on Airport property, therefore there are no Section 4(f) resources located in the project area. Section 4(f) resources within an approximate 2.4-mile vicinity of the proposed project include (see **Attachment #1 – Figure 8**):

- Airport Viewing Park – 1.29 miles (6,813 feet) south of the project area
- Cascade Township Recreation Park – 1.3 miles (6,864 feet) east of the project area.
- Thornapple Pointe Golf Course – 2.42 miles (12,799 feet) east of the project area.

Based on a review of the USFWS National Wilderness Refuge System Map there are no wildlife or waterfowl refuges of national significance within or adjacent to the project area (**Attachment #3**, page 3-14). Based on a review of Michigan Department of Natural Resources State wildlife/game areas list there are no wildlife or waterfowl refuges of state significance within or adjacent to the project area.<sup>9</sup> Based on a review of Cascade Township's 5-Year Parks and Recreation Master Plan,

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<sup>9</sup> [State wildlife/game areas \(list\) \(michigan.gov\)](http://state.wildlife/game_areas/list/michigan.gov)

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there are not wildlife or waterfowl refuges of local significance within of adjacent to the project area.<sup>10</sup>

The proposed project will not impact any publicly owned lands such as a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance.

(2) Is a *De Minimis* impact determination recommended? If “yes”, please provide; supporting documentation that this impact will not substantially impair or adversely affect the activities, features, or attributes of the Section 4 (f) property; a Section 106 finding of “no adverse effect” if historic properties are involved; any mitigation measures; a letter from the official with jurisdiction concurring with the recommended *de minimis* finding; and proof of public involvement. (See Section 5.3.3 of 1050.1F Desk Reference). If “No,” stop development of this form and prepare a standard Environmental Assessment.

Not applicable (refer to response in **Section E (1)** above).

#### **(F) FARMLANDS**

Does the project involve acquisition of farmland, or use of farmland, that would be converted to non-agricultural use and is protected by the Federal Farmland Protection Policy Act (FPPA)? (If **Yes**, attach record of coordination with the Natural Resources Conservation Service (NRCS), including form AD-1006.)

Soil mapping prepared by the United States Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS) indicates that portions of the project area fall in areas designated as “prime farmland” and “prime farmland if drained” (**Attachment #3**, pages 3-15 through 3-19). Although the project area does contain prime farmland soils, there is no active farming taking place within the project area. The project area is not located within an Agricultural District and would not involve the conversion of FPPA farmland to non-agricultural uses. Therefore, no impacts to farmlands are expected.

#### **(G) HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION**

(1) Would the proposed project involve the use of land that may contain hazardous materials or cause potential contamination from hazardous materials? (If **Yes**, attach record of consultation with appropriate agencies). Explain.

Based on a review of USEPA Superfund National Priorities List (NPL) mapping (**Attachment #3**, page 3-20) and Michigan EGLE Maps and Data underground storage tanks, brownfield sites, and contaminated sites (**Attachment #3**, pages 3-21 through 3-23), the proposed project will not involve the use of land that may contain hazardous materials.

The proposed project involves construction of a rail spur off the CSX Railroad track for loading/unloading of aggregate materials that will then be distributed via trucks for local construction projects. The proposed project will not generate or use hazardous materials that could result in potential contamination.

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<sup>10</sup> [Cascade-Township-5-Year-Master-Plan\\_FINAL-1-19-23-11x17-\(1\).pdf.aspx \(cascadetwp.com\)](https://cascadetwp.com/Cascade-Township-5-Year-Master-Plan_FINAL-1-19-23-11x17-(1).pdf.aspx)

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(2) Would the operation and/or construction of the project generate significant amounts of solid waste? If **Yes**, are local disposal facilities capable of handling the additional volumes of waste resulting from the project? Explain.

No, the operation and/or construction of the project will not generate significant amounts of solid waste. Insignificant amounts of solid waste will be generated during construction only. This waste will be recycled when possible but otherwise disposed of in accordance with federal, state, and local rules and regulations.

(3) Will the project produce an appreciable different quantity or type of hazardous waste? Will there be any potential impacts that could adversely affect human health or the environment?

No, this project will not produce an appreciable different quantity or type of hazardous waste. There will not be any potential impacts that could adversely affect human health or the environment.

## **(H) HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES**

(1) Describe any impact the proposed project might have on any properties listed in, or eligible for inclusion in the National Register of Historic Places. (Include a record of consultation and response with the State or Tribal Historic Preservation Officer (S/THPO)).

A search on the National Register of Historic Places Database found no historic or cultural resources located near the project area (**Attachment #3**, page 3-24). A Cultural Resources Literature Review was completed in March 2023 by Lawhon & Associates, Inc. (**Attachment #5**). The results of the literature review *“did not identify any previously recorded archeological sites or historic resources within the project area or in the immediate vicinity...Prehistoric cultural materials, if encountered, are likely to consist of transient hunting activity in the form of low-density lithic scatters or isolated finds located on the landforms better suited to occupation...Given the information gathered during the literature review, significant cultural materials are deemed unlikely to be located within the proposed project area”*. A Section 106 form was submitted to the Michigan State Historic Preservation Office (MI SHPO) on May 18, 2023. A response was received from the MI SHPO on June 20, 2023, indicating that no historic properties are affected (**Attachment #5**, pages 5-19 to 5-20).

(2) Describe any impacts to archeological resources as a result of the proposed project. (Include a record of consultation with persons or organizations with relevant expertise, including the S/THPO, if applicable).

There will be no impacts to archeological resources as a result of the proposed project.

## **(I) LAND USE**

(1) Would the proposed project result in other (besides noise) impacts that have land use ramifications, such as disruption of communities, relocation of residences or businesses, or impact natural resource areas? Explain.

The proposed project will not have land use ramifications such as relocation of residences or businesses, or impact natural resource areas. As described above, the proposed project is consistent with existing land uses in its vicinity.

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(2) Would the proposed project be located near or create a wildlife hazard as defined in FAA Advisory Circular 150/5200-33, "Wildlife Hazards On and Near Airports"? Explain.

According to FAA AC 150/5200-33C, land uses that attract wildlife include waste disposal operations, wastewater treatment facilities, wetlands, and dredge spoil containment areas. The proposed project will not create new wildlife attractants on or near the Airport. There are small wetland areas located in the project area, however, construction of the proposed project will convert mowed lawn areas to stockpile areas, a loader and storage container area, a rail spur, gravel site circulation roads, and a truck scale area which would reduce areas that wildlife may congregate.

(2) Include documentation to support sponsor's assurance under 49 U.S.C. § 47107 (a) (10), of the 1982 Airport Act, that appropriate actions will be taken, to the extent reasonable, to restrict land use to purposes compatible with normal airport operations.

The project area is identified on the future land use plan as an area reserved for non-aeronautical development (**Attachment #1 – Figure 3**). The proposed project is located outside of Airport fencing and the airport operations area for Runway 8L-26R and is considered a compatible land use. A zoning change will be required for the portions of the project area that fall within the Planned Unit Development. The developer, in coordination with the Airport Authority, will coordinate with Cascade Township to obtain the zoning change as part of the site development process.

#### **(J) NATURAL RESOURCES AND ENERGY SUPPLY**

What effect would the project have on natural resource and energy consumption? (Attach record of consultations with local public utilities or suppliers if appropriate)

As with any construction project, there will be short-term increases in electrical and vehicle fuel usage to power construction equipment and for worker travel. Once operational, the proposed project will need electric service to operate the weigh scale, ticketing computer and for a security light. Typically, a portable water cooler is brought in that is replenished regularly for drinking water, and an extension to the existing public water system will be needed to fill water trucks for dust suppression on roadways/stockpiles. Sewer will not be needed as a portable toilet will be used during the intermittent times when employees visit the site for loading and unloading operations. Natural gas or other utilities will not be needed.

The proposed utility corridor will extend from the Kent County Road Commission facilities along Tim Dougherty Drive to the project site. The proposed project's energy consumption will be minimal and will not exceed existing or future natural resource or energy supplies or involve a need for unusual materials or those in short supply. In fact, the proposed project will have a positive effect on natural resources by providing a steady source of aggregate materials locally. Therefore, no significant impacts to natural resources are expected.

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**(K) NOISE AND NOISE-COMPATIBLE LAND USE**

Will the project increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe? (Use AEM as a screening tool and AEDT 2b as appropriate. See FAA Order 1050.1F Desk Reference, Chapter 11, or FAA Order 1050.1F, Appendix B, for further guidance). Please provide all information used to reach your conclusion. If yes, contact your local ADO.

Project-related noise level increases are associated with equipment used during construction activities. These noise level increases are temporary and noise levels will return to pre-project levels once construction is complete. Once the proposed project is operational, there will be additional noise related to truck traffic and unloading/loading operations. Peak operations will take place in the summer with 50 to 100 trucks anticipated per day (assumes average of 25 trips per day), with demand being driven by local construction activity and the need for aggregate materials. The proposed project is located adjacent to the Kent County Road Commission site that has similar activities taking place, such as stockpiling materials for road construction, maintenance, and repair; storing of equipment; circulation roads for truck traffic, etc. The average annual increase unloading/loading operations is not expected to result in a significant increase in noise. The proposed project will not result in changes to existing aviation noise levels; therefore, noise impacts are not expected. The project area is bounded by airport, rail, and industrial land uses that are considered compatible.

**(L) SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, and CHILDREN'S HEALTH and SAFETY RISKS**

(1) Would the project cause an alteration in surface traffic patterns, or cause a noticeable increase in surface traffic congestion or decrease in Level of Service?

Traffic associated with construction vehicles is temporary and is not expected to be significant.

Traffic associated with operational activities includes an increase of vehicle trips by an average of approximately 25 truck trips per day, with peak activity of 50 to 100 truck trips per day occurring during the summer construction season. The proposed development will outlet to Patterson Avenue SE via Tim Dougherty Drive. According to Michigan Department of Transportation's (MDOT) Transportation Data Management System, the average annual daily trips (AADT) in 2023 for Tim Dougherty Drive and Patterson Avenue SE were 277 and 20,662 trips, respectively<sup>11</sup>. The proposed project will not alter surface traffic patterns. Summer truck traffic would take place over an eight-hour period and would not result in a noticeable increase in surface traffic congestion or decrease in Level of Service since the intersection of Patterson Avenue SE and Tim Dougherty Drive is signalized.

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<sup>11</sup> [Transportation Data Management System \(ms2soft.com\)](https://ms2soft.com/Transportation-Data-Management-System)

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(2) Would the project cause induced, or secondary, socioeconomic impacts to surrounding communities, such as changes to business and economic activity in a community; impact public service demands; induce shifts in population movement and growth, etc.?

The proposed project will not cause induced, or secondary, socioeconomic impacts to surrounding communities. There will be no change in population growth or movement, demands for public services, or changes in business or economic activity, or induce shifts in population movement and growth. Based on this information, no secondary (induced) impacts are expected because of the proposed project.

(3) Would the project have a disproportionate impact on minority and/or low-income communities? Consider human health, social, economic, and environmental issues in your evaluation. Refer to DOT Order 5610.2(a) which provides the definition for the types of adverse impacts that should be considered when assessing impacts to environmental justice populations.

Based on a review of USEPA's EJScreen mapping tool, the population within a 0.75-mile radius of the project area is zero<sup>12</sup>. When expanded to a one-mile radius, the EJScreen Community Report identifies a population of 1,864 (**Attachment #3**, pages 3-25 through 3-28), with the nearest EJ community (low income) located one mile from the project area (**Attachment #1 – Figure 9**). Since the proposed project is taking place within Airport property, there are developed areas surrounding the site, and the EJ Community is one mile from the project area, no disproportionately high or adverse impacts to minority and/or low income are expected.

(4) Would the project have the potential to lead to a disproportionate health or safety risk to children?

This project does not have to the potential to lead to a disproportionate health or safety risk to children.

If the answer is "YES" to any of the above, please explain the nature and degree of the impact. Also provide a description of mitigation measures which would be considered to reduce any adverse impacts.

Not Applicable.

## **(M) VISUAL EFFECTS INCLUDING LIGHT EMISSIONS**

(1) Would the project have the potential to create annoyance or interfere with normal activities from light emissions for nearby residents?

One main security light above the truck scale platform will be installed as part of the proposed project. Although there will be no operational activity on-site during night-time hours, the security light would remain on during nighttime hours. The proposed project will not create annoyance or interfere with normal activities from light emissions for nearby residents, since the proposed project is taking place within a developed portion of Airport property; the nearest residential area is located one mile from the project site; and industrial buildings provide a screen between the project area and residents.

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<sup>12</sup> [EJScreen \(epa.gov\)](http://EJScreen.epa.gov)

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(2) Would the project have the potential to affect the visual character of nearby areas due to light emissions?

This project does not have the potential to affect the visual character of nearby areas due to light emissions.

(3) Would the project have the potential to block or obstruct views of visual resources?

This project does not have the potential to block or obstruct views of visual resources.

If the answer is “YES” to any of the above, please explain the nature and degree of the impact using graphic materials. Also provide a description of mitigation measures which would be considered to reduce any adverse impacts.

Not Applicable.

## **(N) WATER RESOURCES (INCLUDING WETLANDS, FLOODPLAINS, SURFACE WATERS, GROUNDWATER, AND WILD AND SCENIC RIVERS)**

### **(1) WETLANDS**

(a) Does the proposed project involve federal or state regulated wetlands or non-jurisdictional wetlands? (Contact USFWS or appropriate state natural resource agencies if protected resources are affected) (Wetlands must be delineated using methods in the US Army Corps of Engineers 1987 Wetland Delineation Manual. Delineations must be performed by a person certified in wetlands delineation Document coordination with the resource agencies).

Based on review of the USFWS National Wetlands Inventory Map (**Attachment #3**, page 3-29) and EGLE Wetlands Map View (**Attachment #3**, page 3-30), wetlands are in the project area. As a result, a wetland delineation was completed by Barr Engineering Co. on June 22, 2022. Three (3) wetland resources totaling approximately 1.30 acres were identified within the project area (**Attachment #6**). Approximately 0.39 acres of wetlands will be filled for the proposed project to construct the rail spur and gravel access roads. The acreage of impact is based on a preliminary plan and will be refined further during the design and permitting phase.

(b) If yes, does the project qualify for an Army Corps of Engineers General permit? (Document coordination with the Corps).

Wetlands in Michigan fall under the jurisdiction of the Michigan Department of Environment, Great Lakes, and Environment (EGLE), as the State administers the Section 404 of the Clean Water Act permits based on a Memorandum of Agreement between the USEPA and EGLE. Barr indicates that the wetland resources within the project limits of disturbance are subject to regulatory jurisdiction based on EGLE regulations. Specifically, the wetlands have a direct surface water connection to or are within 500 feet of a tributary to Thornapple River. Therefore, a Part 303 permit would be required from EGLE to place fill, remove soil, drain surface water from, or make use of these wetlands.

(c) If there are wetlands impacts, are there feasible mitigation alternatives? Explain.

The proposed project is a rail-to-truck transload facility to transfer aggregate from rail cars to trucks for transport. The project site is the only location on Airport property currently available to develop

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the proposed facility. Two options were considered for the rail spur, one running on the north side of the project site adjacent to the CSX Railroad, and the second option considered running the rail spur on the south side of the site (see **Section 5 - Alternatives**, page 8 of this document, for further details). The south rail spur was specifically developed to avoid wetlands. However, due to steep drops in grade (approximately 16 feet) along the southern portion of the project site, filling and grading activities would result in impacts to wetlands for this option as well. Since fill activities in wetlands cannot be avoided, the preferred location of the rail spur is located on the north side of the project site directly adjacent to the CSX Railroad. To minimize wetland impacts to the greatest extent possible, the location of stockpile areas and gravel access roads were modified.

(d) If there are wetlands impacts, describe the measures to be taken to comply with Executive Order 11990, Protection of Wetlands.

As discussed in Section N(1)(c) above, wetland impacts have been minimized to the greatest extent possible. Coordination with EGLE to date has included an on-site visit (on June 18, 2023), email coordination, and telephone calls. The developer is aware the affected wetlands are protected under Part 303 (Wetlands Protection) and a permit will be required prior to construction activities taking place. Construction activities will be conducted consistent with State requirements and any mitigation measures associated with this permit.

## **(2) FLOODPLAINS**

(a) Would the proposed project be located in, or would it encroach upon, any 100-year floodplains, as designated by the Federal Emergency Management Agency (FEMA)?

Based on a review of the FEMA Flood Insurance Rate Map (FIRM) for the Airport (Map Number 26081C0443D effective date: February 23, 2023), the project area is not located within a 100-year or 500-year floodplain boundary (**Attachment #3**, page 3-31). Coordination with EGLE Water Resources Division confirmed that the project area is not located within a floodplain (**Attachment #2**, page 2-100 to 2-107).

(b) If Yes, would the project cause notable adverse impacts on natural and beneficial floodplain values as defined in Paragraph 4.k of DOT Order 5620.2, *Floodplain Management and Protection*?

Not applicable.

(c) If Yes, attach the corresponding FEMA Flood Insurance Rate Map (FIRM) and describe the measures to be taken to comply with Executive Order 11988, including the public notice requirements.

Not applicable.

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### **(3) SURFACE WATERS**

(a) Would the project impact surface waters such that water quality standards set by Federal, state, local, or tribal regulatory agencies would be exceeded or would the project have the potential to contaminate a public drinking water supply such that public health may be adversely affected?

#### **Streams**

*EGLE Maps and Data, Assessment Units 2024 – Rivers and Streams*<sup>13</sup> identified an unnamed tributary to Thornapple River upstream of the Airport that is located within the project area. A review of the USEPA Water Body Report identified this stream as impaired (**Attachment #3**, page 3-32). Based on the site visit conducted by Barr Engineering Co. as part of the wetland delineation, the project area does not contain features that meet the stream definition contained in the Natural Resources and Environmental Protection Act, under Part 301<sup>14</sup>.

#### **Stormwater**

The total impervious area associated with the proposed project would increase from 0.9 acres to 20.6 acres related to site grading and fill activities and construction of the rail spur, gravel access roads, and stockpile areas. Stormwater runoff from the newly created impervious areas will be contained onsite through the construction of stormwater management infrastructure (i.e., stormwater drainage basins, dry swales, and/or installation of new drainage pipes).

#### **Erosion and Sedimentation**

The proposed project will involve converting mowed lawn areas to a rail spur, stockpile areas, gravel access roads, and truck scale area. The removal of vegetation or mowed lawn areas can lead to erosion of soil and sedimentation. During construction activities construction vehicles tracking soil onto the roadways can temporarily increase the potential for soil erosion, causing a potential increase in suspended solids in runoff and local receiving waters which can temporarily degrade water quality. Additionally, impacts could occur from contaminated stormwater runoff due to potential leaks or spills of fuel or hydraulic fluid used in construction equipment or outdoor storage of construction materials that are commonly used in construction.

#### **Drainage Patterns**

The proposed project will require new or improved drainage infrastructure to accommodate additional surface runoff related to construction of impervious surfaces (rail spur, compacted gravel access roads, stockpile areas, and truck scale). It is expected that surface runoff will continue to follow the existing drainage patterns with the total overall proposed drainage area equal to the existing drainage area.

(b) Would the water quality impacts associated with the project cause concerns for applicable permitting agencies or require mitigation in order to obtain a permit?

The following permits will be required for the proposed project:

- Kent County Soil Erosion and Sediment Control Permit (SESC)
- Stormwater Permit from Cascade Township

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<sup>13</sup> [Assessment Units 2024 - Rivers and Streams | EGLE Maps & Data \(arcgis.com\)](#)

<sup>14</sup> Determined during telephone call with Matt MacGregor, Barr Engineering Company, on June 24, 2024.

- 
- National Pollutant Discharge Elimination System (NPDES) permit from EGLE's Water Resources Division (WRD) since the project will disturb more than five acres.

The permits will be obtained by the developer during design or prior to construction of the proposed project.

If the answer to any of the above questions is “Yes”, consult with the USEPA or other appropriate Federal and/or state regulatory and permitting agencies and provide all agency correspondence.

Consultation has taken place with the USEPA and EGLE (**Attachment #2**, pages 2-34 to 2-37, 2-42 to 2-45, 2-54 to 2-57, 2-67 to 2-75 and 2-80 to 2-107).

#### **(4) GROUNDWATER**

(a) Would the project impact groundwater such that water quality standards set by Federal, state, local, or tribal regulatory agencies would be exceeded or would the project have the potential to contaminate an aquifer used for public water supply such that public health may be adversely affected?

The USEPA Sole Source Aquifers mapping<sup>15</sup> and USGS National Water Dashboard<sup>16</sup> were reviewed and there are no sole source aquifers or principal aquifers within or immediately adjacent to the project area. Based on the EGLE Water Well Viewer, the depth to the water table ranges from 104 to 167 feet based on wells located adjacent to the project site.<sup>17</sup> The proposed project disturbance will not exceed a depth of 3 to 4 feet related to construction activities (filling and grading for the rail spur, gravel access roads, stockpile areas, and truck scale area). Additionally, the proposed project will not involve bulk storage of petroleum or chemical products, commercial application of pesticides, or withdrawal of groundwater for operational purposes, and will not generate, utilize, or store aquifer-susceptible contaminants such as landfill leachate or waste lagoons. As a result, ground disturbing activities will not impact the aquifer.

Another potential impact to the aquifer relates to groundwater recharge. Groundwater is recharged naturally by rain and snow melt and, to a smaller extent, by surface water (rivers, wetlands, and lakes). Vegetation removal may affect groundwater recharge due to a loss of topsoil resulting in reduced water infiltration, enhanced surface runoff and a reduction in recharge. The project area consists of mowed lawn areas and small areas of emergent wetlands. Most of the project area will be converted to impervious surfaces (rail spur, gravel access roads, stockpile areas, and truck scale area). The proposed project will need to comply with federal, state, and local stormwater management requirements, which contain criteria to control erosion, infiltration and groundwater recharge, and stormwater runoff. As a result, no significant impacts to groundwater recharge are expected.

(b) Would the groundwater impacts associated with the project cause concerns for applicable permitting agencies or require mitigation in order to obtain a permit?

Not applicable.

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<sup>15</sup> [Sole Source Aquifers \(arcgis.com\)](http://arcgis.com)

<sup>16</sup> [USGS | National Water Dashboard](http://usgs.gov)

<sup>17</sup> [Water Well Viewer \(state.mi.us\)](http://state.mi.us)

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(c) Is the project to be located over an EPA-designated Sole Source Aquifer?

The proposed project is not located over a USEPA-designated Sole Source Aquifer.

If the answer to any of the above questions is “Yes”, consult with the USEPA or other appropriate Federal and/or state regulatory and permitting agencies and provide all agency correspondence as an attachment to this form.

Not applicable.

## **(5) WILD AND SCENIC RIVERS**

Would the proposed project affect a river segment that is listed in the Wild and Scenic River System or Nationwide River Inventory (NRI)? (If Yes, coordinate with the jurisdictional agency and attach record of consultation).

Based on a review of the National Park Service Wild and Scenic Rivers Program no federally designated Wild, Scenic, or Recreational rivers are located on or adjacent to the project site<sup>18</sup>. A review of Michigan’s Department of Natural Resources website did not identify any state designated Wild and Scenic River Systems.<sup>19</sup>

## **(O) CUMULATIVE IMPACTS**

Discuss impacts from past, present, and reasonably foreseeable future projects both on and off the airport. Would the proposed project produce a cumulative effect on any of the environmental impact categories above? Consider projects that are connected and may have common timing and/or location. For purposes of this Form, generally use 3 years for past projects and 5 years for future foreseeable projects.

This cumulative impact analysis only considers the environmental categories impacted by the proposed project. These categories include:

- Natural Resources
- Surface Water Resources
- Wetlands

Past, ongoing, and reasonably foreseeable projects assessed for cumulative impacts are identified below.

### **Past Projects (2021-2023):**

Construction projects that have taken place at the Airport over the past three years include:

- Terminal Enhancements and Expansion
- Reconstruction of South Service Road
- Reconstruction of Runway Lighting
- Terminal Apron Reconstruction and Expansion
- Maintenance Fuel Construction
- Economy Parking Lot Expansion – Phase 1

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<sup>18</sup> [National Wild and Scenic River System | Rivers.gov](https://www.rivers.gov/)

<sup>19</sup> [Natural Rivers \(michigan.gov\)](https://www.michigan.gov/dnr/)

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### **Ongoing Projects (2024):**

- Reconstruction of ARRF Building
- SRE Building Improvements and Expansion
- CONRAC Construction
- Taxiway V Rehabilitation
- Airfield Pavement Repairs
- Concourse A Expansion
- Terminal Enhancements – Phase 1
- Runway 8L/26R Surface Treatment
- Blast Pad Rehabilitation
- Fuel Facility Construction
- Economy Parking Lot – Phase 2

### **Future Foreseeable Projects (2025-2029):**

A list of desired construction projects at the Airport over the next 5 years is as follows:

- Economy Parking Lot – Phase 3 (2025)
- Runway 8R Wildlife Habitat Mitigation (2025)
- ATCT Replacement (2025-2026)
- Concourse B Enclosure Replacement (2025-2026)
- Federal Inspection Station Construction – Phases 2 and 3 (2025-2026)
- Taxiway L Extension (2026)
- Taxiway F Rehabilitation North of Taxiway V and Taxiway G (2026)
- Taxiway D Rehabilitation Right of Runway 17/35 (2026)
- Taxiway Z1 Rehabilitation (2026)
- Airfield Electrical Improvements – Runway 8L/26R (2026)
- Terminal Enhancements – Phase 2 (2027)
- Hotspot 3 Correction – Taxiway K Extension (2027)
- Taxiway J Rehabilitation – J4 to J5 (2027)
- Hotspot 3 Correction – Taxiway V Removal (2027)
- Taxiway F Pavement Removal (2028)
- GA Apron Rehabilitation – South (2028)
- Hotspot 3 Correction – Taxiway K Extension (2028)
- North Parking Garage Construction (2028)
- Runway 8R/26L Rehabilitation (2029)

Of the thirty-six (36) past, current, or future projects listed above, thirty-three (33) consist of maintenance, rehabilitation, or replacement type projects taking place upon or within previously disturbed and developed areas on Airport property and are unlikely to create notable environmental impacts, other than short-term minor construction-related air quality and noise impacts.

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Cumulative impacts related to the future Taxiway K and Taxiway L Extension projects, are discussed in further detail below.

### **Natural Resources**

The proposed project will require limited electric to the site to operate the weigh scale, ticketing computer and for a security light. Water will be required for dust suppression on roadways and stockpile areas. The future Taxiway K and Taxiway L Extension projects will require additional electric for taxiway lighting and airfield signage. The additional electric needs are negligible and will not exceed available or future natural resource energy supplies. The Runway 8R Wildlife Habitat Mitigation project does not require natural resource energy supplies. Therefore, no cumulative impact to natural resources is expected.

### **Surface Waters**

The proposed project will increase impervious areas from 0.9 acres to 20.6 acres which results in an increase in stormwater runoff, can lead to soil erosion and sedimentation, and alter existing drainage patterns. The Taxiway K and Taxiway L Extensions will result in and increase in impervious surfaces of 6.7 and 2.4 acres respectively. Stormwater runoff from the newly created impervious areas will be contained onsite through the construction of stormwater management infrastructure (i.e., stormwater drainage basins, dry swales, and/or installation of new drainage pipes), existing drainage patterns will be maintained, and projects will receive regulatory approvals or permits consistent with the state's water quality standards. The Runway 8R Wildlife Habitat Mitigation project will convert a wetland/stream area to mowed lawn but does not involve an increase in impervious surfaces. Therefore, no cumulative surface water impacts are anticipated.

### **Wetlands**

The proposed project requires approximately 0.39 acres of wetlands to be filled to construct the rail spur and gravel access roads. The Taxiway K Extension requires 2.7 acres of wetlands be filled to construct the taxiway and grade the taxiway safety area. The Airport is working on development of a wetland mitigation site/bank area to offset impacts associated with the Taxiway K extension. The Runway 8R Wildlife Habitat Mitigation project will eliminate a wildlife hazard by filling a 4.7-acre wetland area located adjacent to the Runway 8R end. Credits will be purchased from a wetland bank to mitigate the loss of wetlands. Due to the location of the proposed project, federal design standards that dictate the location of taxiways, and federal requirements to maintain a safe environment for aircraft operation by mitigating wildlife strike hazards, filling in wetlands cannot be avoided. Compensatory mitigation will be developed as part of the EGLE Part 303 permit process. The Taxiway L Extension is located within mowed lawn areas and will not impact wetlands. Compensatory mitigation will offset the loss of wetlands associated with the projects identified above. Therefore, no significant cumulative impacts are expected.

Based on the information included above the effects of the proposed project when added to the effects of other past, current or future projects at the Airport are not expected to cause significant impacts that will exceed thresholds of significance.

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## 7. PERMITS

List all required permits for the proposed project. Has coordination with the appropriate agency commenced? What feedback has the appropriate agency offered in reference to the proposed project? What is the expected time frame for permit review and decision?

The following permits are required for the proposed project:

- Kent County Soil Erosion and Sediment Control Permit (SESC)
- Stormwater Permit from Cascade Township
- EGLE Part 303 individual wetlands permit
- National Pollutant Discharge Elimination System (NPDES) permit from EGLE's Water Resources Division (WRD) since the project will disturb more than five acres.

Coordination with EGLE has been ongoing and an individual permit will be required in accordance with Part 303 (Wetlands Protection). Construction activities will be conducted consistent with State requirements and any mitigation measures associated with this permit. All required permits will be obtained by the developer prior to construction.

## 8. MITIGATION

Describe those mitigation measures to be taken to avoid creation of significant impacts to a particular resource as a result of the proposed project and include a discussion of any impacts that cannot be mitigated.

### Climate

The following voluntary emissions reductions measures could be incorporated to assist the GFIAA and State of Michigan in achieving its climate action goals and commitments:

- Use construction equipment that can operate on alternative fuels or electricity wherever possible to minimize emissions associated with diesel and gasoline powered equipment.
- Reduce idling time on equipment.

### Migratory Birds

The following mitigation measures are recommended to minimize effects on migratory birds:

- For construction activities taking place during the migratory birds nesting season, an approved biologist will survey the construction work areas no more than five days prior to ground disturbing activities taking place to determine presence/absence of nesting birds
- If an active nest is detected during the survey, no vegetation removal/ground disturbing activities will be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If activity must occur, a buffer zone around the nest will be established until nestlings have fledged and left the nest area. The dimensions of the buffer zone will be established in coordination with the local or regional USFWS office.
- If a buffer zone is needed, a barrier will be constructed to protect the area (e.g., plastic fencing)
- If a buffer zone is established, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs.

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- If establishing a buffer zone is not feasible, the USFWS will be contacted for guidance to minimize impacts to migratory birds with the proposed project or removal of an active nest. Prior to removal of an active nest, a permit would be obtained from the local Migratory Bird Permit Office.

### **Surface Waters**

The following mitigation measures are proposed to minimize impacts to surface water resources.

- Preparation of a Stormwater Pollution Prevention Plan.
- BMPs will be followed to avoid accidental spills of fuel oils, chemicals, sediments into aquatic habitats. These practices include proper storage, use, and cleanup of all construction-related chemicals. Erosion and sediment control features may include silt fences, straw bales, hydroseeding of exposed soils, and mulching.
- Construction entrances and exits will be stabilized to prevent tracking onto roadways.
- Periodic cleaning and maintenance of soil erosion and sediment control features.
- Any additional BMPs identified as part of the permitting process will be incorporated into the design of the proposed project.

### **Wetlands and Streams**

Coordination with EGLE identified the need for an individual permit for resources protected under Part 303 (Wetlands Protection). Construction activities will be conducted consistent with State requirements and any mitigation measures associated with this permit. During construction, installation and maintenance of soil erosion control devices in accordance with the Kent County Soil Erosion and Sediment Control (SESC) permits will ensure there are no impacts to water quality.

### **Solid Waste**

Solid waste would be generated during construction. If possible, portions of this waste would be recycled (such as concrete). Otherwise, solid waste from construction will be disposed of in accordance with federal, state, and local rules and regulations. If encountered, hazardous materials identified within the project area will be either stored on site or disposed of in accordance with federal, state, and local rules and regulations.

## **9. PUBLIC INVOLVEMENT**

Describe the public review process and any comments received. Include copies of Public Notices and proof of publication.

The CEQ gives Federal agencies instructions on NEPA's public involvement process at 40 CFR 1506.6. In addition, FAA Order 5050.4B requires notice and opportunity for public involvement under the NEPA process. Throughout the NEPA review process, the Airport Authority and the FAA seek input in writing from the public and federal, tribal, state, and local agencies.

### **Agency Coordination**

During the preparation of the EA, the Airport Authority conducted coordination with federal and state regulatory agencies. Correspondence from regulatory agencies is included in **Attachment #2**.

### **Draft EA Notifications and Distribution**

The Draft EA was available for review to the public, government agencies, affected property owners, and interested parties for a period of 30 days (Friday, September 13, 2024 through

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Monday, October 14, 2024). The Notice of Availability (NOA) of the Draft EA was published on Thursday September 12, 2024 in The Grand Rapids Press (**Attachment #2**). The NOA was also posted on the Airport Authority’s website at <https://www.grr.org/airport-board#meetings>. Copies of the Draft EA were made available for review on the Airport Authority’s website and at the following locations:

- Cascade Township Branch Library, 2870 Jacksmith Ave. SE, Grand Rapids, MI
- Kentwood (Richard L. Root) Branch Library, 4950 Breton SE, Kentwood, MI

In addition, a copy Notice of Availability was emailed government and environmental agencies for review and comments. **Attachment #2** includes details regarding public involvement efforts.

### **Public and Agency Comments**

As described in the NOA, the Airport Authority accepted written comments on the Draft EA by letters and email. No comments were received from members of the public or agencies.

## **10. LIST OF ATTACHMENTS**

- Attachment #1 - Figures
- Attachment #2 - Agency Coordination and Public Notification
- Attachment #3 – Environmental Documentation
- Attachment #4 – Protected Species Evaluation Report
- Attachment #5 – Historic Resources Documentation
- Attachment #6 – Wetland Delineation Report
- Attachment #7 – Appraisal of Real Property – Site 12
- Attachment #8 – Air Quality Assessment for Site 12 Development

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**Project Title:** Site 12 Development

**Identifier:** GRR

**11. PREPARER CERTIFICATION**

I certify that the information I have provided above is, to the best of my knowledge, correct.

  
Signature

October 18, 2024

Date

Kara Young

Name

Principal Consultant

Title

C&S Companies

Affiliation

315-455-2000

Phone #

**12. AIRPORT SPONSOR CERTIFICATION**

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) and special purpose laws has occurred.

  
Signature

10.18.2024

Date

Michelle Baker

Name

Environmental Manager

Title

Gerald R. Ford International Airport Authority

Affiliation

(616) 233-6022

Phone #

## **Attachment #1 - Figures**

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**Figure 1 |** Location Map

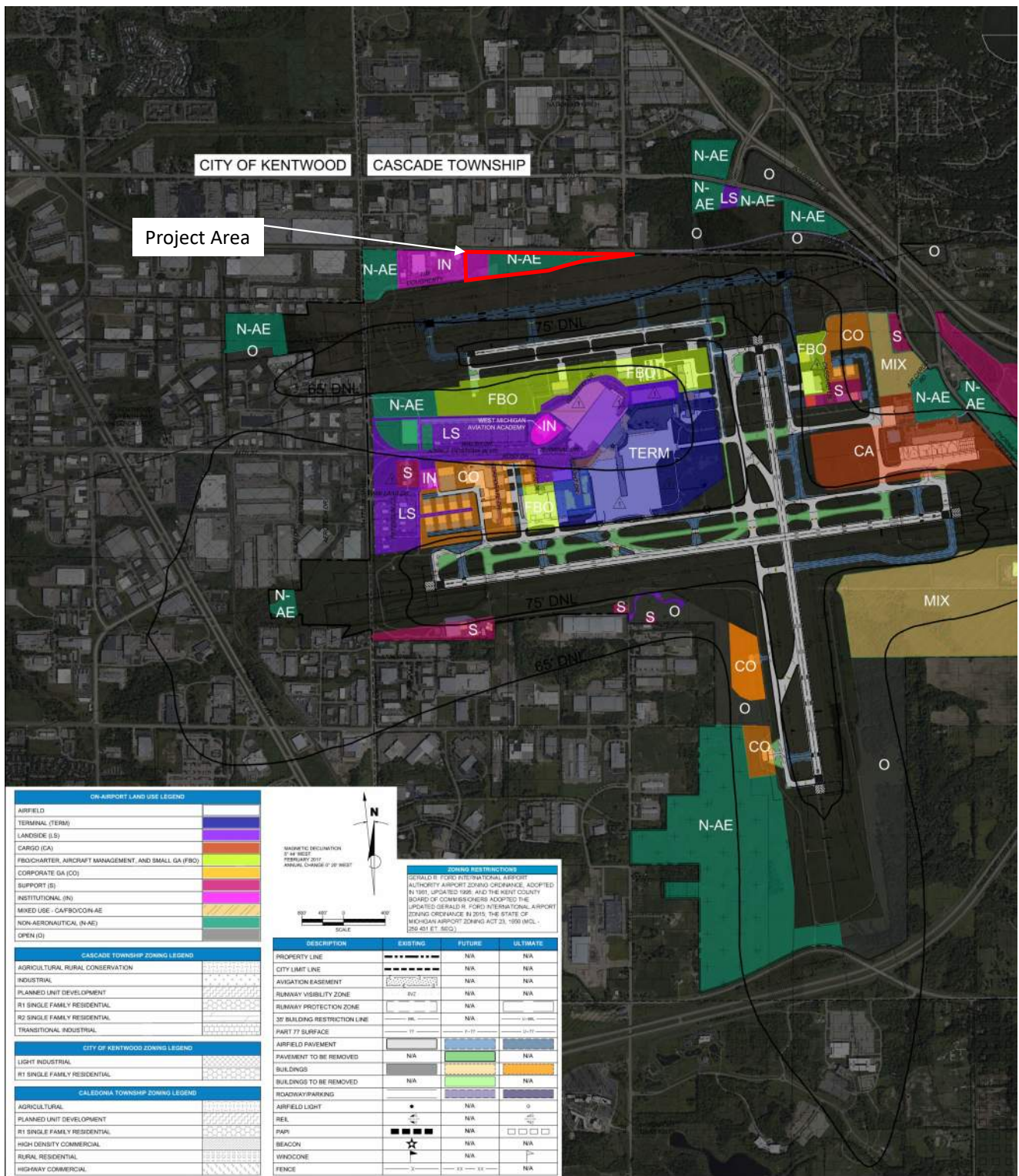
Site 12 Development

Source: GoogleEarth



## Site 12 Development

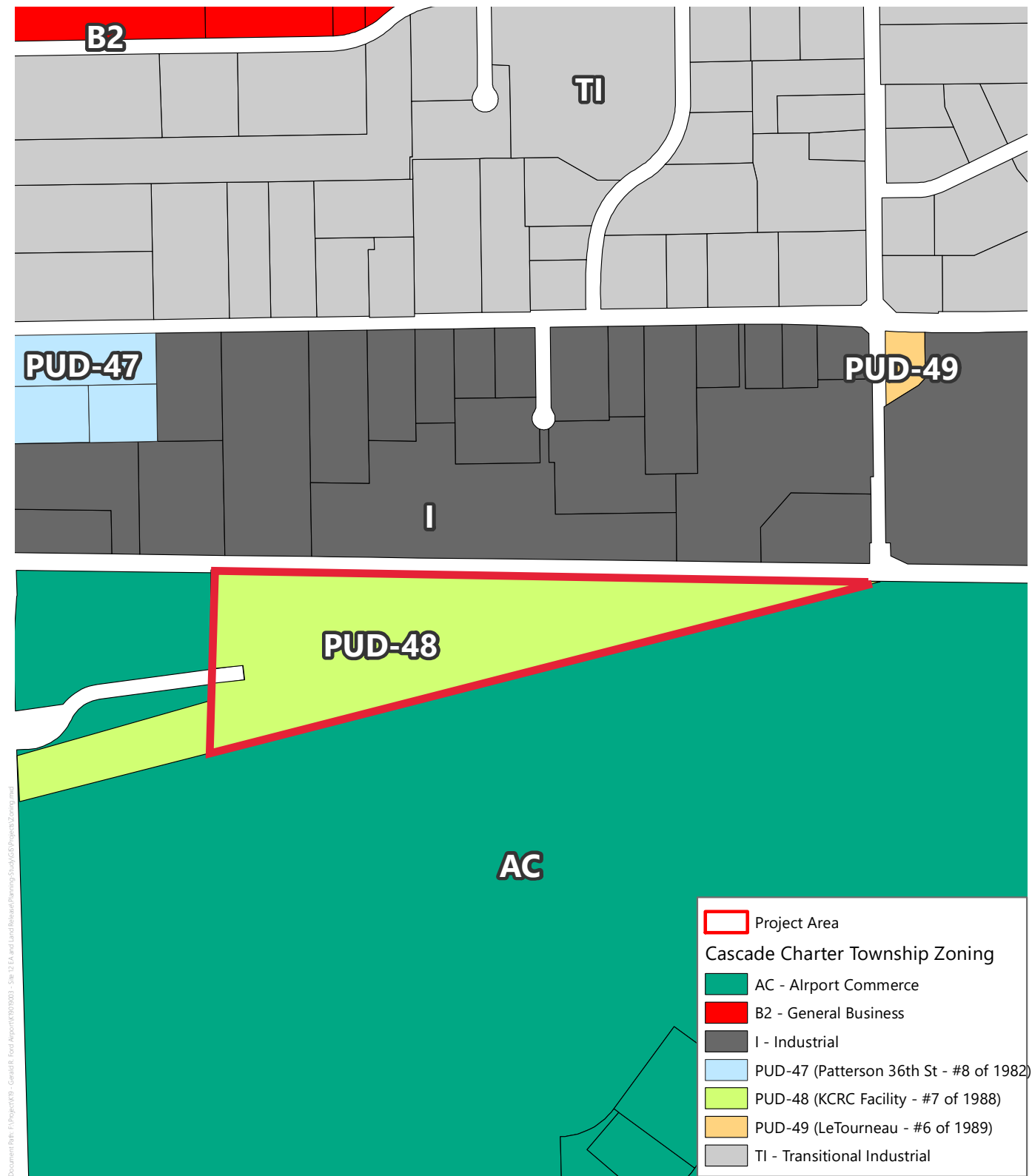
**1-2**



**Figure 3 | Land Use Map**

Site 12 Development

Source: RS&H, GRR ALP



**Figure 4 | Zoning Map**

Site 12 Development

Sources: Cascade Charter Township Official Zoning Map September 2023. Digitized by C&S Engineers, Inc.

Jan 25, 2024 - 5:20pm  
P:\Project\N19 - Gerald R. Ford Airport\K19019003 - Site 12 EA and Land Release\Planning-Study\GDD\Sheet Files\Alternatives 1 through 3\_8-11-2024.dwg



**Figure 5**

## Alternative 1: No Action

### Legend

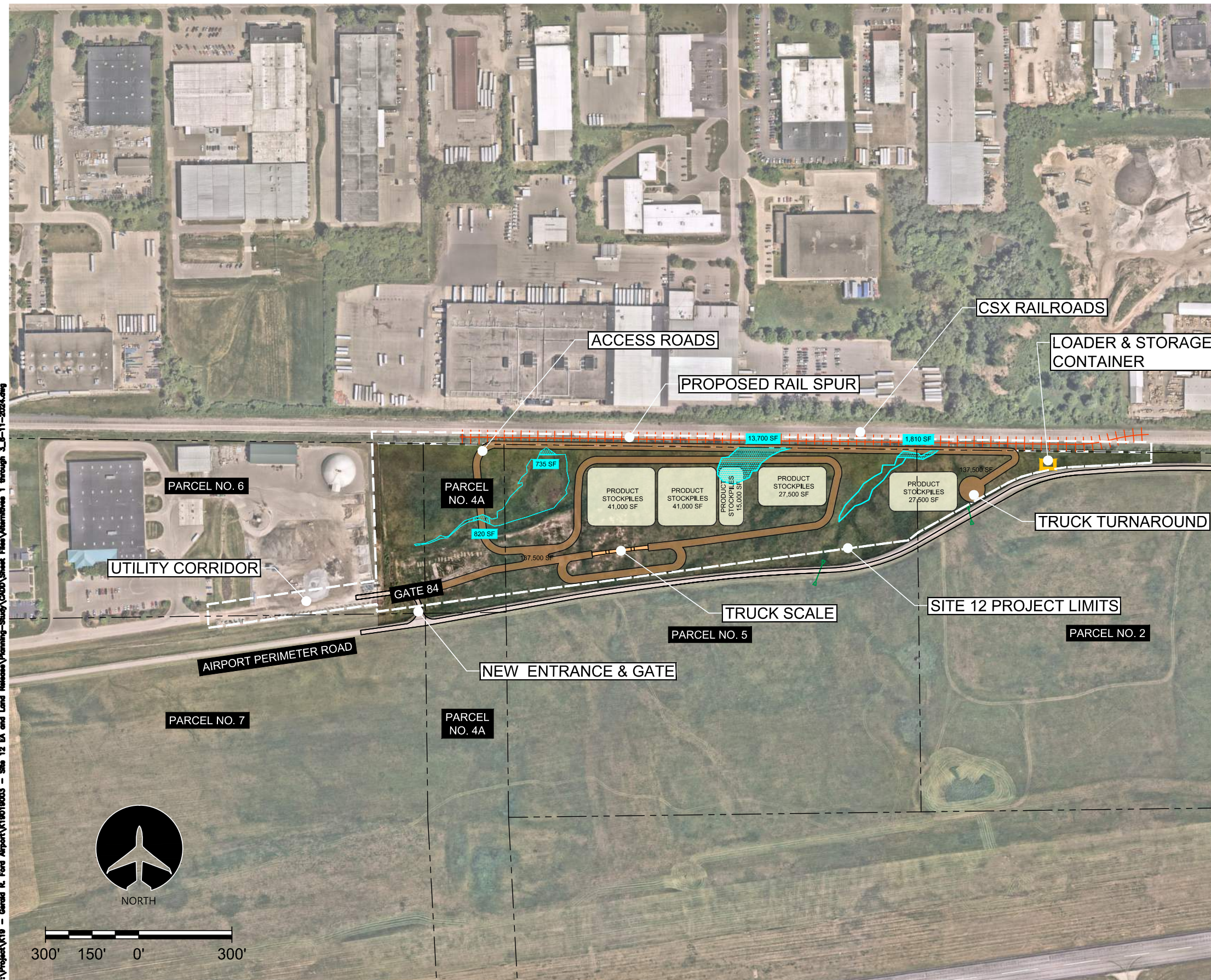
- == Project Boundary
- Delineated Wetlands, June 22, 2022,  
Barr Engineering Co.



Gerald R. Ford International  
Airport (GRR)

Source: C&S Engineers, Inc. 2024

Jan 25, 2024 - 5:21pm  
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## Figure 6

### Alternative 2: North Side Rail Spur

#### Legend

== Project Boundary

Delimited Wetlands, June 22, 2022,  
Barr Engineering Co.

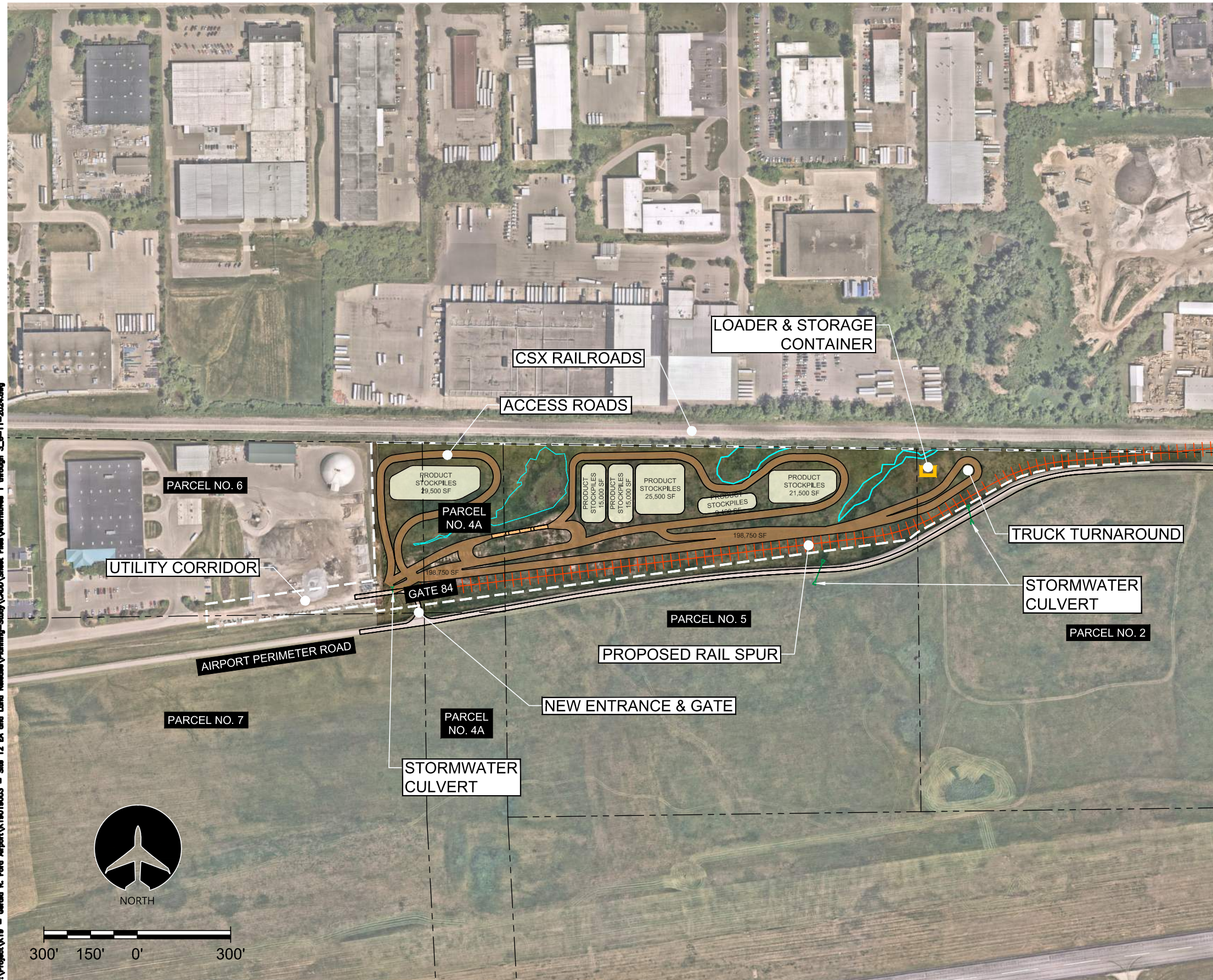
--- Parcel Lines



Gerald R. Ford International  
Airport (GRR)

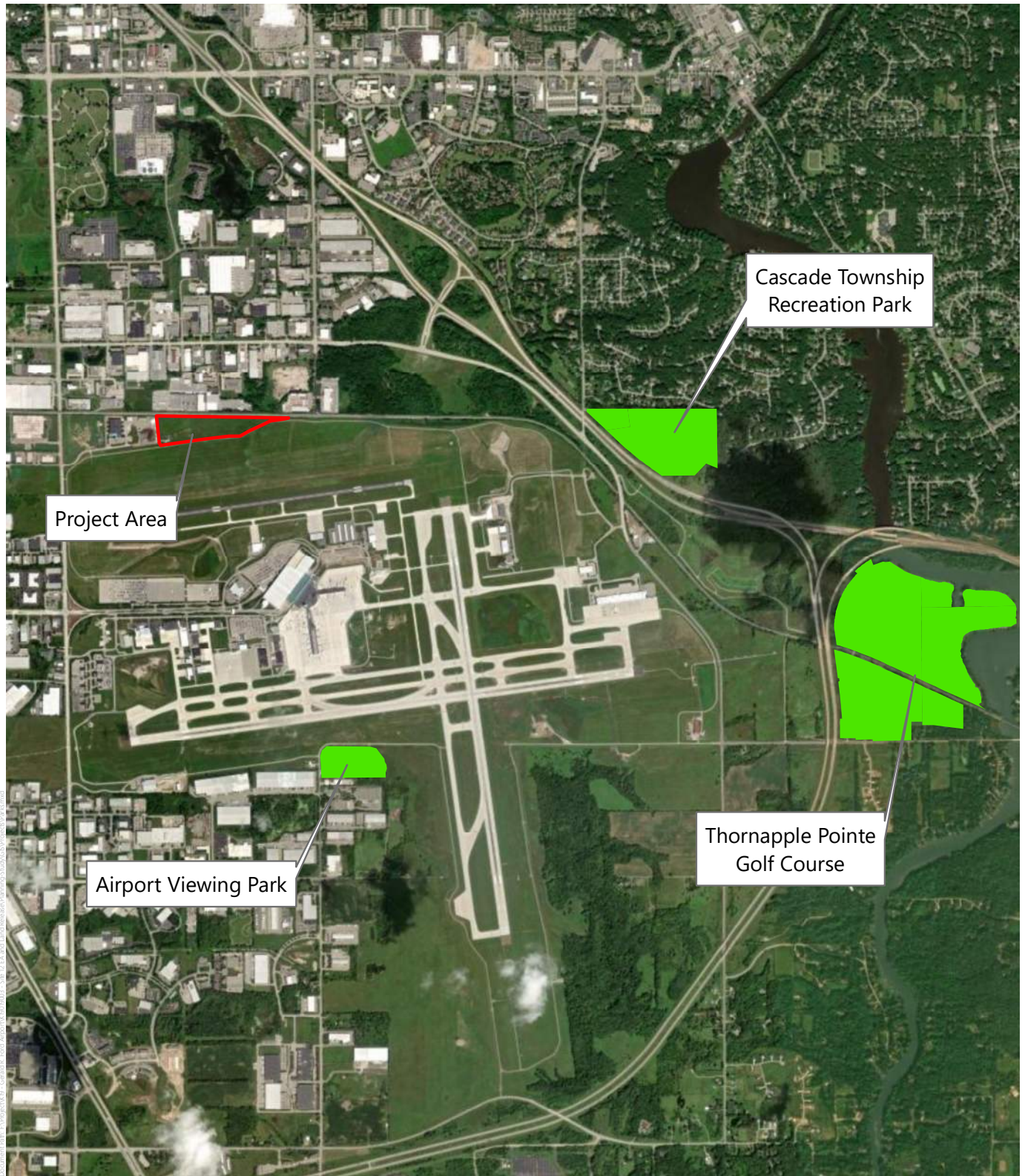
Source: C&S Engineers, Inc. 2024

Jan 25, 2024 - 5:21pm  
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**Figure 7**  
**Alternative 3:**  
**South Side Rail Spur**

- Legend**
- == Project Boundary
  - Delimited Wetlands, June 22, 2022, Barr Engineering Co.
  - Parcel Lines



## Figure 8 | Parks

### Site 12 Development

Sources: 2023 Kent County Tax Parcels; C&S Engineers, Inc.



**Figure 9 | Low Income Communities**

Site 12 Development

Source: EPA EJScreen



## **Attachment #2 - Agency Coordination**

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April 5, 2024

Brett M. Boyle, Commander  
US Army Corps of Engineers  
Detroit District Headquarters  
477 Michigan Ave.  
Detroit, MI 48226

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Mr. Boyle:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as "Site 12", for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars
- Installation of truck scale, ticket booth, and lighting around truck scale area
- Limited extension of electric and telecommunications utilities.
- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.
- On-site gravel vehicle access and circulation roads
- Designated stockpile areas

- Site grading
- Best management practices for drainage and stormwater control
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

As part of the preliminary scoping process, we are requesting that your agency provide relevant information or comments regarding the following Environmental Impact Categories, taken from the FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* as they may relate to your interest in the proposed projects. The categories are listed in the table below:

Air Quality/Climate	Socioeconomics
Biological Resources (including Fish, Wildlife, and Plants)	Environmental Justice
Coastal Resources	Children's Environmental Health and Safety Risks
Department of Transportation Act, Sec 4(f)	Light Emissions & Visual Resources
Farmlands	Wild and Scenic Rivers
Hazardous Materials, Solid Waste, and Pollution Prevention	Wetlands
Historic, Architectural, Archeological, and Cultural Resources	Floodplains
Land Use	Surface Waters
Natural Resources and Energy Supply	Groundwater
Noise and Noise-Compatible Land Use	Construction Impacts

To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





## Figure 1-2 | Proposed Project

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024

C&S  
COMPANIES

GERALD R.  
FORD International  
Airport

April 5 2024

Kent County, MI  
Adam Canute  
Environmental Compliance Manager  
5068 Breton Rd SE  
Grand Rapids, MI 49508

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Mr. Canute:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as “Site 12”, for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

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- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.
- On-site gravel vehicle access and circulation roads
- Designated stockpile areas

- Site grading
- Best management practices for drainage and stormwater control
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

As part of the preliminary scoping process, we are requesting that your agency provide relevant information or comments regarding the following Environmental Impact Categories, taken from the FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* as they may relate to your interest in the proposed projects. The categories are listed in the table below:

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To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





## Figure 1-2 | Proposed Project

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



April 5, 2024

Jillian Farkas  
Wildlife Biologist  
Ecological Services, Endangered Species  
United States Department of the Interior  
U.S. Fish & Wildlife Service  
Michigan Ecological Services Field Office  
2651 Coolidge Road  
East Lansing, MI 48823-6360

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Ms. Farkas:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

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- Site grading
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Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
*Principal Consultant, Aviation Planning*  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



April 5, 2024

Art Green, Manager  
Grand Rapids TSC  
MDOT  
2660 Leonard Street, NE  
Grand Rapids, MI 49525

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Mr. Green:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

### **Background Information/Project Description**

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- Site grading
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To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



April 5, 2024

Gerald R. Ford International Airport Authority  
5500 44<sup>th</sup> St SE  
Grand Rapids, MI 49512

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Gerald R. Ford International Airport Authority:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

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Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024

April 5, 2024

Cascade Township, MI  
Andrea Hendrick  
Community Planning & Development Director  
5920 Tahoe Dr. SE  
Grand Rapids, MI 49546-7123

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Ms. Hendrick:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

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To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





## Figure 1-2 | Proposed Project

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024

C&S  
COMPANIES

GERALD R.  
**FORD** International  
Airport

April 5, 2024

Michael J. Monfils  
Interim Director and Wildlife Ecologist  
Michigan Natural Features Inventory  
PO Box 13036  
Lansing, MI 48901-3036

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Mr. Monfils:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

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Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
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**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





## Figure 1-2 | Proposed Project

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024

C&S  
COMPANIES

GERALD R.  
FORD International  
Airport

April 5, 2024

Misty Peavler  
Environmental Protection Specialist  
Federal Aviation Administration  
3196 Kraft Avenue SE, Suite 103  
Grand Rapids, MI 49512-2065

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Ms. Peavler:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

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Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



April 5, 2024

Michigan Department of Environment, Great Lakes, and Energy (EGLE)  
Phillip Roos, Director  
Constitution Hall  
525 West Allegan Street  
P.O. Box 30473  
Lansing, MI 48909-7973

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information  
**EGLE MiEnviro Submission Reference Number HPT-Y1TY-7N5AG**

File: K19.019.003

Dear Mr. Roos:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as "Site 12", for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

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- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.

- On-site gravel vehicle access and circulation roads
- Designated stockpile areas
- Site grading
- Best management practices for drainage and stormwater control
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

As part of the preliminary scoping process, we are requesting that your agency provide relevant information or comments regarding the following Environmental Impact Categories, taken from the FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* as they may relate to your interest in the proposed projects. The categories are listed in the table below:

Air Quality/Climate	Socioeconomics
Biological Resources (including Fish, Wildlife, and Plants)	Environmental Justice
Coastal Resources	Children's Environmental Health and Safety Risks
Department of Transportation Act, Sec 4(f)	Light Emissions & Visual Resources
Farmlands	Wild and Scenic Rivers
Hazardous Materials, Solid Waste, and Pollution Prevention	Wetlands
Historic, Architectural, Archeological, and Cultural Resources	Floodplains
Land Use	Surface Waters
Natural Resources and Energy Supply	Groundwater
Noise and Noise-Compatible Land Use	Construction Impacts

To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



April 5, 2024

City of Kentwood  
Terry Schweitzer  
Community Development Director  
City Hall  
4900 Breton Ave SE  
Kentwood, MI 49508

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Mr. Schweitzer:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as "Site 12", for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

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- On-site gravel vehicle access and circulation roads

- Designated stockpile areas
- Site grading
- Best management practices for drainage and stormwater control
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

As part of the preliminary scoping process, we are requesting that your agency provide relevant information or comments regarding the following Environmental Impact Categories, taken from the FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* as they may relate to your interest in the proposed projects. The categories are listed in the table below:

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Farmlands	Wild and Scenic Rivers
Hazardous Materials, Solid Waste, and Pollution Prevention	Wetlands
Historic, Architectural, Archeological, and Cultural Resources	Floodplains
Land Use	Surface Waters
Natural Resources and Energy Supply	Groundwater
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To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



April 5, 2024

Michigan Department of Environment, Great Lakes, and Energy (EGLE)  
Anita Singh, Permit Coordinator  
1300 Market Ave SW  
Grand Rapids, MI 49503

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information  
**EGLE MiEnviro Submission Reference Number HPT-Y1TY-7N5AG**

File: K19.019.003

Dear Ms. Singh:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as "Site 12", for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

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- Designated stockpile areas

- Site grading
- Best management practices for drainage and stormwater control
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

As part of the preliminary scoping process, we are requesting that your agency provide relevant information or comments regarding the following Environmental Impact Categories, taken from the FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* as they may relate to your interest in the proposed projects. The categories are listed in the table below:

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Land Use	Surface Waters
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To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





## Figure 1-2 | Proposed Project

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024

C&S  
COMPANIES

GERALD R.  
**FORD** International  
Airport

April 5, 2024

United States Department of the Interior  
U.S. Fish & Wildlife Service, M.I. Field Office  
1955 Hartwick Pines Rd.  
Grayling, MI 49738  
(Project scoping information via the USFWS IPaC System)

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear United States Department of Interior:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as “Site 12”, for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

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To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





## Figure 1-2 | Proposed Project

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024

C&S  
COMPANIES

GERALD R.  
**FORD** International  
Airport

April 5, 2024

Michigan Department of Environment, Great Lakes, and Energy (EGLE)  
Water Resource Recovery Facility  
1300 Market Ave SW  
Grand Rapids, MI 49503

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information  
**EGLE MiEnviro Submission Reference Number HPT-Y1TY-7N5AG**

File: K19.019.003

Dear Water Resource Recovery Facility:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

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Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



April 5, 2024

Mr. Kenneth Westlake, Chief  
NEPA Implementation Section, Region 5  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information

File: K19.019.003

Dear Mr. Westlake:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

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Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





## Figure 1-2 | Proposed Project

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024

C&S  
COMPANIES

GERALD R.  
**FORD** International  
Airport

## Gayle McKee

---

**From:** Anderson, Kurt <kanderso@grand-rapids.mi.us>  
**Sent:** Tuesday, April 9, 2024 8:36 AM  
**To:** Kara Young  
**Subject:** RE: GRR Site 12 Development EA - Agency Scoping  
**Attachments:** 2023 non-domestic user survey v2.1.pdf

Good morning Kara,

Any non-domestic facility will need to submit a non-domestic user survey (attached) to the City of Grand Rapids; completed survey can be emailed to [water@grcity.us](mailto:water@grcity.us) or mailed to the address listed on the last page of the survey. Will this project involve any connections to the sanitary sewer and if so, what discharges are proposed?

Sincerely,



CITY OF  
GRAND  
RAPIDS

**Kurt Anderson**

Industrial Pretreatment Program  
Supervisor  
Environmental Services

[kanderson@grcity.us](mailto:kanderson@grcity.us)  
o: (616) 456-3260  
c: (616) 262-5504



1300 Market Ave SW  
Grand Rapids, MI 49503

---

**From:** Kara Young <[kyoung@cscos.com](mailto:kyoung@cscos.com)>  
**Sent:** Friday, April 5, 2024 3:21 PM  
**To:** esd <[esd@grand-rapids.mi.us](mailto:esd@grand-rapids.mi.us)>  
**Cc:** Michelle Baker <[mbaker@grr.org](mailto:mbaker@grr.org)>  
**Subject:** GRR Site 12 Development EA - Agency Scoping

[Stop. Think. Read. This is an external email. Please use caution when clicking on the links and opening attachments in unsolicited email.]

Hello,

On behalf of the Gerald R. Ford International Airport Authority, C&S Engineers, Inc. is preparing an Environmental Assessment for the a non-aeronautical development project at Gerald R. Ford International Airport. A letter requesting information on any environmental categories under your jurisdiction that may be affected within the project limits has been sent in the mail and is attached to this message.

As noted in the subject line of the letter, previous correspondence with EGLE has occurred during the initial planning stages of the project through MiEnviro. We are including the submission reference number for your records.

If you could provide a response by May 6<sup>th</sup>, 2024, that would be greatly appreciated. Please contact me if you have any questions.

Thank you for your time and consideration.



[\*Build your career at C&S!\*](#)

**Kara Young, ENV SP (she/her/hers)**  
**Principal Consultant**

office: (315) 455-2000

direct: (315) 703-4194

cell: (774) 313-0309

[kyoung@cscos.com](mailto:kyoung@cscos.com)

499 Col. Eileen Collins Blvd. | Syracuse, NY 13212

CONFIDENTIALITY NOTICE: This e-mail, including any attachment(s) to it, is intended for the exclusive use of the addressee(s) and may contain proprietary, confidential, or privileged information. If you are not the intended recipient, you are hereby notified that any use, disclosure, copying, distribution, or taking of any action in reliance on this information is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately by e-mail and delete the message.

**CITY OF GRAND RAPIDS  
NON-DOMESTIC USER SURVEY**

**Title II-Utilities and Services, Chapter 27, Article 3, Section 2.68(1)&(2) of the City Code requires completion of this survey for all new and existing non-domestic users of the sanitary sewer system.**

- (1) All new non-domestic Users connecting to, or discharging to, the POTW, and all existing non-domestic Users connected to, or discharging to, the POTW, shall complete a Wastewater Discharge Survey to establish whether a non-domestic User should be classified as a Significant Industrial User or require a Discharge Authorization as defined in [Section 2.62](#) and require a discharge permit. New water service will not be initiated until a complete survey is submitted. In the case of a transfer account, water service will be disconnected if a complete survey is not submitted within ten (10) days of the transfer.
- (2) Non-domestic Users who have previously submitted a survey, as prescribed in this Section, are also required to complete a wastewater discharge survey periodically, at a frequency to be determined by the City Manager.

**Instructions:**

**Please print legibly. Complete each section, be sure to include contact name and information, NAICS code(s), and sign the survey. A survey is required for each tenant space if the building has multiple occupants.**

**If you are the Building owner or property manager:**

**Provide the survey to tenant(s) of your building for the occupant space(s) requesting or changing water service, or if this survey was received in the mail. If a tenant space is vacant, complete the survey and write “currently vacant” for question A.12. Contact the Industrial Pretreatment Program at the number below for additional surveys if needed.**

**If you are a tenant:**

**You are required by Chapter 27 of the City Code to complete the survey based on information of your tenant space. The purpose of the survey, as required by the Federal General Pretreatment Regulations, is to determine facility classification and potential permitting, based on the processes that are performed in your facility space.**

**Failure to return complete survey within 10 days of receipt will result in a fee for water cutoff notice posting.**

**Failure to return a complete survey within 10 days after water cutoff notice posting will result in water cutoff.**

**Failure to return a complete survey is a violation of Chapter 27 of the City Code and may result in enforcement action.**

**Contact the industrial pretreatment program (IPP) at 456-3633 with any questions.**

## A. Facility Information

1. Legal Company Name: \_\_\_\_\_  
Facility Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
Number of employees: \_\_\_\_\_  
Mailing Address (if different):  
City, State, Zip: \_\_\_\_\_  
Company telephone: \_\_\_\_\_  
Company fax: \_\_\_\_\_  
Company representative: \_\_\_\_\_  
Company rep. telephone: \_\_\_\_\_  
Company rep. e-mail address: \_\_\_\_\_  
List NAICS Code(s) for this facility: \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

For help with NAICS Codes, enter this link into your web browser:

<http://www.census.gov/eos/www/naics/>, select the FAQ tab at the top, and select FAQ #9.

2. Facility water supplied by:

- ☐ City of Grand Rapids  
☐ Well  
☐ Other (specify) \_\_\_\_\_

3. Facility sewer is connected to:

- ☐ City of Grand Rapids Sewer System  
☐ Septic System  
☐ Other (Specify) \_\_\_\_\_

4. Does this facility have cooling towers?

- ☐ Yes
- ☐ No
- ☐ Do not know

If yes, list number and size of cooling towers at facility.

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If yes, list the names and volumes (in gallons) of all algaecides and or bactericides used in cooling towers.

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5. Check the boxes to indicate water meter locations on the cooling tower piping.

- ☐ Influent water piping
- ☐ Effluent water piping
- ☐ None of the above

6. Does this facility have grease interceptor(s) installed?

- ☐ Yes
- ☐ No
- ☐ Do not know

If yes to question 6, list number, make, model and capacity (in gallons) of each grease interceptors installed. Include the physical location of the grease interceptor (interior or outdoor)

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If yes to question 6, list the cleaning frequency of each grease interceptor (ie. weekly, monthly, yearly), and the name of the waste hauler that cleaned each grease interceptor.

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If yes to question 6, list the date of the most recent grease interceptor(s) cleaning.

7. Does this facility have oil/water separators installed?

- ☐ Yes  
☐ No  
☐ Do not know

If yes to question 7, list number, make, model, and capacity (in gallons) of oil/water separators at facility.

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If yes to question 7, list the cleaning frequency of each oil/water separator (i.e. weekly, monthly, yearly) and waste hauler name.

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8. What liquids are stored at this facility in quantities larger than five gallons? List materials stored and quantities in gallons. You may provide separate list as an attachment if a large quantity of liquids are stored at the facility.

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9. Is any waste, other than office paper, trash, or cardboard, hauled from this facility?

- ☐ Yes  
☐ No

If yes, specify waste, waste hauler used and hauling frequency

Waste Type	Waste Hauler Name	Hauling Frequency	Amount Hauled/Quarter

10. Is there any known contamination at this address?

Groundwater ☐ Yes ☐ No ☐ Do not know  
Soil ☐ Yes ☐ No ☐ Do not know  
Other ☐ Yes ☐ No ☐ Do not know

If yes, list the contaminants known to be present.

Contaminant Type (ground-water, soil, other (specify))	Contaminant	Pretreatment System Type (if installed)

If yes, were the contaminants identified by:

☐ Testing of soil borings  
☐ Testing of groundwater sampling  
☐ Other means(specify) \_\_\_\_\_

11. In the Code of Federal Regulations, Title 40 (40 CFR), categories have been established to regulate a number of industrial dischargers. Does your business have a Federally regulated industrial process?

☐ Yes  
☐ No  
☐ Do not know

If yes, list the 40 CFR part number(s) that apply

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12. List all business activities performed at this facility, i.e. what does your company do? Be as specific and detailed as possible. For example, if your facility manufactures electrical components, do not just write "manufacturing", include the details of what your facilities does.

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## **B. Wastewater Characteristics**

1. What wastewater, other than waste from bathrooms, are discharged into the sanitary sewer system from this facility?

Wastewater type	Volume discharged per day (in gallons)	Frequency of discharge (daily, once a week, monthly, etc.)

2. List all pretreatment devices or processes used for treating wastewater prior to being discharged to the sewer system.

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3. Does this facility generate any Resource Conservation and Recovery Act (RCRA) hazardous wastes? For help with RCRA hazardous wastes enter this link [www.epa.gov/osw/](http://www.epa.gov/osw/) into your web browser then select 'Hazardous Waste'.

- ☐ Yes  
☐ No  
☐ Do not know

If yes, list waste and disposal method for all RCRA waste generated at this facility.

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4. What was the facility water usage from your last water bill?

\_\_\_\_\_ Hundreds of cubic feet (HCF)  
\_\_\_\_\_ Other (Specify)

How many days in the billing cycle? \_\_\_\_\_

Whom should we contact, if we have any questions regarding this facility (if different from the person listed in Item A.1)

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_

Certification Statement:

I have personally examined and am familiar with the information submitted in this document. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

Company Representative: \_\_\_\_\_  
Signature  
\_\_\_\_\_  
Date

Please submit completed form to:

**E-MAIL:** [water@grcity.us](mailto:water@grcity.us) (scanned pdf, NO Zip files)  
**IN PERSON:** Customer Service, City Hall, 300 Monroe Ave.  
**MAIL:** City of Grand Rapids  
c/o Water Department – Utility Business Office  
300 Monroe Ave.  
Grand Rapids, MI 49503  
456-3000

May 6, 2024

VIA EMAIL

Kara Young, Env SP  
Principal Consultant, Aviation Planning  
C&S Engineers, Inc.  
41 State Street, Suite 600  
Albany, New York 12207

Dear Kara Young:

Thank you for your letter of April 5, 2024, to Director Phillip D. Roos, Michigan Department of Environment, Great Lakes, and Energy (EGLE), concerning Gerald R. Ford International Airport. Director Roos has referred your letter to EGLE's Water Resources Division (WRD) for response.

The construction of the rail spur, with the installation of a truck scale, extension of utilities, connection of an existing water supply, and improvement of an access road, will potentially impact several programs and may require permitting in several programs. These may include our Industrial Storm Water Program, Construction & Sediment and Storm Water Program, Wetlands Program, and Inland Lakes and Streams Program. I recommend that you reach out to Mike Worm, Supervisor, Grand Rapids District Office – Water Quality Unit, WRD, at 616-350-3395; [WormM@Michigan.gov](mailto:WormM@Michigan.gov); or EGLE, 350 Ottawa Avenue, NW, Unit 10, Grand Rapids, Michigan 49503-4341, to discuss project specifics and allow him to serve as a point of contact for you.

If you have any further questions regarding this matter, please contact Mike Worm or you may contact me.

Sincerely,



Phil Argiroff, Acting Director  
Water Resources Division  
517-284-5567

cc: Phillip D. Roos, Director, EGLE  
Aaron B. Keatley, Chief Deputy Director, EGLE  
Mike Worm, EGLE

**From:** Gayle McKee  
**Sent:** Monday, June 10, 2024 2:49 PM  
**To:** 'WormM@Michigan.gov'  
**Cc:** Kara Young  
**Subject:** Gerald R. Ford International Airport - Project  
**Attachments:** CS Engineers Inc.-GR Ford Intl Airport; EGLE MiEnviro Ref # HPT-Y1TY-7N5AG.pdf; Roos Agency scoping letter 032124.pdf; Alternative.pdf

Hello Mr. Worm,

You were identified in the attached response letter from Phil Argiroff (attached CS Engineers Inc.-GR Ford Intl Airport;EGLE ...) as the person to contact for further information related to the proposed project at Gerald R. Ford International Airport regarding impacts to EGLE water resource programs and permitting requirements. Further details on the proposed project are outlined below and a graphic is attached as well, for your use. One specific question I have is the project site located within a floodplain? The EPA in their response letter asked this question so I wanted to check if EGLE records identify the area as a floodplain. Online mapping such as FIRM maps did not show this as an area of concern. Any information you could provide would be greatly appreciated. If you have any questions, please call. Thank you!

### Proposed Project Description

The Airport Authority is looking to release airport land, known as “Site 12” for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport. A private developer is proposing to construct a rail spur off of the adjacent CSX Railroad track for loading/unloading of freight. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Construction of the proposed project would involve the following:

- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars
- Installation of truck scale, ticket booth, and lighting around truck scale area
- Limited extension of electric and telecommunications utilities.
- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.
- On-site gravel vehicle access and circulation roads
- Designated stockpile areas
- Site grading
- Best management practices for drainage
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

Once construction is complete, operations at the site will consist of unloading aggregate from the gondola cars at the rail to stockpiles on site, and loading of aggregate from the stockpile to customer trucks. Operations are detailed below:

- Unloading aggregate from the gondola cars:
  - o Typically limited to the summer construction months, from approximately March to November.
  - o Typical weekday hours would be Monday to Friday, from 7:00am to 5:00pm, with weekend hours occurring on Saturday from 7:00am-12:00pm. Nighttime shipments are on an occasional schedule, and typically do not occur unless driven by demand for aggregate is present from construction projects in the surrounding area.
  - o It is anticipated that rail cars will need to be unloaded once per week, at which time a crew of approximately five employees will be on site to unload the aggregate from the rail cars to the stockpile locations.
  - o Unloading activities will be conducted by “top loading”, or driving an excavator to the top of the rail car (sometimes with the aid of a built stone ramp), where the excavator will transport the material from the car to a stockpile on site.
- Loading of aggregate from stockpiles to trucks:
  - o Pickups are available year-round
  - o Operations could occur between Monday to Friday from 7:00am to 5:00pm, and Saturdays from 7:00am to 12:00pm.
  - o One employee will be on site during scheduled pickups from a buyer.
  - o Estimated average of 25 trucks per day throughout the year, with peak activity of 50-100 trucks per day occurring during the construction season
  - o Loading activities will involve moving aggregate with a front loader and placing on top of the truck scale for distribution to the buyer.

Proposed Project Map (see attached alternative)



*[Build your career at C&S!](#)*

**Gayle M. McKee, CM**

**Associate Director, Aviation Planning**

office: (716) 847-1630

direct: (716) 955-3017

cell: (716) 238-3530

[gmckee@cscos.com](mailto:gmckee@cscos.com)

141 Elm St., Suite 100 | Buffalo, NY 14203

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May 6, 2024

VIA EMAIL

Kara Young, Env SP  
Principal Consultant, Aviation Planning  
C&S Engineers, Inc.  
41 State Street, Suite 600  
Albany, New York 12207

Dear Kara Young:

Thank you for your letter of April 5, 2024, to Director Phillip D. Roos, Michigan Department of Environment, Great Lakes, and Energy (EGLE), concerning Gerald R. Ford International Airport. Director Roos has referred your letter to EGLE's Water Resources Division (WRD) for response.

The construction of the rail spur, with the installation of a truck scale, extension of utilities, connection of an existing water supply, and improvement of an access road, will potentially impact several programs and may require permitting in several programs. These may include our Industrial Storm Water Program, Construction & Sediment and Storm Water Program, Wetlands Program, and Inland Lakes and Streams Program. I recommend that you reach out to Mike Worm, Supervisor, Grand Rapids District Office – Water Quality Unit, WRD, at 616-350-3395; [WormM@Michigan.gov](mailto:WormM@Michigan.gov); or EGLE, 350 Ottawa Avenue, NW, Unit 10, Grand Rapids, Michigan 49503-4341, to discuss project specifics and allow him to serve as a point of contact for you.

If you have any further questions regarding this matter, please contact Mike Worm or you may contact me.

Sincerely,

A handwritten signature in black ink that reads "Phil Argiroff". The signature is fluid and cursive, with the first name "Phil" being more prominent.

Phil Argiroff, Acting Director  
Water Resources Division  
517-284-5567

cc: Phillip D. Roos, Director, EGLE  
Aaron B. Keatley, Chief Deputy Director, EGLE  
Mike Worm, EGLE

April 5, 2024

Michigan Department of Environment, Great Lakes, and Energy (EGLE)  
Phillip Roos, Director  
Constitution Hall  
525 West Allegan Street  
P.O. Box 30473  
Lansing, MI 48909-7973

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information  
**EGLE MiEnviro Submission Reference Number HPT-Y1TY-7N5AG**

File: K19.019.003

Dear Mr. Roos:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as "Site 12", for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars
- Installation of truck scale, ticket booth, and lighting around truck scale area
- Limited extension of electric and telecommunications utilities.
- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.

- On-site gravel vehicle access and circulation roads
- Designated stockpile areas
- Site grading
- Best management practices for drainage and stormwater control
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

As part of the preliminary scoping process, we are requesting that your agency provide relevant information or comments regarding the following Environmental Impact Categories, taken from the FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* as they may relate to your interest in the proposed projects. The categories are listed in the table below:

Air Quality/Climate	Socioeconomics
Biological Resources (including Fish, Wildlife, and Plants)	Environmental Justice
Coastal Resources	Children's Environmental Health and Safety Risks
Department of Transportation Act, Sec 4(f)	Light Emissions & Visual Resources
Farmlands	Wild and Scenic Rivers
Hazardous Materials, Solid Waste, and Pollution Prevention	Wetlands
Historic, Architectural, Archeological, and Cultural Resources	Floodplains
Land Use	Surface Waters
Natural Resources and Energy Supply	Groundwater
Noise and Noise-Compatible Land Use	Construction Impacts

To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at kyoung@cscos.com. Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps





**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024





Source: C&S Engineers, Inc. 2021

Not to Scale

**Gerald R. Ford International Airport (GRR)**  
 5500 44th Street SE  
 Grand Rapids, MI 48512

Site 12 Development



**Figure 1**  
**Wetlands Disturbance (Original Layout)**



DEPARTMENT OF THE ARMY  
U. S. ARMY CORPS OF ENGINEERS, DETROIT DISTRICT  
477 MICHIGAN AVENUE  
DETROIT, MICHIGAN 48226-2550

May 13, 2024

Kara Young, ENV SP  
C&S ENGINEERS, INC.  
41 State Street, Suite 600  
Albany, NY 12207

We are responding to your correspondence of April 5, 2024, regarding preliminary NEPA scoping for the Site 12 Development project at the Gerald R. Ford International Airport, Grand Rapids, Michigan (File K19.019.003). The following comments are provided in accordance with our responsibilities under our Regulatory and Civil Works Programs.

The Site 12 Development project is in an area where in 1984 a portion of the Corps' regulatory responsibilities was assumed by the State of Michigan. Unless otherwise notified, a separate authorization from the Corps is not required; however, permits may be required by the Michigan Department of Environment, Great Lakes, and Energy.

There are no current plans under our Civil Works Program to develop waterways in the vicinity of your project; nor do we have any current or proposed flood risk management studies for the area described in your letter.

While the Site 12 Development area does not include any federally delineated floodplains, per the National Flood Insurance Rate Maps, we recommend that you coordinate with local officials and with the State of Michigan regarding the applicability of a floodplain permit prior to construction. This coordination would help ensure compliance with local and state floodplain management regulations and acts. If you obtain information indicating any part of your project would impact the floodplain, you should consider other alternatives that, to the extent possible, avoid or minimize adverse impacts associated with use of the floodplain.

Thank you for the opportunity to comment on the proposed Site 12 Development project at the Gerald R. Ford International Airport, Grand Rapids, Michigan. Any questions may be directed to Mr. Paul Allerding of my staff at 313-226-7590 or me at 313-226-2476.

Sincerely,

*Charles A. Uhlarik*

Charles A. Uhlarik  
Chief, Environmental Analysis Section

## Gayle McKee

---

**From:** Schweitzer, Terry <SchweitzerT@kentwood.us>  
**Sent:** Tuesday, May 7, 2024 5:54 PM  
**To:** Kara Young  
**Subject:** Gerald R Ford International Airport, Grand Rapids Michigan, NEPA Environmental Assessment -Site 12 Development

Kara: I apologize for the tardy response. We feel the proposed rail spur off the CSX Railroad to allow for loading and unloading of aggregate materials will be an asset to the area. It is fitting that it takes place on a portion of aeronautical facilities. We need to preserve and promote our multi-modal assets.

Terry Schweitzer

Community Development Director

Phone: (616) 554-0710

[schweitzert@kentwood.us](mailto:schweitzert@kentwood.us)

## Gayle McKee

---

**From:** Vorce, Karen (EGLE) <VorceK@michigan.gov>  
**Sent:** Monday, April 8, 2024 4:03 PM  
**To:** Kara Young  
**Cc:** mbaker@grr.org; Ritchie, Brent (EGLE)  
**Subject:** RE: EGLE-ASSIST INQUIRY FW: GRR Site 12 Development EA - Agency Scoping  
**Attachments:** Roos Agency scoping letter 032124.pdf

Hello Kara,

This request was passed onto me here at the Grand Rapids District Remediation and Redevelopment Division (RRD) of the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

I understand this is a request under the National Environmental Policy Act (NEPA). RRD does not regulate Environmental Impact Assessments under NEPA.

If other divisions of EGLE have jurisdiction over this work, I anticipate them reaching out separately, as it appears you submitted this formally in MiEnviro for Water Resources Division of EGLE.

Let me know if you have any questions.

Thank you,

Karen

### Karen Vorce

District Supervisor

Remediation and Redevelopment Division – Grand Rapids District

Michigan Department of Environment, Great Lakes, and Energy

616-439-8008 | [vorcek@michigan.gov](mailto:vorcek@michigan.gov)

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---

**From:** Kara Young <[kyoung@cscos.com](mailto:kyoung@cscos.com)>  
**Sent:** Friday, April 5, 2024 12:46 PM  
**To:** EGLE-assist <[EGLE-assist@michigan.gov](mailto:EGLE-assist@michigan.gov)>  
**Cc:** Michelle Baker <[mbaker@grr.org](mailto:mbaker@grr.org)>  
**Subject:** GRR Site 12 Development EA - Agency Scoping

**CAUTION: This is an External email. Please send suspicious emails to [abuse@michigan.gov](mailto:abuse@michigan.gov)**

Hello,

On behalf of the Gerald R. Ford International Airport Authority, C&S Engineers, Inc. is preparing an Environmental Assessment for the a non-aeronautical development project at Gerald R. Ford International Airport. A letter requesting information on any environmental categories under your jurisdiction that may be affected within the project limits has been sent in the mail and is attached to this message.

As noted in the subject line of the letter, previous correspondence with EGLE has occurred during the initial planning stages of the project through MiEnviro. We are including the submission reference number for your records.

If you could provide a response by May 6<sup>th</sup>, 2024, that would be greatly appreciated. Please contact me if you have any questions.

Thank you for your time and consideration.



[Build your career at C&S!](#)

**Kara Young, ENV SP (she/her/hers)**

**Principal Consultant**

office: (315) 455-2000

direct: (315) 703-4194

cell: (774) 313-0309

[kyoung@cscos.com](mailto:kyoung@cscos.com)

499 Col. Eileen Collins Blvd. | Syracuse, NY 13212

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May 16, 2024

**VIA ELECTRONIC MAIL ONLY**

Misty Peavler  
Federal Aviation Administration  
Detroit Airports District Office  
11677 S. Wayne Road  
Romulus, MI 48174

**Re: EPA Scoping Comments: Proposed Site 12 Non-Aeronautical Development at Gerald R. Ford International Airport; Cities of Kentwood and Grand Rapids, Kent County Michigan**

Dear Ms. Peavler:

The U.S. Environmental Protection Agency (EPA) has reviewed the April 5, 2024, request for comments (hereafter: scoping document) to inform development of Draft Environmental Assessment (EA) for the project referenced above. The Federal Aviation Administration (FAA) is the lead Federal agency under NEPA, and the Gerald R. Ford International Airport Authority is the project proponent. EPA's comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The proposed project is located at the Gerald R. Ford International Airport (Airport) and includes the lease and development of 22.7 acres of land known as Site 12 for non-aeronautical industrial use(s). This area, located north of the Runway 8L end of the Airport, currently has no aviation infrastructure. The proposed development includes construction of a 1,950-foot rail spur, roadway improvements, installation of utilities, a truck scale and associated infrastructure, and other improvements relating to fencing and stormwater. The scoping document indicates the proposed project would be located entirely outside of the existing Airport security fence and would not include any aeronautical use or elements.

EPA's detailed comments on the scoping request are enclosed with this letter. We recommend that FAA and the Airport address these comments and our recommendations, which generally relate to air quality, aquatic resources, climate change, and terrestrial resources before finalizing the forthcoming Draft EA.

Thank you for the opportunity to provide input at the earliest stages of project development. Please send an electronic copy of future NEPA documents to [R5NEPA@epa.gov](mailto:R5NEPA@epa.gov). If you have questions or would like to discuss the contents of this letter further, please contact the lead NEPA reviewer, Julie Car, at [car.julie@epa.gov](mailto:car.julie@epa.gov) or 312-353-1369.

Sincerely,

Krystle Z. McClain, P.E.  
NEPA Program Supervisor  
Environmental Justice, Community Health, and  
Environmental Review Division

ENCLOSURES

EPA Detailed Comments

Construction Emission Control Checklist

cc:

Kara Young, C&S Engineers ([kyoung@cscos.com](mailto:kyoung@cscos.com))

## EPA Detailed Comments

### Gerald R. Ford International Airport Site 12 Development, Grand Rapids, Michigan

May 16, 2024

#### **AIR QUALITY**

- The proposed project would result in emissions from construction equipment removing vegetation. Temporary construction emissions have the potential to impact human health, especially in sensitive populations, such as the elderly, children, and those with impaired respiratory systems.

#### **Recommendations for the Draft EA:**

- Discuss the current air quality for the project area. Indicate whether the project area is in non-attainment status for any National Ambient Air Quality Standards (NAAQS).
- Discuss potential emissions expected from implementation of the proposed project. Consider both equipment used to grade land as well as truck trips to haul materials.
- Identify and commit to specific measures to reduce construction emissions. Options include: (1) requiring dust suppressant strategies, such as watering soils, (2) limiting and enforcing idle time for construction trucks and heavy equipment, and (3) soliciting bids that require zero-emission technologies or advanced emission control systems. Additional best practices are identified in the enclosed Construction Emission Control Checklist.
- Create a construction traffic management plan that ensures trucks hauling materials and heavy machinery avoid areas where children congregate within adjacent neighborhoods, when possible. Route construction truck traffic away from schools, daycare facilities, and parks, if applicable, and use crossing guards when such areas cannot be avoided. In addition to air quality benefits, careful routing may protect children from vehicle-pedestrian accidents.

#### **AQUATIC RESOURCES AND STORMWATER**

- As project specifics are developed, the Draft EA should address concerns relating to surface water, groundwater, and water quality as follows.

#### **Recommendations for the Draft EA:**

##### ***Wetlands***

- A formal wetland and Waters of the U.S. delineation should be completed to know definitively where wetlands, streams, and other regulated Waters of the U.S. are located. This delineation should be submitted to and coordinated with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for review and a jurisdictional determination. EPA strongly recommends that this delineation be completed before and included in (as an appendix to) the Draft EA, along with a copy of the jurisdictional determination.

##### ***Stormwater***

- Describe proposed measures to capture and filter stormwater runoff, from both construction and operation of the proposed project.

- Identify and discuss whether National Pollution Discharge Elimination System Clean Water Act Section 402 direct discharge and/or stormwater construction permits may be required for each alternative.

### ***Watershed Health***

- Discuss existing water quality issues and how the proposed project (and all alternatives, including the No-Action Alternative) may affect water quality in any streams that would be impacted. Discuss how implementation of each alternative will provide for or assist with delisting of existing beneficial use impairments or if the alternative is not expected to benefit water quality.
- Discuss how the proposed project would affect water quality in the watershed, including how removal of vegetation could lead to reduced infiltration of rainwater and greater erosion.

## **CLIMATE CHANGE AND GREENHOUSE GASES**

- Executive Order 140008: Tackling the Climate Crisis at Home and Abroad states, “*The United States and the world face a profound climate crisis. We have a narrow moment to pursue action...to avoid the most catastrophic impacts of that crisis and to seize the opportunity that tackling climate change presents.*” The U.S. Global Change Research Program’s National Climate Assessment provides data and scenarios that may be helpful in assessing trends in temperature, precipitation, and frequency and severity of storm events.<sup>1</sup>

Any Action Alternative would directly release greenhouse gas (GHG) emissions during construction from trucks hauling materials, workers’ vehicles, and operation of construction equipment. It is important for the Draft EA to fully quantify and adequately disclose the impacts of the GHG emission from the No Action alternative and all alternatives and discuss the implications of those emissions in light of science-based policies established to avoid the worsening impacts of climate change.

Federal courts have consistently held that NEPA requires agencies to disclose and consider climate impacts in their reviews, including impacts from GHG emissions. On January 9, 2023, the Council on Environmental Quality (CEQ) published interim guidance to assist Federal agencies in assessing and disclosing climate change impacts during environmental reviews.<sup>2</sup> CEQ developed this interim guidance in response to Executive Order 13990: Protection Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. This interim guidance was effective immediately. CEQ indicated that agencies should use this interim guidance to inform the NEPA review for all new proposed actions and may use it for evaluations in process, as agencies deem appropriate, such as informing the consideration of alternatives or helping address comments raised through the public

<sup>1</sup> Information changing climate conditions is available through the National Climate Assessment at <https://nca2023.globalchange.gov/>

<sup>2</sup> <https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate>

comment process. EPA recommends that FAA apply the interim guidance as appropriate, to ensure robust consideration of potential climate impacts, mitigation, and adaptation issues.

In addition, estimates of the social cost of greenhouse gases (SC-GHG)<sup>3</sup> are informative for assessing the impacts of GHG emissions. SC-GHG estimates allow analysts to monetize the societal value of changes in GHG emission from actions that have small, or marginal, impacts on cumulative global emissions. Estimates of the social cost of carbon (SC-CO<sub>2</sub>) and other greenhouse gases (e.g., social cost of methane (SC-CH<sub>4</sub>)) have been used for over a decade in Federal government analyses. Quantification of anticipated GHG releases and associated SC-GHG comparisons among all alternatives (including the No Action alternative scenarios) within the Draft EA would inform project decision-making and provide clear support for implementing all practicable measures to minimize GHG emissions and releases.

EPA recommends that the Commission review EPA's final technical report, "*Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances*,"<sup>4</sup> which explains the methodology underlying the most recent set of SC-GHG estimates. To better assist lead Federal agencies with the utilization of these updated estimates, EPA has also recently released a Microsoft Excel "*Workbook for Applying SC-GHG Estimates v.1.0.1*" spreadsheet<sup>5</sup> which was designed by EPA's National Center for Environmental Economics to help analysts calculate the monetized net social costs of increases in GHG emissions using the estimates of the SC-GHGs.

**Recommendations for the Draft EA:** FAA should apply the interim guidance as appropriate, to ensure robust consideration of potential climate impacts, mitigation, and adaptation issues. Additional recommendations are as follows:

***Emissions & SC-GHG Disclosure and Analysis***

- Quantify estimates of all direct and indirect GHG emissions<sup>6</sup> from the proposed project over its anticipated lifetime for all alternatives, including the No Action alternative, broken out by GHG type. Include and analyze potential upstream and downstream GHG emissions.
- Use SC-GHG estimates to disclose and consider the climate damages from net changes in direct and indirect emissions of CO<sub>2</sub> and other GHGs resulting from the proposed project. To do so, EPA recommends a breakdown of estimated net GHG emission changes by individual gas, rather than relying on CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) estimates, and then monetize the climate impacts associated with each GHG using the corresponding social cost estimate (i.e., monetize CH<sub>4</sub> emissions changes expected to occur with the social cost of methane

<sup>3</sup> EPA uses the general term, "social cost of greenhouse gases" (SC-GHG), where possible because analysis of GHGs other than CO<sub>2</sub> are also relevant when assessing the climate damages resulting from GHG emissions. The social cost of carbon (SC-CO<sub>2</sub>), social cost of methane (SC-CH<sub>4</sub>), and social cost of nitrous oxide (SC-N<sub>2</sub>O) can collectively be referenced as the SC-GHG.

<sup>4</sup> [https://www.epa.gov/system/files/documents/2023-12/epa\\_scghg\\_2023\\_report\\_final.pdf](https://www.epa.gov/system/files/documents/2023-12/epa_scghg_2023_report_final.pdf)

<sup>5</sup> <https://www.epa.gov/environmental-economics/scghg>

<sup>6</sup> As discussed in Section IV(A) of CEQ's 2023 interim guidance, "agencies generally should quantify all reasonably foreseeable emissions associated with a proposed action and reasonable alternatives (as well as the No Action alternative). Quantification should include the reasonably foreseeable direct and indirect GHG emissions, the agency should use the best available information."

(SC-CH<sub>4</sub>) estimate for emissions).<sup>7</sup> When applying SC-GHG estimates, just as with tools to quantify emissions, FAA should disclose the assumptions (e.g., discount rates) and uncertainties associated with such analysis and the need for updates over time reflect evolving science and economics of climate impacts.

- Use comparisons of GHG emissions and SC-GHG across alternatives to inform project decision-making.
- Avoid expressing the overall project-level GHG emissions as a percentage of the state or national GHG emissions. The U.S. must reduce GHG emissions from a multitude of sources, each making relatively small individual contributions to overall GHG emissions, in order to meet national climate targets.

### ***Consistency with Climate Policy***

- Include a detailed discussion of the project's GHG emissions in the context of national and international GHG emissions reduction goals, including the U.S. 2030 Paris GHG reduction target and 2050 net-zero policy.
- Provide an analysis of GHG emissions in the context of Michigan's policies and GHG emissions reduction goals.<sup>8</sup> This analysis should inform and improve FAA's consideration of mitigation measures.
- Discuss the implications the expected increase in GHGs should the proposed project be implemented. Additionally, discuss the ramifications of making it more difficult to meet state emissions goals due to the increase in GHGs.
- Discuss how the Inflation Reduction Act (IRA) may impact energy consumption patterns and GHG emissions. The IRA is expected to reduce dependence on fossil fuels while increasing availability for renewable energy sources. The Department of Energy has estimated the impacts of the IRA on clean energy and greenhouse gas emissions.<sup>9</sup> That report, and its appendix, contain several resources on future energy consumption patterns and forecasts.<sup>10</sup>
- Include a complete discussion of the extent to which the estimated GHG emissions from the proposed project and alternatives may be inconsistent with the need to take actions necessary to achieve science-based GHG reduction targets.<sup>11</sup> In addition to the IRA, there are proposed EPA climate change regulatory actions and initiatives that address greenhouse emissions from transportation, oil and gas, and power sectors.

<sup>7</sup> Transforming gases into CO<sub>2</sub>e using Global Warming Potential (GWP) metrics, and then multiplying the CO<sub>2</sub>e tons by the SC-CO<sub>2</sub>, is not as accurate as a direct calculation of the social costs of non-CO<sub>2</sub> GHGs. This is because GHGs differ not just in their potential to absorb infrared radiation over a given time frame, but also in the temporal pathway of their impact on radiative forcing and in their impacts on physical endpoints other than temperature change, both of which are relevant for estimating their social cost but not reflected in the GWP. See the Interagency Working Group on Social Cost of Greenhouse Gases' February 2021 Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 for more discussion and the range of annual SC-CO<sub>2</sub>, SC-CH<sub>4</sub>, and SC-N<sub>2</sub>O estimates currently used in Federal benefit-costs analyses.

<sup>8</sup> Including, but not limited to, the goals for Michigan laid out here:

<https://www.michigan.gov/egle/about/organization/climate-and-energy/mi-healthy-climate-plan>

<sup>9</sup> [https://www.energy.gov/sites/default/files/2022-08/8.18%20InflationReductionAct\\_Factsheet\\_Final.pdf](https://www.energy.gov/sites/default/files/2022-08/8.18%20InflationReductionAct_Factsheet_Final.pdf)

<sup>10</sup> Appendix and resources can be found at: <https://www.energy.gov/policy/methodological-appendix>

<sup>11</sup> See, e.g., Executive Order 14008; U.S. Nationally Determined Contribution to the Paris Agreement (April 20, 2021).

### ***Resilience and Adaptation***

- Identify practices to reduce and mitigate GHG emissions; include commitments by FAA to do so in the Draft EA. We recommend FAA consider practices in the enclosed Construction Emission Control Checklist.
- Analyze best available control strategies, while considering low sensitive environmental and health receptors (e.g., schools and play areas along truck travel routes).

## **ENVIRONMENTAL JUSTICE**

- Outreach and meaningful engagement are underlying pillars of environmental justice. It is imperative that FAA determine if construction, operation, and maintenance of the proposed project (or alternatives) will impact communities with EJ concerns. EPA's recommendations below suggest opportunities to further analyze, disclose, and reduce such impacts.

### **Recommendations for the Draft EA:**

- Identify the presence of low-income and/or minority communities within the project area and within the broader area that could experience environmental impacts from the proposed project. Disclose demographic information and summarize input from community members.
- Describe past activities and future plans to engage minority populations, low-income populations, and Tribes during the environmental review and planning phase, and, if the project commences, during construction and operations.
- Evaluate the impacts of this proposal on low-income and/or minority communities and sensitive receptors (e.g., children, people with asthma, etc.).
- Include an analysis and conclusion regarding whether the Proposed Action or any action alternatives that may have disproportionately high and adverse impacts on low income or minority communities, as specified in CEQ's *Environmental Justice Guidance*.<sup>12</sup>
- Compare project impacts on low-income and minority populations with an appropriate reference community to determine whether there may be disproportionate impacts. Consider risk of exposure to hazardous/toxic materials associated with the proposed construction and operation and air quality and noise impacts due to construction.
- Consider any disproportionate non-project-related pollution exposures that communities of concern may already be experiencing, as well as any disproportionate non-pollution stressors that may make the communities susceptible to pollution, such as health conditions, other social determinants of health, and disproportionate vulnerability related to climate change.
- Identify measures to ensure meaningful community engagement, minimize adverse community impacts, and avoid disproportionate impacts to communities with EJ concerns.
- Use census-tract-level information to initially help locate communities with EJ concerns. For initial screening, use EPA's EJSCREEN<sup>13</sup> mapping tool.

<sup>12</sup> CEQ's Environmental Justice Guidance Under the National Environmental Policy Act. See Section III, Part C-4.

[https://www.epa.gov/sites/default/files/2015-02/documents/ej\\_guidance\\_nepa\\_ceq1297.pdf?VersionId=78iNGtdwSTz5E2x.H0aHq.E96\\_Tphbgd](https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf?VersionId=78iNGtdwSTz5E2x.H0aHq.E96_Tphbgd)

<sup>13</sup> <http://www.epa.gov/ejscreen>

- In conducting the EJ analysis, utilize resources such as the Promising Practices Report<sup>14</sup> and the Community Guide to EJ and NEPA Methods<sup>15</sup> to appropriately engage in meaningful, targeted, community outreach, analyze impacts, and advance environmental justice principles through NEPA implementation.
- Consider cumulative environmental impacts to minority populations, low-income populations, Tribes, and indigenous peoples in the project area within the environmental justice analysis and disclose conclusions on those impacts.
- Provide an analysis and findings as to whether the project and all alternatives, including the No Action alternative, would likely have disproportionate adverse impacts on minority populations, low-income populations, or Tribes. Identify what those impacts may be and include measures that will be taken to avoid, minimize, or mitigate impacts.
- Establish material hauling routes away from places where children live, learn, and play, to the extent feasible. Consider homes, schools, daycares, and playgrounds. In addition to air quality benefits, careful routing may protect children from vehicle-pedestrian accidents. Identify potential material hauling routes in the Draft EA.

#### **THREATENED AND ENDANGERED SPECIES**

- The U.S. Fish and Wildlife Service (USFWS) hosts a project planning tool to assist with the environmental review process, known as IPAC – Information for Planning and Conservation.

**Recommendations for the Draft EA:** Result of coordination, recommendations, and stipulations with the USWS and Michigan Department of Natural Resources regarding Federally- and state-listed species should be included in the Draft EA.

#### **NOXIOUS AND INVASIVE SPECIES**

- Construction and earthmoving may allow for non-native invasive species (NNIS) to be brought into the project area on construction equipment.

##### **Recommendations for the Draft EA:**

- Discuss standard best management practices (e.g., washing construction equipment) that would be used to eliminate the spread of NNIS into, as well as out of, the project area.
- If NNIS are present in the project area, the Draft EA should identify all NNIS in the project area and specific measures that will be taken to control and/or eradicate existing populations, ideally before earthmoving activities begin.

#### **DIRECT, INDIRECT, AND CUMULATIVE IMPACTS**

- Analyze all direct, indirect, and cumulative impacts of all action alternatives as well as the No Action alternative.
  - Direct impacts are caused by an action and occur at the same time and place.

<sup>14</sup> [https://www.epa.gov/sites/default/files/2016-08/documents/nepa\\_promising\\_practices\\_document\\_2016.pdf](https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf)

<sup>15</sup> <https://www.energy.gov/sites/prod/files/2019/05/f63/NEPA%20Community%20Guide%202019.pdf>

- Indirect impacts are caused by an action and are later in time or farther removed in distance but are still reasonably foreseeable.
- Cumulative impacts are those that result from a proposed action's incremental impacts when these impacts are added to the impacts of other past, present, and reasonably foreseeable similar future actions, including those under the control of other entities.

**Recommendations for the Draft EA:**

- Summarize development, including proposed development, in the area.
- Disclose and analyze potential direct, indirect, and cumulative impacts to resources (e.g., aquatic resources) in the project area.
- Consider reasonably foreseeable impacts as a result of induced growth as a result of the proposed project. Regional or county-wide smart growth or land use plans should inform the discussion of induced growth and cumulative impacts.

**INTERAGENCY COORDINATION**

- The Draft EA should discuss coordination planning undertaken with landowners, state and Federal resource agencies, and local municipalities. A discussion of all required permits should be included in the Draft EA.

**Recommendations for the Draft EA:**

- Include a list of all Federal, state, and local permits that will be required to undertake the preferred alternative.
- Include copies of all inter-agency consultation coordination sent to, and received from, landowners, state and Federal resource agencies, and local municipalities. This includes, but is not limited to, correspondence regarding historic and cultural resources (State Historic Preservation Office), wetlands and streams (MI EGLE), and Federal and state threatened and endangered species (USFWS, Michigan Department of Natural Resources).

**OTHER COMMENTS**

- The scoping document did not address how FAA will consider scoping comments.

**Recommendations for the Draft EA:** In the Draft EA, create an appendix to include all comments received during the scoping comment period, including any applicable transcripts of comments from the public, and all comment letters received. For all government agency letters received, include FAA's responses to specific comments from each letter.

- The scoping document requested information EPA may have regarding environmental resources in the project area.

**Recommendations for the Draft EA:** We recommend that FAA access the following resources to obtain environmental information related to the project area:

- WATERS (Watershed Assessment, Tracking & Environmental Results System):<sup>16</sup>  
<https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system>
- Envirofacts:<sup>17</sup> <https://www3.epa.gov/enviro/facts/multisystem.html>
- EJSCREEN: <https://www.epa.gov/ejscreen>
- NEPAassist: <https://www.epa.gov/nepa/nepassist>
- CWA 303(d) Listed Impaired Waters: <https://www.epa.gov/tmdl/impaired-waters-and-tmdls-region-5>
- National Ambient Air Quality Standards status:  
[https://www3.epa.gov/airquality/greenbook/anayo\\_mi.html](https://www3.epa.gov/airquality/greenbook/anayo_mi.html)

<sup>16</sup> The Watershed Assessment, Tracking & Environmental Results System (WATERS) unites water quality information previously available only from several independent and unconnected databases.

<sup>17</sup> Includes enforcement and compliance information.

**U.S. Environmental Protection Agency**  
**Construction Emission Control Checklist**

Diesel emissions and fugitive dust from project construction may pose environmental and human health risks and should be minimized. In 2002, EPA classified diesel emissions as a likely human carcinogen, and in 2012 the International Agency for Research on Cancer concluded that diesel exhaust is carcinogenic to humans. Acute exposures can lead to other health problems, such as eye and nose irritation, headaches, nausea, asthma, and other respiratory system issues. Longer term exposure may worsen heart and lung disease.<sup>1</sup> We recommend FAA consider the following protective measures and commit to applicable measures in the Draft EA.

**Mobile and Stationary Source Diesel Controls**

Purchase or solicit bids that require the use of vehicles that are equipped with zero-emission technologies or the most advanced emission control systems available. Commit to the best available emissions control technologies for project equipment to meet the following standards.

- On-Highway Vehicles: On-highway vehicles should meet, or exceed, the EPA exhaust emissions standards for model year 2010 and newer heavy-duty, on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, shuttle buses, etc.).<sup>2</sup>
- Non-road Vehicles and Equipment: Non-road vehicles and equipment should meet, or exceed, the EPA Tier 4 exhaust emissions standards for heavy-duty, non-road compression-ignition engines (e.g., construction equipment, non-road trucks, etc.).<sup>3</sup>
- Locomotives: Locomotives servicing infrastructure sites should meet, or exceed, the EPA Tier 4 exhaust emissions standards for line-haul and switch locomotive engines where possible.
- Marine Vessels: Marine vessels hauling materials for infrastructure projects should meet, or exceed, the latest EPA exhaust emissions standards for marine compression-ignition engines (e.g., Tier 4 for Category 1 & 2 vessels, and Tier 3 for Category 3 vessels).<sup>4</sup>
- Low Emission Equipment Exemptions: The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.

Consider requiring the following best practices through the construction contracting or oversight process:

- Establish and enforce a clear anti-idling policy for the construction site.
- Use onsite renewable electricity generation and/or grid-based electricity rather than diesel-powered generators or other equipment.
- Use electric starting aids such as block heaters with older vehicles to warm the engine.
- Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning).
- Where possible, retrofit older-tier or Tier 0 nonroad engines with an exhaust filtration device before it enters the construction site to capture diesel particulate matter.
- Replace the engines of older vehicles and/or equipment with diesel- or alternatively-fueled engines certified to meet newer, more stringent emissions standards (e.g., plug-in hybrid-electric vehicles,

<sup>1</sup> Carcinogenicity of diesel-engine and gasoline-engine exhausts and some nitroarenes. *The Lancet*. June 15, 2012

<sup>2</sup> <https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles>

<sup>3</sup> <https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles>

<sup>4</sup> <https://www.epa.gov/emission-standards-reference-guide/all-epa-emission-standards>

battery-electric vehicles, fuel cell electric vehicles, advanced technology locomotives, etc.), or with zero emissions electric systems. Retire older vehicles, given the significant contribution of vehicle emissions to the poor air quality conditions. Implement programs to encourage the voluntary removal from use and the marketplace of pre-2010 model year on-highway vehicles (e.g., scrappage rebates) and replace them with newer vehicles that meet or exceed the latest EPA exhaust emissions standards, or with zero emissions electric vehicles and/or equipment.

#### **Fugitive Dust Source Controls**

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

#### **Occupational Health**

- Reduce exposure through work practices and training, such as maintaining filtration devices and training diesel-equipment operators to perform routine inspections.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, reducing the fume concentration to which personnel are exposed.
- Use enclosed, climate-controlled cabs pressurized and equipped with high-efficiency particulate air (HEPA) filters to reduce the operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first.
- Use respirators, which are only an interim measure to control exposure to diesel emissions. In most cases, an N95 respirator is adequate. Workers must be trained and fit-tested before they wear respirators. Depending on the type of work being conducted, and if oil is present, concentrations of particulates present will determine the efficiency and type of mask and respirator. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a National Institute for Occupational Safety and Health approval number.

#### **NEPA Documentation**

- Per Executive Order 13045 on Children's Health,<sup>5</sup> EPA recommends the lead agency and project proponent pay particular attention to worksite proximity to places where children live, learn, and play, such as homes, schools, and playgrounds. Construction emission reduction measures should be strictly implemented near these locations in order to be protective of children's health.
- Specify how impacts to sensitive receptors, such as children, elderly, and the infirm will be minimized. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.

<sup>5</sup> Children may be more highly exposed to contaminants because they generally eat more food, drink more water, and have higher inhalation rates relative to their size. Also, children's normal activities, such as putting their hands in their mouths or playing on the ground, can result in higher exposures to contaminants as compared with adults. Children may be more vulnerable to the toxic effects of contaminants because their bodies and systems are not fully developed, and their growing organs are more easily harmed. EPA views childhood as a sequence of life stages, from conception through fetal development, infancy, and adolescence.

## Gayle McKee

---

**From:** Gayle McKee  
**Sent:** Monday, June 10, 2024 2:49 PM  
**To:** WormM@Michigan.gov  
**Cc:** Kara Young  
**Subject:** Gerald R. Ford International Airport - Project [Filed 10 Jun 2024 14:48]  
**Attachments:** CS Engineers Inc.-GR Ford Intl Airport; EGLE MiEnviro Ref # HPT-Y1TY-7N5AG.pdf; Roos Agency scoping letter 032124.pdf; Alternative.pdf

**Categories:** Filed by Mail Manager

Hello Mr. Worm,

You were identified in the attached response letter from Phil Argiroff (attached CS Engineers Inc.-GR Ford Intl Airport;EGLE ...) as the person to contact for further information related to the proposed project at Gerald R. Ford International Airport regarding impacts to EGLE water resource programs and permitting requirements. Further details on the proposed project are outlined below and a graphic is attached as well, for your use. One specific question I have is the project site located within a floodplain? The EPA in their response letter asked this question so I wanted to check if EGLE records identify the area as a floodplain. Online mapping such as FIRM maps did not show this as an area of concern. Any information you could provide would be greatly appreciated. If you have any questions, please call. Thank you!

### Proposed Project Description

The Airport Authority is looking to release airport land, known as “Site 12” for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport. A private developer is proposing to construct a rail spur off of the adjacent CSX Railroad track for loading/unloading of freight. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Construction of the proposed project would involve the following:

- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars
- Installation of truck scale, ticket booth, and lighting around truck scale area
- Limited extension of electric and telecommunications utilities.
- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.
- On-site gravel vehicle access and circulation roads
- Designated stockpile areas
- Site grading
- Best management practices for drainage
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

Once construction is complete, operations at the site will consist of unloading aggregate from the gondola cars at the rail to stockpiles on site, and loading of aggregate from the stockpile to customer trucks. Operations are detailed below:

- Unloading aggregate from the gondola cars:
  - o Typically limited to the summer construction months, from approximately March to November.
  - o Typical weekday hours would be Monday to Friday, from 7:00am to 5:00pm, with weekend hours occurring on Saturday from 7:00am-12:00pm. Nighttime shipments are on an occasional schedule, and typically do not occur unless driven by demand for aggregate is present from construction projects in the surrounding area.
  - o It is anticipated that rail cars will need to be unloaded once per week, at which time a crew of approximately five employees will be on site to unload the aggregate from the rail cars to the stockpile locations.
  - o Unloading activities will be conducted by “top loading”, or driving an excavator to the top of the rail car (sometimes with the aid of a built stone ramp), where the excavator will transport the material from the car to a stockpile on site.
- Loading of aggregate from stockpiles to trucks:
  - o Pickups are available year-round
  - o Operations could occur between Monday to Friday from 7:00am to 5:00pm, and Saturdays from 7:00am to 12:00pm.
  - o One employee will be on site during scheduled pickups from a buyer.
  - o Estimated average of 25 trucks per day throughout the year, with peak activity of 50-100 trucks per day occurring during the construction season
  - o Loading activities will involve moving aggregate with a front loader and placing on top of the truck scale for distribution to the buyer.

Proposed Project Map (see attached alternative)



*Build your career at C&S!*

**Gayle M. McKee, CM**

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May 6, 2024

VIA EMAIL

Kara Young, Env SP  
Principal Consultant, Aviation Planning  
C&S Engineers, Inc.  
41 State Street, Suite 600  
Albany, New York 12207

Dear Kara Young:

Thank you for your letter of April 5, 2024, to Director Phillip D. Roos, Michigan Department of Environment, Great Lakes, and Energy (EGLE), concerning Gerald R. Ford International Airport. Director Roos has referred your letter to EGLE's Water Resources Division (WRD) for response.

The construction of the rail spur, with the installation of a truck scale, extension of utilities, connection of an existing water supply, and improvement of an access road, will potentially impact several programs and may require permitting in several programs. These may include our Industrial Storm Water Program, Construction & Sediment and Storm Water Program, Wetlands Program, and Inland Lakes and Streams Program. I recommend that you reach out to Mike Worm, Supervisor, Grand Rapids District Office – Water Quality Unit, WRD, at 616-350-3395; [WormM@Michigan.gov](mailto:WormM@Michigan.gov); or EGLE, 350 Ottawa Avenue, NW, Unit 10, Grand Rapids, Michigan 49503-4341, to discuss project specifics and allow him to serve as a point of contact for you.

If you have any further questions regarding this matter, please contact Mike Worm or you may contact me.

Sincerely,

A handwritten signature in black ink that reads "Phil Argiroff". The signature is written in a cursive, flowing style.

Phil Argiroff, Acting Director  
Water Resources Division  
517-284-5567

cc: Phillip D. Roos, Director, EGLE  
Aaron B. Keatley, Chief Deputy Director, EGLE  
Mike Worm, EGLE

April 5, 2024

Michigan Department of Environment, Great Lakes, and Energy (EGLE)  
Phillip Roos, Director  
Constitution Hall  
525 West Allegan Street  
P.O. Box 30473  
Lansing, MI 48909-7973

Re: Gerald R. Ford International Airport, Grand Rapids, Michigan  
NEPA Environmental Assessment – Site 12 Development  
Preliminary Environmental Scoping/Request for Information  
**EGLE MiEnviro Submission Reference Number HPT-Y1TY-7N5AG**

File: K19.019.003

Dear Mr. Roos:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA, Airport Authority), C&S Engineers, Inc., is preparing an Environmental Assessment (EA) for a non-aeronautical development project at Gerald R. Ford International Airport (GRR, Airport) in Grand Rapids, Kent County, Michigan (see attached **Figure 1-1**). The EA will evaluate the environmental impacts associated with Site 12 Development Project to comply with Federal Aviation Administration (FAA) requirements to assess impacts associated with airport development projects. Since the project will involve approvals from federal agencies, National Environmental Policy Act (NEPA) review is necessary. The FAA is the NEPA lead agency for the project. This letter has been submitted to elicit comments and request pertinent information from your agency.

#### **Background Information/Project Description**

GRR is a commercial service airport owned by Kent County and operated by the Airport Authority. The Airport lies within Cascade Township, the City of Kentwood, and the City of Grand Rapids. The Airport Authority intends to lease airport land, known as "Site 12", for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport (see **Figure 1-2**). A private developer proposes to construct a rail spur off the adjacent CSX Railroad track for loading/unloading of aggregate materials. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Proposed major development items in this project will include the following (see attached **Figure 1-2**):

- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars
- Installation of truck scale, ticket booth, and lighting around truck scale area
- Limited extension of electric and telecommunications utilities.
- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.

- On-site gravel vehicle access and circulation roads
- Designated stockpile areas
- Site grading
- Best management practices for drainage and stormwater control
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

As part of the preliminary scoping process, we are requesting that your agency provide relevant information or comments regarding the following Environmental Impact Categories, taken from the FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* as they may relate to your interest in the proposed projects. The categories are listed in the table below:

Air Quality/Climate	Socioeconomics
Biological Resources (including Fish, Wildlife, and Plants)	Environmental Justice
Coastal Resources	Children's Environmental Health and Safety Risks
Department of Transportation Act, Sec 4(f)	Light Emissions & Visual Resources
Farmlands	Wild and Scenic Rivers
Hazardous Materials, Solid Waste, and Pollution Prevention	Wetlands
Historic, Architectural, Archeological, and Cultural Resources	Floodplains
Land Use	Surface Waters
Natural Resources and Energy Supply	Groundwater
Noise and Noise-Compatible Land Use	Construction Impacts

To maintain the schedule for environmental planning for this project, we would appreciate a response to this inquiry by **May 6, 2024**. If we do not hear from you by that date, we will assume that you have no comments. If you have any questions regarding the project, please contact Kara Young at 315-455-2000 or by e-mail at [kyoung@cscos.com](mailto:kyoung@cscos.com). Thank you for your assistance.

Sincerely,

C&S ENGINEERS, INC.



Kara Young, ENV SP  
Principal Consultant, Aviation Planning  
enc.



**Figure 1-1 | Location Map**

Site 12 Development

Source: Google Maps

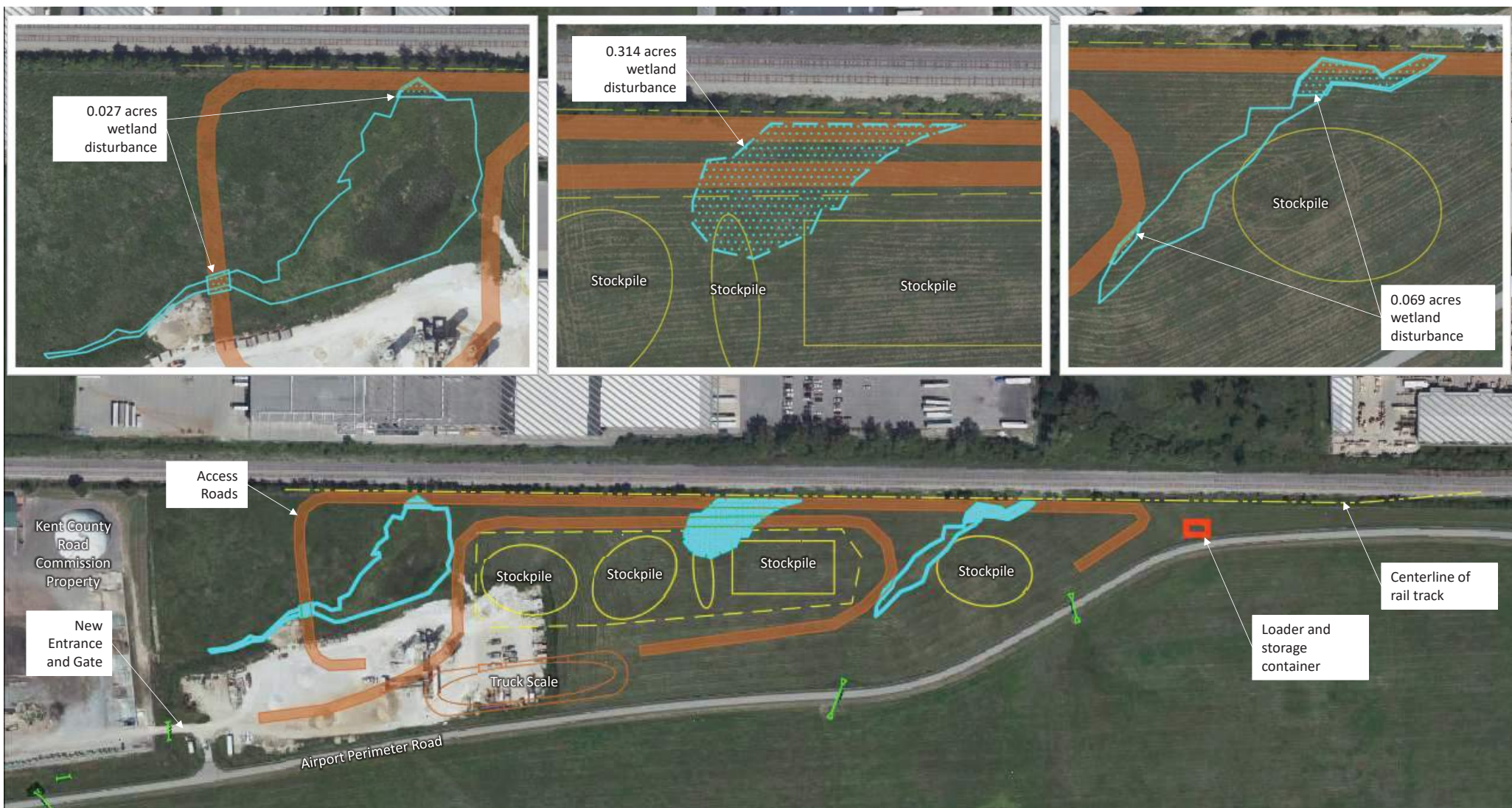




**Figure 1-2 | Proposed Project**

Site 12 Development (Phase 2)

Source: Gerald R. Ford International Airport Authority, 2024



Source: C&S Engineers, Inc. 2021

Not to Scale

**Gerald R. Ford International Airport (GRR)**  
 5500 44th Street SE  
 Grand Rapids, MI 48512

Site 12 Development



**Figure 1**  
**Wetlands Disturbance (Original Layout)**

## Gayle McKee

---

**From:** Worm, Michael (EGLE) <WORMMM@michigan.gov>  
**Sent:** Tuesday, June 11, 2024 8:34 AM  
**To:** Gayle McKee  
**Cc:** Kara Young  
**Subject:** RE: Gerald R. Ford International Airport - Project  
**Attachments:** 14-41-0007-FP.pdf

Gayle,

Per our Part 31 Floodplain engineer Minh-Huy Radics:

"No part 31 authority for floodplains. Drainage area less than 2 square miles according to previous floodplain services done for the West Michigan Aviation Academy (attachment). Since it is a smaller building that is a part of the airport, I believe the "no authority" would also apply to the airport in general."

-Mike

Michael J. Worm  
District Supervisor  
Water Resources Division/Grand Rapids District Office  
Michigan Department of Environment, Great Lakes, and Energy  
616-350-3395 [wormmm@michigan.gov](mailto:wormmm@michigan.gov)  
[Michigan.gov/EGLE](https://Michigan.gov/EGLE)

---

**From:** Gayle McKee <gmckee@cscos.com>  
**Sent:** Monday, June 10, 2024 2:49 PM  
**To:** Worm, Michael (EGLE) <WORMMM@michigan.gov>  
**Cc:** Kara Young <kyoung@cscos.com>  
**Subject:** Gerald R. Ford International Airport - Project

**CAUTION: This is an External email. Please send suspicious emails to [abuse@michigan.gov](mailto:abuse@michigan.gov)**

Hello Mr. Worm,

You were identified in the attached response letter from Phil Argiroff (attached CS Engineers Inc.-GR Ford Intl Airport;EGLE ...) as the person to contact for further information related to the proposed project at Gerald R. Ford International Airport regarding impacts to EGLE water resource programs and permitting requirements. Further details on the proposed project are outlined below and a graphic is attached as well, for your use. One specific question I have is the project site located within a floodplain? The EPA in their response letter asked this question so I wanted to check if EGLE records identify the area as a floodplain. Online mapping such as FIRM maps did not show this as an area of concern. Any information you could provide would be greatly appreciated. If you have any questions, please call. Thank you!

Proposed Project Description

The Airport Authority is looking to release airport land, known as "Site 12" for non-aeronautical use/s (i.e., industrial). The proposed project includes non-aeronautical development of 22.7 acres located

north of the Runway 8L end at the Airport. A private developer is proposing to construct a rail spur off of the adjacent CSX Railroad track for loading/unloading of freight. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Construction of the proposed project would involve the following:

- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars
- Installation of truck scale, ticket booth, and lighting around truck scale area
- Limited extension of electric and telecommunications utilities.
- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion of the roadway leading up to either side of the scale will be asphalt pavement.
- On-site gravel vehicle access and circulation roads
- Designated stockpile areas
- Site grading
- Best management practices for drainage
- Fence relocation to boundary of Kent County Road Commission parcel

The development will be located entirely outside of the airport security fence and will not include any aeronautical use or elements.

Once construction is complete, operations at the site will consist of unloading aggregate from the gondola cars at the rail to stockpiles on site, and loading of aggregate from the stockpile to customer trucks. Operations are detailed below:

- Unloading aggregate from the gondola cars:
  - o Typically limited to the summer construction months, from approximately March to November.
  - o Typical weekday hours would be Monday to Friday, from 7:00am to 5:00pm, with weekend hours occurring on Saturday from 7:00am-12:00pm. Nighttime shipments are on an occasional schedule, and typically do not occur unless driven by demand for aggregate is present from construction projects in the surrounding area.
  - o It is anticipated that rail cars will need to be unloaded once per week, at which time a crew of approximately five employees will be on site to unload the aggregate from the rail cars to the stockpile locations.
  - o Unloading activities will be conducted by “top loading”, or driving an excavator to the top of the rail car (sometimes with the aid of a built stone ramp), where the excavator will transport the material from the car to a stockpile on site.
- Loading of aggregate from stockpiles to trucks:
  - o Pickups are available year-round
  - o Operations could occur between Monday to Friday from 7:00am to 5:00pm, and Saturdays from 7:00am to 12:00pm.
  - o One employee will be on site during scheduled pickups from a buyer.
  - o Estimated average of 25 trucks per day throughout the year, with peak activity of 50-100 trucks per day occurring during the construction season
  - o Loading activities will involve moving aggregate with a front loader and placing on top of the truck scale for distribution to the buyer.

Proposed Project Map (see attached alternative)



*[Build your career at C&S!](#)*

**Gayle M. McKee, CM**  
**Associate Director, Aviation Planning**

office: (716) 847-1630

direct: (716) 955-3017

cell: (716) 238-3530

[gmckee@cscos.com](mailto:gmckee@cscos.com)

141 Elm St., Suite 100 | Buffalo, NY 14203

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## **Occhipinti, Matthew (DEQ)**

---

**From:** Occhipinti, Matthew (DEQ)  
**Sent:** Thursday, January 16, 2014 3:27 PM  
**To:** 'Steve Witte'  
**Subject:** RE: West Michigan Aviation Academy - Phase 4 (at the Airport)

Dear Mr. Witte:

**SUBJECT:** Floodplain Service Number: 14-41-0007-FP;  
Section 19, T 06N, R 10W, Cascade Township, Kent County, unnamed creek

Thank you for your January 14, 2014 request for floodplain information at the above site. The drainage area of the unnamed creek at this location is less than two square miles. Therefore, a permit is not required from the Water Resources Division (WRD) under the State's Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

All streams, lakes and drains regardless of size do have a floodplain. If you feel that your site may be located in a floodplain it is recommended that you obtain an engineer to determine the estimated 100-year flood elevation. The Michigan Residential Building Code requires that the lowest floor (including basements) be elevated at least one foot above the design flood level.

No review has been performed as part of this service to determine whether wetlands exist at this subject site. Wetlands are regulated under the authority of Part 303, Wetlands Protection, of the NREPA. The existence of wetlands may restrict the development on site. If you are unsure of the presence of wetlands, it is recommended that you contact the WRD concerning the Wetlands Identification Program (WIP) or engage a private wetland consultant. For more information regarding the WIP, please contact Mr. Keto Gyekis, Inland Lakes and Wetlands Unit, at 517-284-5534. If the project will impact wetlands, please contact Luis Saldivia of this office at 616-356-0208 for a permit application and information. The permit application may also be found at the following internet address:  
[www.michigan.gov/jointpermit](http://www.michigan.gov/jointpermit).

This letter does not obviate the need for any other State, Federal, or local permits which may be required by law. If you have any further questions regarding this determination, please contact me.

Matthew Occhipinti, P.E.  
Grand Rapids District Engineer  
Water Resources Division  
350 Ottawa Ave, NW, Grand Rapids, MI 49503  
Ph: 616-356-0207 Fax: 616-356-0202  
[www.michigan.gov/deq](http://www.michigan.gov/deq)

---

**From:** Steve Witte [<mailto:switte@nederveld.com>]  
**Sent:** Tuesday, January 14, 2014 11:52 AM  
**To:** 'rhawkins@grr.org'; Occhipinti, Matthew (DEQ); Rivette, Carrie; 'Olson, Lawrence'; Schroeder, Charles; 'jsigg@cascadetwp.com'  
**Subject:** West Michigan Aviation Academy - Phase 4 (at the Airport)

Hello Everyone,

I am wondering if you all would be willing/able to help me out. I am working on a site plan for a relatively small building addition for West Michigan Aviation Academy (5363-44<sup>th</sup> Street) out at the airport. As you may recall, West Michigan Aviation Academy completed a much larger building and parking addition a couple years ago.

As you also likely know, school projects are required to be reviewed and approved by the State of Michigan. However, the State asks us to submit the site plan set to the agencies that MAY be impacted by the project. That being said, I have attached the application sheet from the State that shows the different 'categories' and lists who I believe the possibly-affected agency/contact is. I have also attached a pdf of the current site plan set.

I would greatly appreciate it if you would review the project and write a brief response e-mail to me stating that you do not need to review/approve the plan OR that you have reviewed the plan and do not have any concerns with the proposed project. If you see anything that does concern you and/or if you see anything that needs to be modified, please let me know and I'll modify the plan accordingly. If you would like me to mail you a full sized set of plans, please let me know and I'll send them out.

Person by person, please see below:

Roy – I put you down for driveways, tall structures, and FAA (no new driveways are proposed. In discussing the project with the architect/GC, I believe they are getting you/airport the crane locations during construction. It's my understanding that other than that info, we/they should be all set)

Matt – I put you down for wetlands and flood zone (there are none present at the site and the addition is going where the driveway is located now)

Carrie – I put you down for pollution control, soil erosion control, and storm drainage. Please let me know if I need to go through the LUDS permit approval process for this (I'm not sure if that is needed/required for school projects).

Larry – I put you down for water supply. They are pulling their water from the existing building (no new taps) so I don't know that you have anything to review/approve.

Chuck – I put you down for sanitary/septic. As with water, they are pulling their sewer from the existing building (no new taps) so I don't know that you have anything to review/approve. (the building is connected to public sewer).

John – I put you down for fire and emergency access. They are going to continue to provide the access drive around the entire building.

Thank you all VERY much for your help on this. I really appreciate it.

**Steve Witte, PE**

800.222.1868

[www.nederveld.com](http://www.nederveld.com)

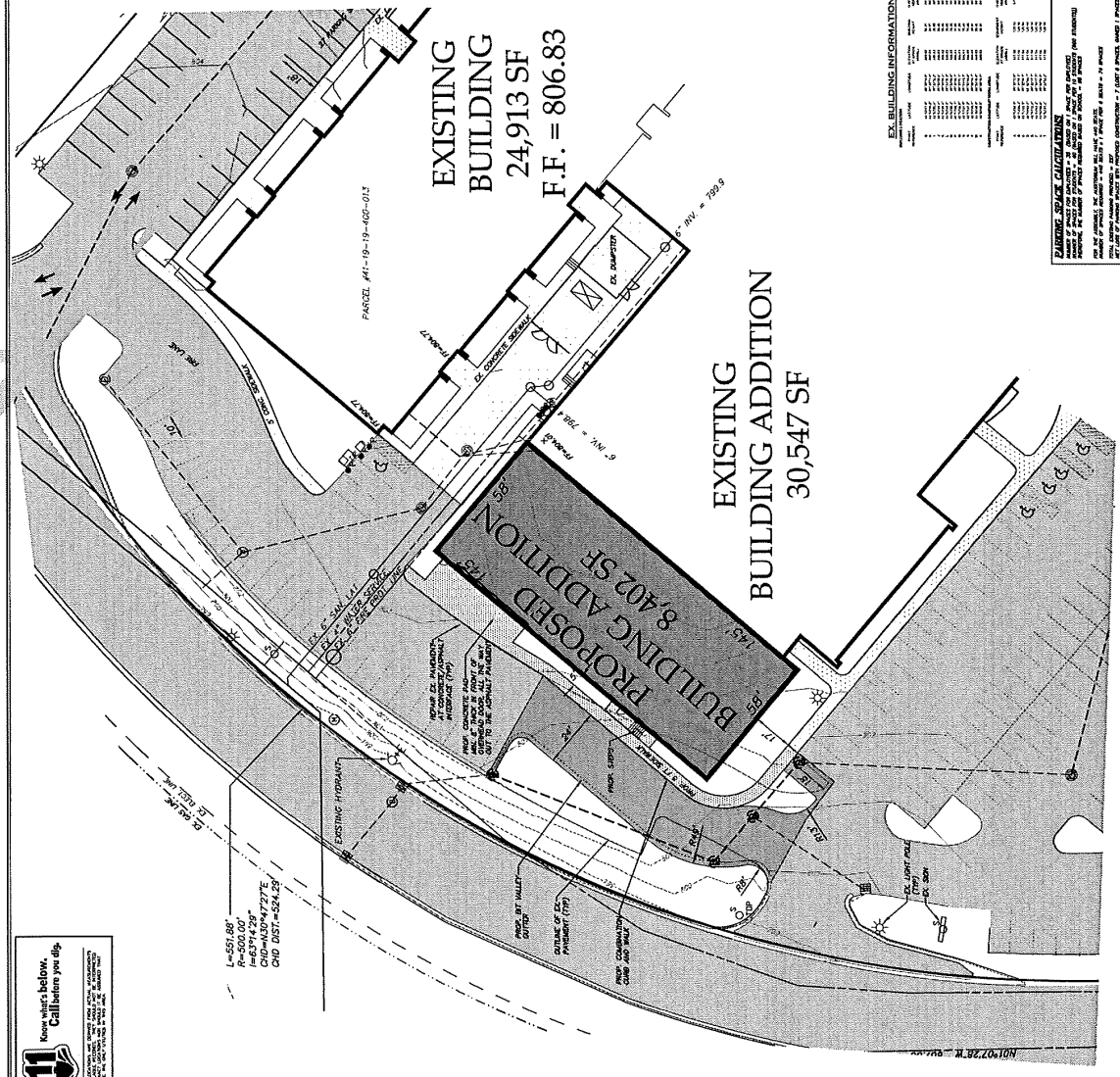


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**ANN ARBOR**  
3150 GRAND RAPIDS  
ANN ARBOR, MI 48106  
TEL: 734-769-1000

**Site Plan for**  
**WEST MICHIGAN**  
**AVIATION ACADEMY**  
5363 - 44th STREET, SW  
CITY OF GRAND RAPIDS, MI 49508

**INTEGRATED**  
**ARCHITECTURE**  
Attn: David Dineen  
Grand Rapids, MI 49508  
Phone: 616-519-0220

Project No. 13401192  
**G2B**  
Sheet No. 2 OF 3

**GENERAL NOTES**

1. ALL DIMENSIONS ARE IN FEET AND INCHES. DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
2. ALL CONCRETE SHALL BE 4000 PSI STRENGTH CONCRETE.
3. ALL REINFORCING SHALL BE #4 BARS.
4. ALL CURB AND WALK SHALL BE 12" HIGH AND 18" WIDE.
5. ALL PAVEMENT SHALL BE 4" THICK CLASS 2 SAND SEBANE.
6. ALL PAVEMENT SHALL BE 12" THICK CLASS 2 SAND SEBANE.
7. ALL PAVEMENT SHALL BE 12" THICK CLASS 2 SAND SEBANE.
8. ALL PAVEMENT SHALL BE 12" THICK CLASS 2 SAND SEBANE.
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17. ALL PAVEMENT SHALL BE 12" THICK CLASS 2 SAND SEBANE.
18. ALL PAVEMENT SHALL BE 12" THICK CLASS 2 SAND SEBANE.
19. ALL PAVEMENT SHALL BE 12" THICK CLASS 2 SAND SEBANE.
20. ALL PAVEMENT SHALL BE 12" THICK CLASS 2 SAND SEBANE.

**LEGEND**

- EX. EXISTING
- EX. CONCRETE
- PRO. PROPOSED
- PRO. COMBINATION

**REGULAR DUTY PAVEMENT CROSS SECTION**

NOTE: REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT SPECIFICATION.

**COMBINATION CURB AND WALK**

NOTE: REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT SPECIFICATION.



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Michigan Ecological Services Field Office  
2651 Coolidge Road Suite 101  
East Lansing, MI 48823-6360  
Phone: (517) 351-2555 Fax: (517) 351-1443



In Reply Refer To:  
Project Code: 2024-0088912  
Project Name: GRR Site 12

06/17/2024 13:49:31 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

### **Official Species List**

The attached species list identifies any Federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the IPaC website (<https://ipac.ecosphere.fws.gov/>) at regular intervals during project planning and implementation. To update an Official Species List in IPaC: from the My Projects page, find the project, expand the row, and click Project Home. In the What's Next box on the Project Home page, there is a Request Updated List button to update your species list. Be sure to select an "official" species list for all projects.

### **Consultation requirements and next steps**

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize Federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-Federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are two approaches to evaluating the effects of a project on listed species.

Approach 1. Use the All-species Michigan determination key in IPaC. This tool can assist you in making determinations for listed species for some projects. In many cases, the determination key

will provide an automated concurrence that completes all or significant parts of the consultation process. Therefore, we strongly recommend screening your project with the **All-Species Michigan Determination Key (Dkey)**. For additional information on using IPaC and available Determination Keys, visit <https://www.fws.gov/media/mifo-ipac-instructions> (and click on the attachment). Please carefully review your Dkey output letter to determine whether additional steps are needed to complete the consultation process.

Approach 2. Evaluate the effects to listed species on your own without utilizing a determination key. Once you obtain your official species list, you are not required to continue in IPaC, although in most cases using a determination key should expedite your review. If the project is a Federal action, you should review our section 7 step-by-step instructions before making your determinations: <https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance>. If you evaluate the details of your project and conclude “no effect,” document your findings, and your listed species review is complete; you do not need our concurrence on “no effect” determinations. If you cannot conclude “no effect,” you should coordinate/consult with the Michigan Ecological Services Field Office. The preferred method for submitting your project description and effects determination (if concurrence is needed) is electronically to [EastLansing@fws.gov](mailto:EastLansing@fws.gov). Please include a copy of this official species list with your request.

For all **wind energy projects**, please contact this field office directly for assistance, even if no Federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

### **Migratory Birds**

Please see the “Migratory Birds” section below for important information regarding incorporating migratory birds into your project planning. Our Migratory Bird Program has developed recommendations, best practices, and other tools to help project proponents voluntarily reduce impacts to birds and their habitats. The Bald and Golden Eagle Protection Act prohibits the take and disturbance of eagles without a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <https://www.fws.gov/program/eagle-management> to help you avoid impacting eagles or determine if a permit may be necessary.

Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your consideration of threatened and endangered species during your project planning. Please include a copy of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

## OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Michigan Ecological Services Field Office**

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

(517) 351-2555

## PROJECT SUMMARY

Project Code: 2024-0088912

Project Name: GRR Site 12

Project Type: Commercial Development

Project Description: site development for non-aeronautical use

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.8933799,-85.5373747,1685393,14z>



Counties: Kent County, Michigan

## ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a> General project design guidelines: <a href="https://ipac.ecosphere.fws.gov/project/GPE24M5Y4ZHK7NF7NW54SD43NU/documents/generated/6982.pdf">https://ipac.ecosphere.fws.gov/project/GPE24M5Y4ZHK7NF7NW54SD43NU/documents/generated/6982.pdf</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

## BIRDS

NAME	STATUS
Whooping Crane <i>Grus americana</i> Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	Experimental Population, Non- Essential

## REPTILES

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>For all Projects: Project is within EMR Range</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/2202">https://ecos.fws.gov/ecp/species/2202</a> General project design guidelines: <a href="https://ipac.ecosphere.fws.gov/project/GPE24M5Y4ZHK7NF7NW54SD43NU/documents/generated/5280.pdf">https://ipac.ecosphere.fws.gov/project/GPE24M5Y4ZHK7NF7NW54SD43NU/documents/generated/5280.pdf</a>	Threatened

## INSECTS

NAME	STATUS
Karner Blue Butterfly <i>Lycaeides melissa samuelis</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6656">https://ecos.fws.gov/ecp/species/6656</a>	Endangered
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

## USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

## BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act<sup>1</sup> and the Migratory Bird Treaty Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats<sup>3</sup>, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

- 
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
  2. The [Migratory Birds Treaty Act](#) of 1918.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Dec 1 to Aug 31

NAME	BREEDING SEASON
<p>Golden Eagle <i>Aquila chrysaetos</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p><a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a></p>	<p>Breeds elsewhere</p>

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

### Breeding Season (■)

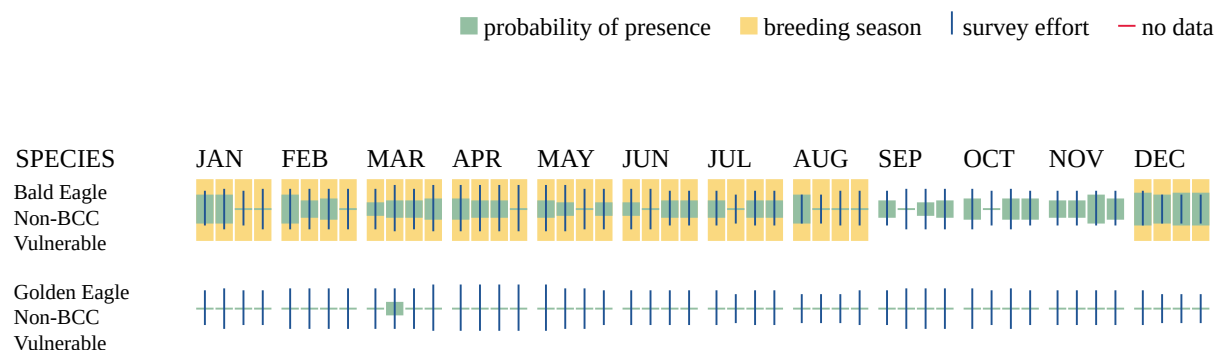
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

### Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data (—)**

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats<sup>3</sup> should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/10561">https://ecos.fws.gov/ecp/species/10561</a>	Breeds elsewhere
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Dec 1 to Aug 31
Black Tern <i>Chlidonias niger surinamensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3093">https://ecos.fws.gov/ecp/species/3093</a>	Breeds May 15 to Aug 20

NAME	BREEDING SEASON
<b>Black-billed Cuckoo</b> <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9399">https://ecos.fws.gov/ecp/species/9399</a>	Breeds May 15 to Oct 10
<b>Bobolink</b> <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9454">https://ecos.fws.gov/ecp/species/9454</a>	Breeds May 20 to Jul 31
<b>Canada Warbler</b> <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9643">https://ecos.fws.gov/ecp/species/9643</a>	Breeds May 20 to Aug 10
<b>Cerulean Warbler</b> <i>Setophaga cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/2974">https://ecos.fws.gov/ecp/species/2974</a>	Breeds Apr 22 to Jul 20
<b>Chimney Swift</b> <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9406">https://ecos.fws.gov/ecp/species/9406</a>	Breeds Mar 15 to Aug 25
<b>Eastern Whip-poor-will</b> <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/10678">https://ecos.fws.gov/ecp/species/10678</a>	Breeds May 1 to Aug 20
<b>Golden Eagle</b> <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds elsewhere
<b>Golden-winged Warbler</b> <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8745">https://ecos.fws.gov/ecp/species/8745</a>	Breeds May 1 to Jul 20
<b>Grasshopper Sparrow</b> <i>Ammodramus savannarum perpallidus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/8329">https://ecos.fws.gov/ecp/species/8329</a>	Breeds Jun 1 to Aug 20
<b>Henslow's Sparrow</b> <i>Centronyx henslowii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3941">https://ecos.fws.gov/ecp/species/3941</a>	Breeds May 1 to Aug 31

NAME	BREEDING SEASON
<p>Lesser Yellowlegs <i>Tringa flavipes</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a></p>	Breeds elsewhere
<p>Pectoral Sandpiper <i>Calidris melanotos</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9561">https://ecos.fws.gov/ecp/species/9561</a></p>	Breeds elsewhere
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9398">https://ecos.fws.gov/ecp/species/9398</a></p>	Breeds May 10 to Sep 10
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/10633">https://ecos.fws.gov/ecp/species/10633</a></p>	Breeds elsewhere
<p>Rusty Blackbird <i>Euphagus carolinus</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/9478">https://ecos.fws.gov/ecp/species/9478</a></p>	Breeds elsewhere
<p>Semipalmated Sandpiper <i>Calidris pusilla</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/9603">https://ecos.fws.gov/ecp/species/9603</a></p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a></p>	Breeds elsewhere
<p>Upland Sandpiper <i>Bartramia longicauda</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/9294">https://ecos.fws.gov/ecp/species/9294</a></p>	Breeds May 1 to Aug 31
<p>Wood Thrush <i>Hylocichla mustelina</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9431">https://ecos.fws.gov/ecp/species/9431</a></p>	Breeds May 10 to Aug 31
<p>Yellow Rail <i>Coturnicops noveboracensis</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9476">https://ecos.fws.gov/ecp/species/9476</a></p>	Breeds May 15 to Sep 10

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

### Breeding Season (■)

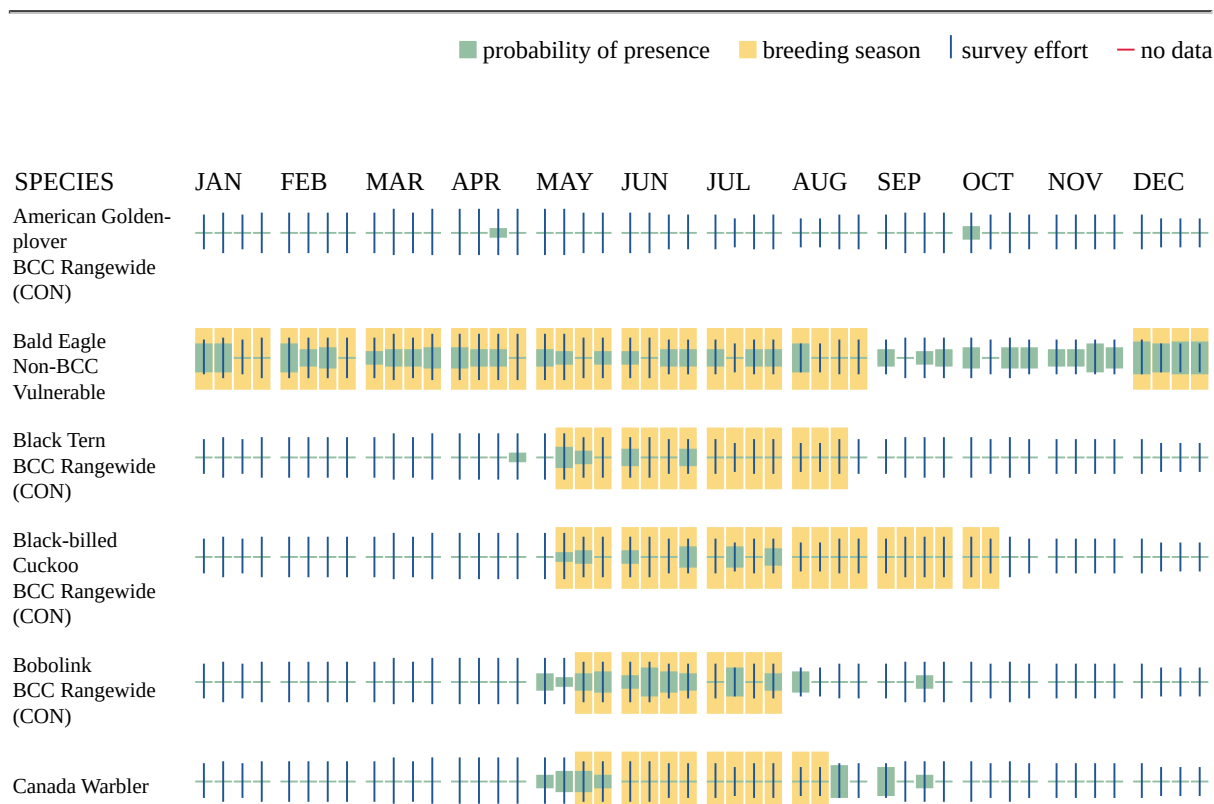
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

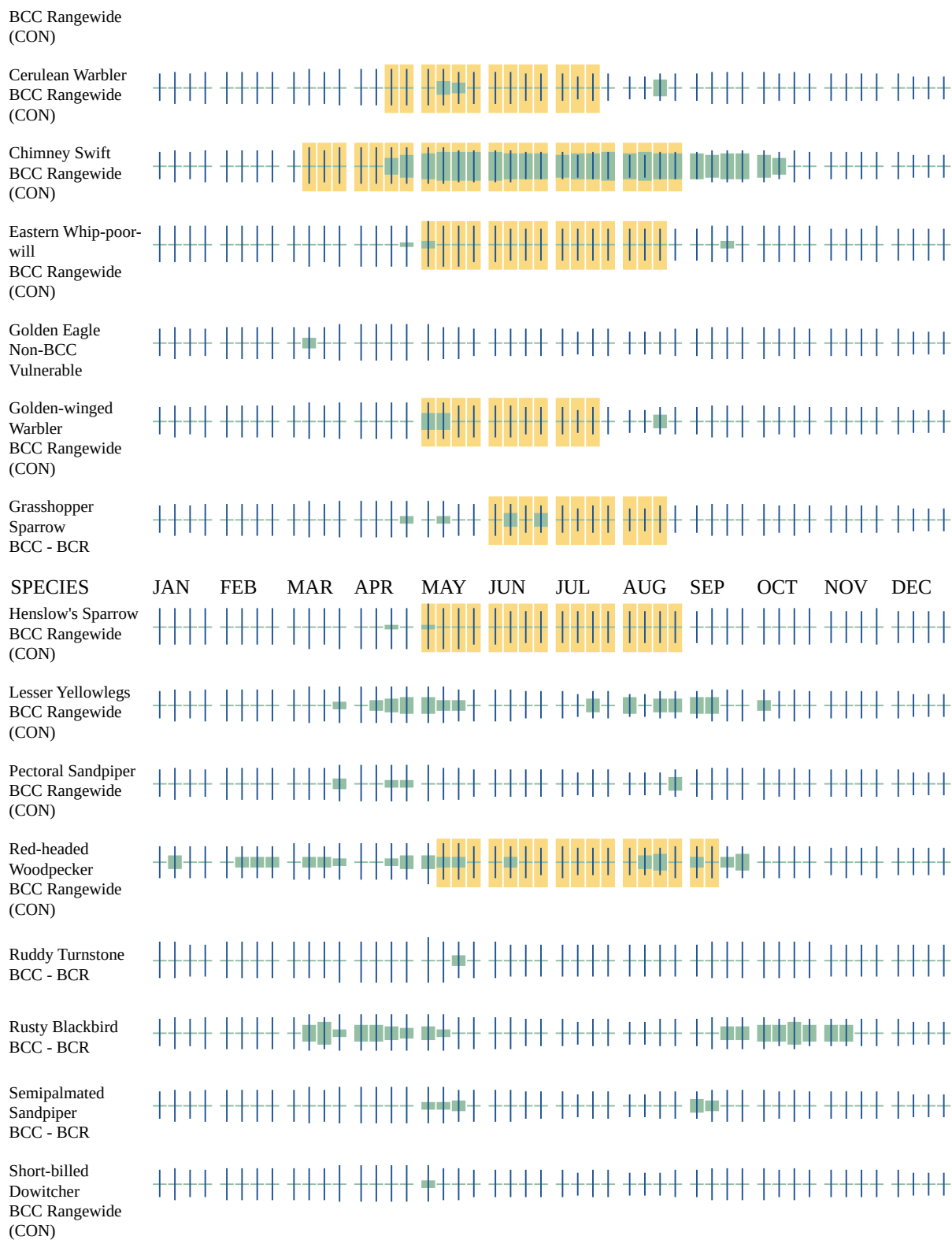
### Survey Effort (|)

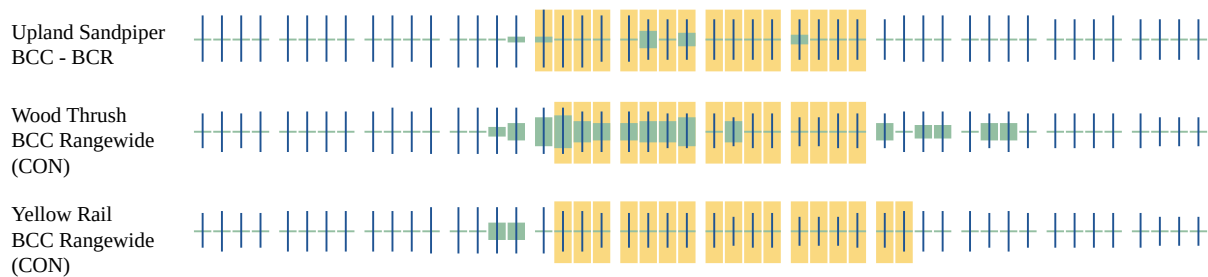
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.







Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
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- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

## WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### RIVERINE

- R5UBFx

### FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C

## **IPAC USER CONTACT INFORMATION**

Agency: County of Kent

Name: Gayle McKee

Address: 141 Elm Street, Suite 100

City: Buffalo

State: NY

Zip: 14203

Email gmckee@cscos.com

Phone: 7169553017

## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: County of Kent

## **PUBLIC NOTICE OF DRAFT ENVIRONMENTAL ASSESSMENT AVAILABILITY**

### **Gerald R. Ford International Airport Authority**

#### **DRAFT ENVIRONMENTAL ASSESSMENT FOR SITE 12 DEVELOPMENT**

The Gerald R. Ford International Airport Authority (GFIAA, Airport Authority) announces the availability for review of the Draft Environmental Assessment (DEA) for the Site 12 Development (the proposed action) at Gerald R. Ford International Airport (GRR). The DEA has been prepared in accordance with the following: Federal National Environmental Policy Act (NEPA) of 1969, as amended; Federal Aviation Administration (FAA) Order 1050.1F; FAA Order 5050.4B; Executive Order 11990 – Protection of Wetlands; and Sections 401 and 404 of Clean Water Act (including Section 33 U.S.C. 1344).

The purpose of the Project is to develop an unused parcel at GRR for non-aeronautical uses to maximize the revenue potential of land under its ownership. The need for the Project is to generate airport revenue, promote orderly land use planning, and meet the demand for economic growth. The proposed project includes non-aeronautical development of 22.7 acres located north of the Runway 8L end at the Airport. A private developer is proposing to construct a rail spur off of the adjacent CSX Railroad track for loading/unloading of freight. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution from the site for use within the region.

The DEA identifies, documents, and evaluates the environmental, social, and economic consequences of the Proposed Action in accordance with its authorized project purpose and need.

#### **Document Availability**

The DEA is accessible online and by hard copy for the review period of 30 calendar days. The documentation is available for download online at (<https://www.grr.org/airport-board#meetings>). One hard copy is available for review by appointment at the Airport (5500 44<sup>th</sup> Street SE, Grand Rapids, MI). Appointments can be made by contacting Michelle Baker at 616-233-6000. Hard copies are also available for review at: Cascade Township Branch Library, 2870 Jacksmith Ave. SE, Grand Rapids, MI; and Kentwood (Richard L. Root) Branch Library, 4950 Breton SE, Kentwood, MI.

The DEA will be available for review beginning **Friday, September 13, 2024**.

#### **Public Comments**

The public comment period will extend from **Friday, September 13, 2024**, through **Monday October 14, 2024**. **All written comments must be submitted by 11:59 PM on Monday October 14, 2024**. Please send any comments that you have by email to [GRRSite12EA@cscos.com](mailto:GRRSite12EA@cscos.com) or by mail to C&S Engineers 38777 Six Mile Road Suite 202, Livonia, Michigan 48152 ATTN: Kara Young. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.



PUBLIC NOTICE OF DRAFT ENVIRONMENTAL ASSESSMENT AVAILABILITY Gerald R. Ford International Airport Authority  
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**PUBLIC NOTICE OF DRAFT  
ENVIRONMENTAL  
ASSESSMENT  
AVAILABILITY  
Gerald R. Ford  
International Airport  
Authority  
DRAFT ENVIRONMENTAL  
ASSESSMENT FOR SITE  
12 DEVELOPMENT**

The Gerald R. Ford International Airport Authority (GFIAA, Airport Authority) announces the availability for review of the Draft Environmental Assessment (DEA) for the Site 12 Development (the proposed action) at Gerald R. Ford International Airport (GRR). The DEA has been prepared in accordance with the following: Federal National Environmental Policy Act (NEPA) of 1969, as amended; Federal Aviation Administration (FAA) Order 1050.1F; FAA Order 5050.4B; Executive Order 11990 – Protection of Wetlands; and Sections 401 and 404 of Clean Water Act (including Section 33 U.S.C. 1344).

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including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment –including your personal identifying information –may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Post Date: 09/12 Updated: 09/12 06:16 AM

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## Similar Listings

### **Pittsfield Charter Township Board of Trustees Meeting Synopsis**

The Pittsfield Charter Township Board of Trustees held a Regular Board Meeting on August 14, 2024. Minutes can be viewed online at [www.pittsfield-mi.gov](http://www.pittsfield-mi.gov). If you have any questions, please contact the Clerk's Office at (734) 822-3120.

**Michelle L. Anzaldi, Clerk  
Pittsfield Charter Township**

Pittsfield Charter Township Board of Trustees Meeting Synopsis The Pittsfield Charter Township Board of Trustees he [Show more »](#)



Post Date: 08/18 12:00 AM

Refcode: #0010902478-01

CLICK TO SEE LEGAL NOTICE FOR ALPINE TOWNSHIP [Show more »](#)



September 6, 2024

Cascade Township Branch Library  
Attn: Ashley Smolinski  
2870 Jacksmith Avenue SE  
Grand Rapids, MI 49546

Re: Draft Environmental Assessment for Site 12 Development – Public Review

File: K19.019.003

Dear Ms. Smolinski:

On behalf of the Gerald R. Ford International Airport Authority (GFIAA), we have recently completed an Environmental Assessment (EA) report for a development project at Gerald R. Ford International Airport (GRR). In accordance with Federal Aviation Administration (FAA) requirements, the document needs to be made available for public review for a period of 30 days. While the report will be hosted online on the GFIAA's website, your library has agreed to reserve a hard copy of the report so that those who do not have internet access can have an opportunity to review the document.

A public notice will be published in the local newspapers on or before September 13, 2024, stating that the above-referenced report has been made available for the public to review at the Cascade Township Branch Library. Enclosed please find one (1) copy of the Draft Environmental Assessment (DEA) September 2024 Report for the Site 12 Development project. The EA Report should be made available for public review **from September 13, 2024 through October 14th, 2024**. After this time, the report no longer needs to be made available and can be recycled accordingly.

Please note that the library will not have to receive any comments from the public. The public notice directs the comments to be submitted via email or mail and provides the respective contact information. If you have any questions or need further guidance, please contact me by email at [kyoung@cscos.com](mailto:kyoung@cscos.com) or by phone at 315-703-4194.

Sincerely,

C&S ENGINEERS, INC.



Kara Young  
Principal Consultant

(Enclosures)

September 6, 2024

Kentwood (Richard L. Root) Branch Library  
Attn: Kiosha Jeltema  
4950 Breton SE  
Kentwood, MI 49508

Re: Draft Environmental Assessment for Site 12 Development – Public Review

File: K19.019.003

Dear Ms. Jeltema:

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Sincerely,

C&S ENGINEERS, INC.



Kara Young  
*Principal Consultant*

(Enclosures)

**Environmental  
Distribution List (next  
page) included in Bcc  
list.**

## Notice of Public Review Period: GRR Site 12 Development Environmental Assessment



Kara Young

To: Kara Young

Cc: Gayle McKee; Michelle Baker; Tom Cizauskas; Peavler, Misty (FAA); Kelly Jost



Reply



Reply All



Forward



Thu 9/12/2024 3:38 PM

Bcc: wormm@michigan.gov; monfilm@msu.edu; ahendrick@cascadetwp.com; LREPAO@usace.army.mil;  
brett.m.boyle@usace.army.mil; paul.h.allerdig@usace.army.mil; SinghA3@Michigan.gov;  
Adam.canute@KentCountyMI.gov; Schweitzer, Terry; kanderson@grcity.us; Greena5@michigan.gov;  
Bruinsma, Abigail (EGLE); HambacherM@michigan.gov

Retention Policy Archive Sent Items older than (90 days)

Expires 12/11/2024

You are receiving this message because you have received previous correspondence regarding the above-referenced project. The Gerald R. Ford International Airport Authority (GFIAA, Airport Authority) announces the availability for review of the Draft Environmental Assessment (DEA) for the Site 12 Development (the proposed action) at Gerald R. Ford International Airport (GRR).

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Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Thank you,



*Build your career at C&S!*

**Kara Young** (she/her/hers)

**Principal Consultant**

office: (315) 455-2000

direct: (315) 703-4194

cell: (774) 313-0309

[kyoung@cscos.com](mailto:kyoung@cscos.com)

499 Col. Eileen Collins Blvd. | Syracuse, NY 13212

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## **Environmental Distribution List**

### **Airport Sponsor**

Gerald R. Ford International Airport  
Authority  
5500 44<sup>th</sup> St SE  
Grand Rapids, MI 49512

### **FAA/Lead Agency**

Misty Peavler  
Environmental Protection Specialist  
Federal Aviation Administration  
3196 Kraft Avenue SE, Suite 103  
Grand Rapids, MI 49512-2065  
Email: [misty.peavler@faa.gov](mailto:misty.peavler@faa.gov)

### **Federal Agencies**

Brett M. Boyle, Commander  
US Army Corps of Engineers  
Detroit District Headquarters  
477 Michigan Ave.  
Detroit, MI 48226  
Email: [brett.m.boyle@usace.army.mil](mailto:brett.m.boyle@usace.army.mil)  
[LREPAO@usace.army.mil](mailto:LREPAO@usace.army.mil)

Paul Alldering  
Planning Branch, Environmental Analysis  
Section  
US Army Corps of Engineers  
477 Michigan Avenue  
Detroit Michigan 48226-2550  
[paul.h.alldering@usace.army.mil](mailto:paul.h.alldering@usace.army.mil)

### **State Agencies**

Michigan Department of Environment, Great  
Lakes, and Energy (EGLE)  
Anita Singh, Permit Coordinator  
1300 Market Ave SW  
Grand Rapids, MI 49503  
Email: [SinghA3@Michigan.gov](mailto:SinghA3@Michigan.gov)  
Phone: 517-281-2615

Abigail Bruinsma  
Environmental Quality Analyst  
Water Resources Division, EGLE  
[bruinsmaa1@michigan.gov](mailto:bruinsmaa1@michigan.gov)

Mike Worm  
Supervisor, Water Quality Unit  
Grand Rapids District Office  
Michigan Department of Environment, Great  
Lakes, and Energy (EGLE)  
350 Ottawa Avenue NW  
Unit 10  
Grand Rapids, Michigan 49503-4341  
[wormm@michigan.gov](mailto:wormm@michigan.gov)

Michigan SHPO  
Michael Hambacher  
Staff Archeologist  
[HambacherM@michigan.gov](mailto:HambacherM@michigan.gov)

Art Green, Manager  
Grand Rapids TSC  
MDOT  
2660 Leonard Street, NE  
Grand Rapids, MI 49525  
Phone: 616-464-1800

Michael J. Monfils  
Interim Director and Wildlife Ecologist  
Michigan Natural Features Inventory  
PO Box 13036  
Lansing, MI 48901-3036  
Email: [monfilsm@msu.edu](mailto:monfilsm@msu.edu)

### **Municipalities**

Cascade Township, MI  
Community Planning & Development  
Director: Andrea Hendrick  
5920 Tahoe Dr. SE  
Grand Rapids, MI 49546-7123  
Email: [ahendrick@cascadetwp.com](mailto:ahendrick@cascadetwp.com)

Kent County, MI  
Environmental Compliance Manager: Adam  
Canute  
5068 Breton Rd SE  
Grand Rapids, MI 49508  
Phone: 616-632-7917  
Email: [Adam.canute@KentCountyMI.gov](mailto:Adam.canute@KentCountyMI.gov)

City of Kentwood  
Terry Schweitzer  
Community Development Director  
City Hall  
4900 Breton Ave SE  
Kentwood, MI 49508  
Phone: (616) 554-0710  
[schweitzert@kentwood.us](mailto:schweitzert@kentwood.us)

Kurt Anderson  
Industrial Pretreatment Supervisor  
Environmental Services  
City of Grand Rapids  
1300 Market Ave SW  
Grand Rapids, MI 49503  
[kanderson@grcity.us](mailto:kanderson@grcity.us)

## **Attachment #3 - Environmental Documentation**

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# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location


Kent County, Michigan



## Local office

Michigan Ecological Services Field Office

(517) 351-2555

 (517) 351-1443

2651 Coolidge Road Suite 101  
East Lansing, MI 48823-6360

NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

- 
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME	STATUS
<b>Indiana Bat</b> <i>Myotis sodalis</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a>	Endangered
<b>Northern Long-eared Bat</b> <i>Myotis septentrionalis</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
<b>Tricolored Bat</b> <i>Perimyotis subflavus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

## Birds

NAME	STATUS
<b>Whooping Crane</b> <i>Grus americana</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	<a href="#">EXPN</a>

## Reptiles

NAME	STATUS
<b>Eastern Massasauga (=rattlesnake)</b> <i>Sistrurus catenatus</i> Wherever found This species only needs to be considered if the following condition applies: <ul style="list-style-type: none"> <li>For all Projects: Project is within EMR Range</li> </ul> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/2202">https://ecos.fws.gov/ecp/species/2202</a>	Threatened

# Insects

NAME

STATUS

Karner Blue Butterfly *Lycaeides melissa samuelis*

Endangered

Wherever found

There is **proposed** critical habitat for this species.

<https://ecos.fws.gov/ecp/species/6656>

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

## Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds  
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

- Supplemental Information for Migratory Birds and Eagles in IPaC  
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Bald and Golden Eagle information is not available at this time

**What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?**

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC  
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Migratory bird information is not available at this time

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files

underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## **Facilities**

### **National Wildlife Refuge lands**

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

# Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1C](#)

[PEM1A](#)

RIVERINE

[R5UBFx](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

#### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

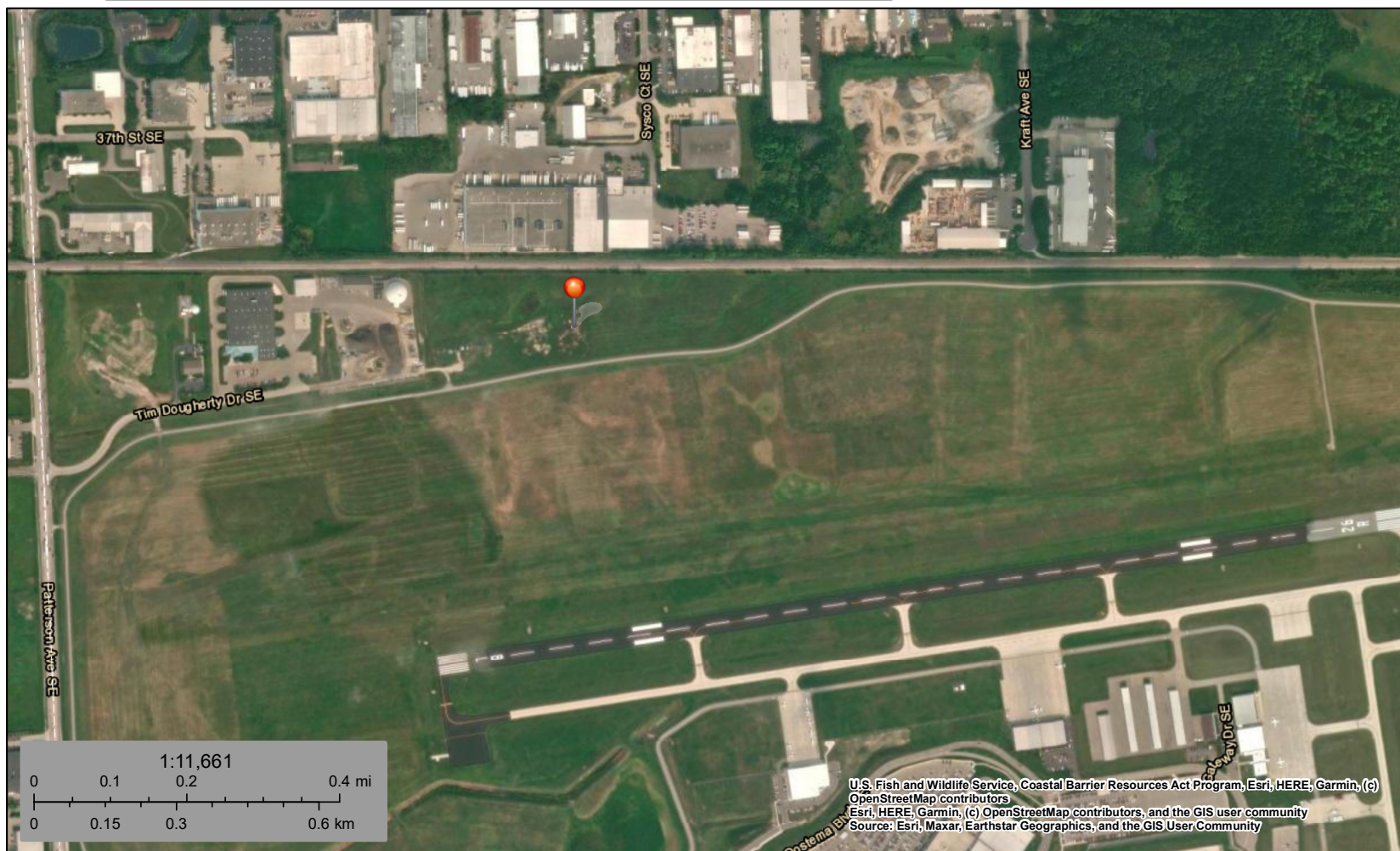
#### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



# U.S. Fish and Wildlife Service Coastal Barrier Resources System

## CBRS Mapper




June 11, 2024

 CBRS Buffer Zone

### CBRS Units

 Otherwise Protected Area

 System Unit

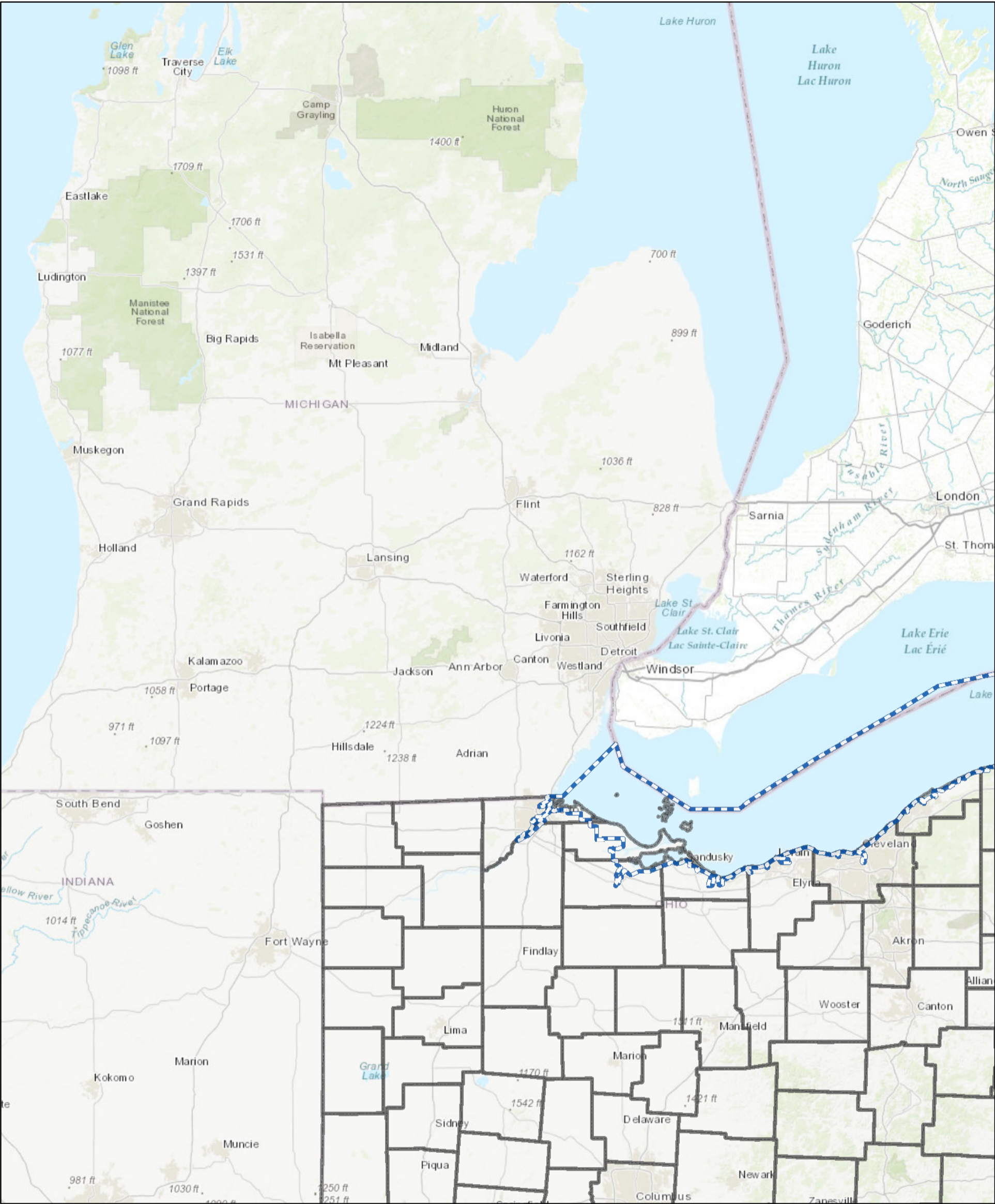
This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at <https://www.fws.gov/library/collections/official-coastal-barrier-resources-system-maps>. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (<https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward

This page was produced by the CBRS Mapper

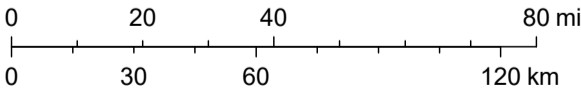
# Michigan Coastal Atlas Map Viewer



June 13, 2024

 Coastal Management Area Boundary

1:2,311,162



Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

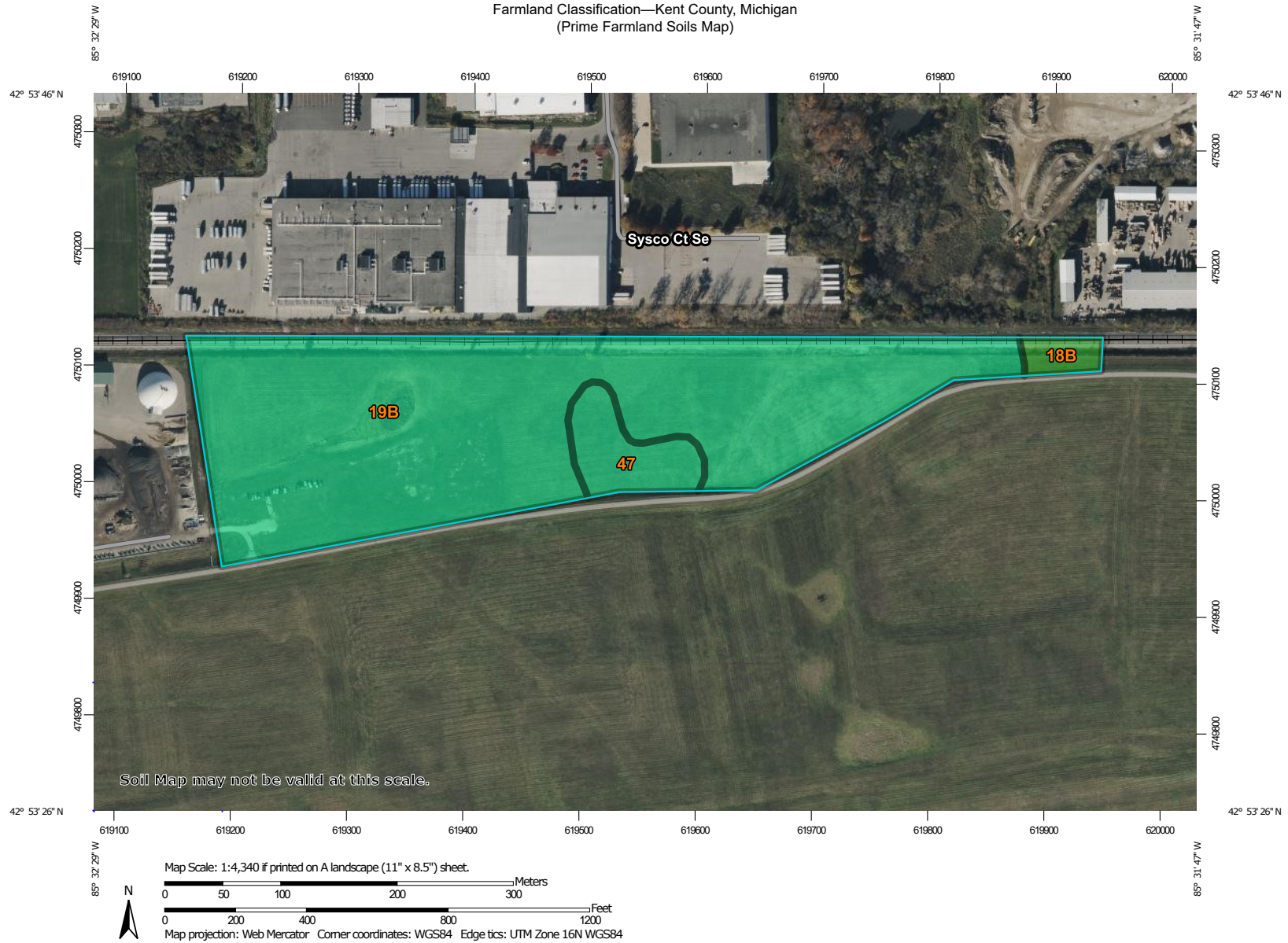
ODNR - Office of Coastal MGMT



## National Wildlife Refuge System



Farmland Classification—Kent County, Michigan  
(Prime Farmland Soils Map)

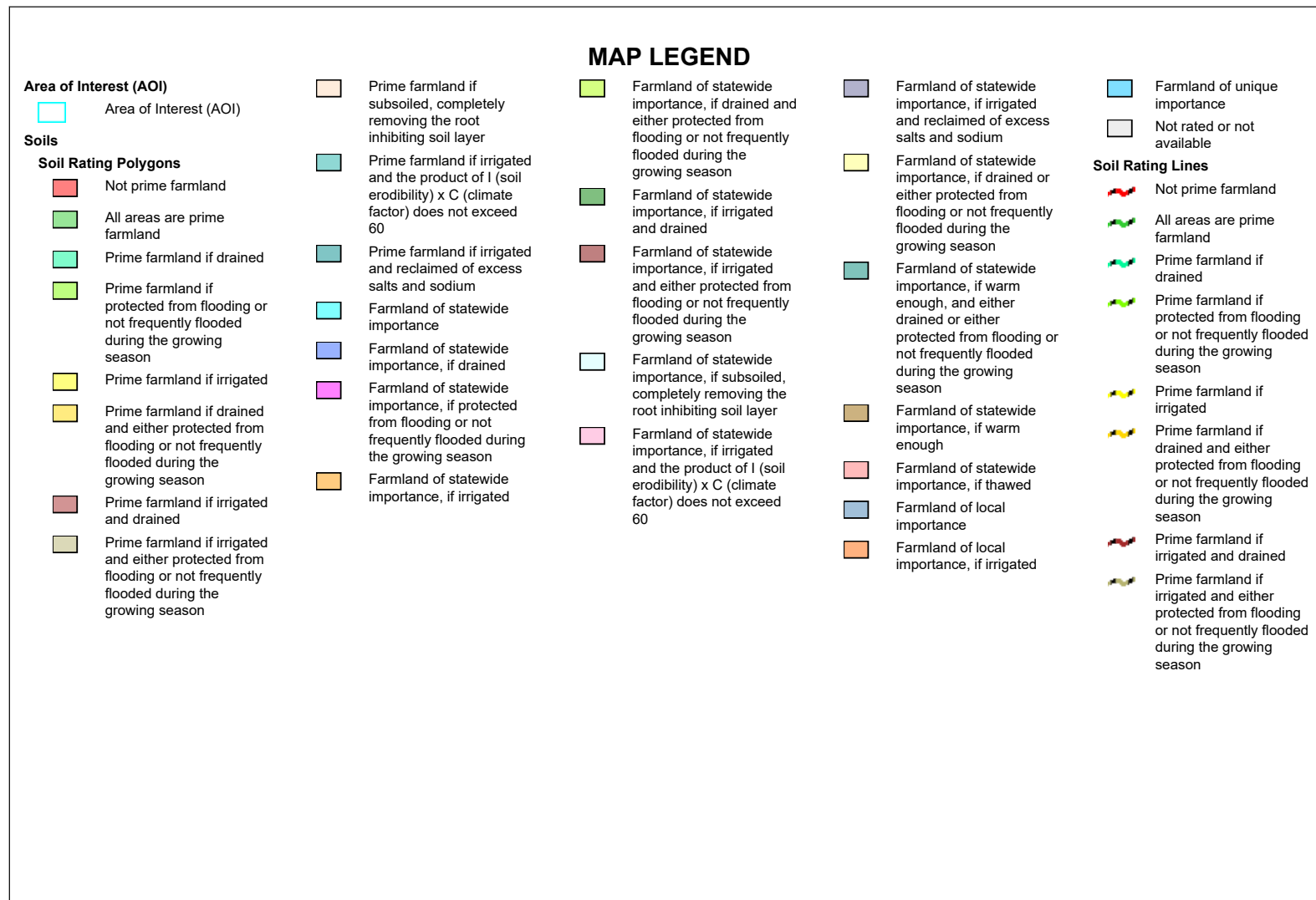


Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

6/13/2024  
Page 1 of 5

Farmland Classification—Kent County, Michigan  
(Prime Farmland Soils Map)



Farmland Classification—Kent County, Michigan  
(Prime Farmland Soils Map)

	Prime farmland if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium		Farmland of unique importance		Prime farmland if subsoiled, completely removing the root inhibiting soil layer
	Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if irrigated and drained		Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season	<b>Soil Rating Points</b>			Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
	Prime farmland if irrigated and reclaimed of excess salts and sodium		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		Not prime farmland		Prime farmland if irrigated and reclaimed of excess salts and sodium
	Farmland of statewide importance		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if warm enough		All areas are prime farmland		Farmland of statewide importance
	Farmland of statewide importance, if drained		Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if thawed		Prime farmland if drained		Farmland of statewide importance, if drained
	Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season				Farmland of local importance		Prime farmland if irrigated		Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
	Farmland of statewide importance, if irrigated				Farmland of local importance, if irrigated		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated
							Prime farmland if irrigated and drained		
							Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season		

Farmland Classification—Kent County, Michigan  
(Prime Farmland Soils Map)



## Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
18B	Glynwood loam, 2 to 6 percent slopes	All areas are prime farmland	0.5	2.3%
19B	Blount loam, 2 to 6 percent slopes	Prime farmland if drained	21.1	90.6%
47	Pewamo loam	Prime farmland if drained	1.7	7.2%
<b>Totals for Area of Interest</b>			<b>23.3</b>	<b>100.0%</b>

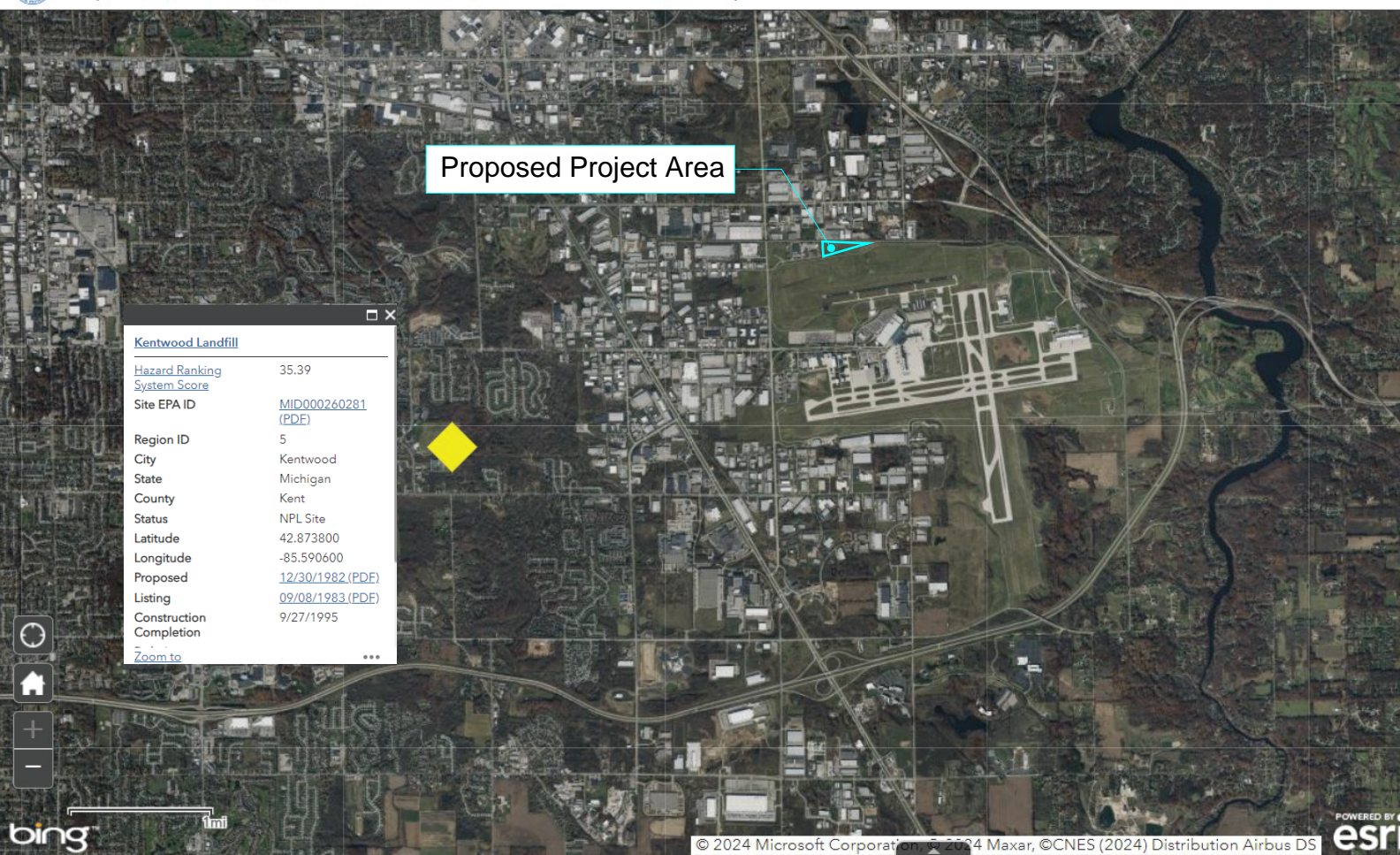
## Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

## Rating Options

*Aggregation Method:* No Aggregation Necessary




*Tie-break Rule:* Lower




Legend

Superfund National Priorities List (NPL) Sites with Status Information

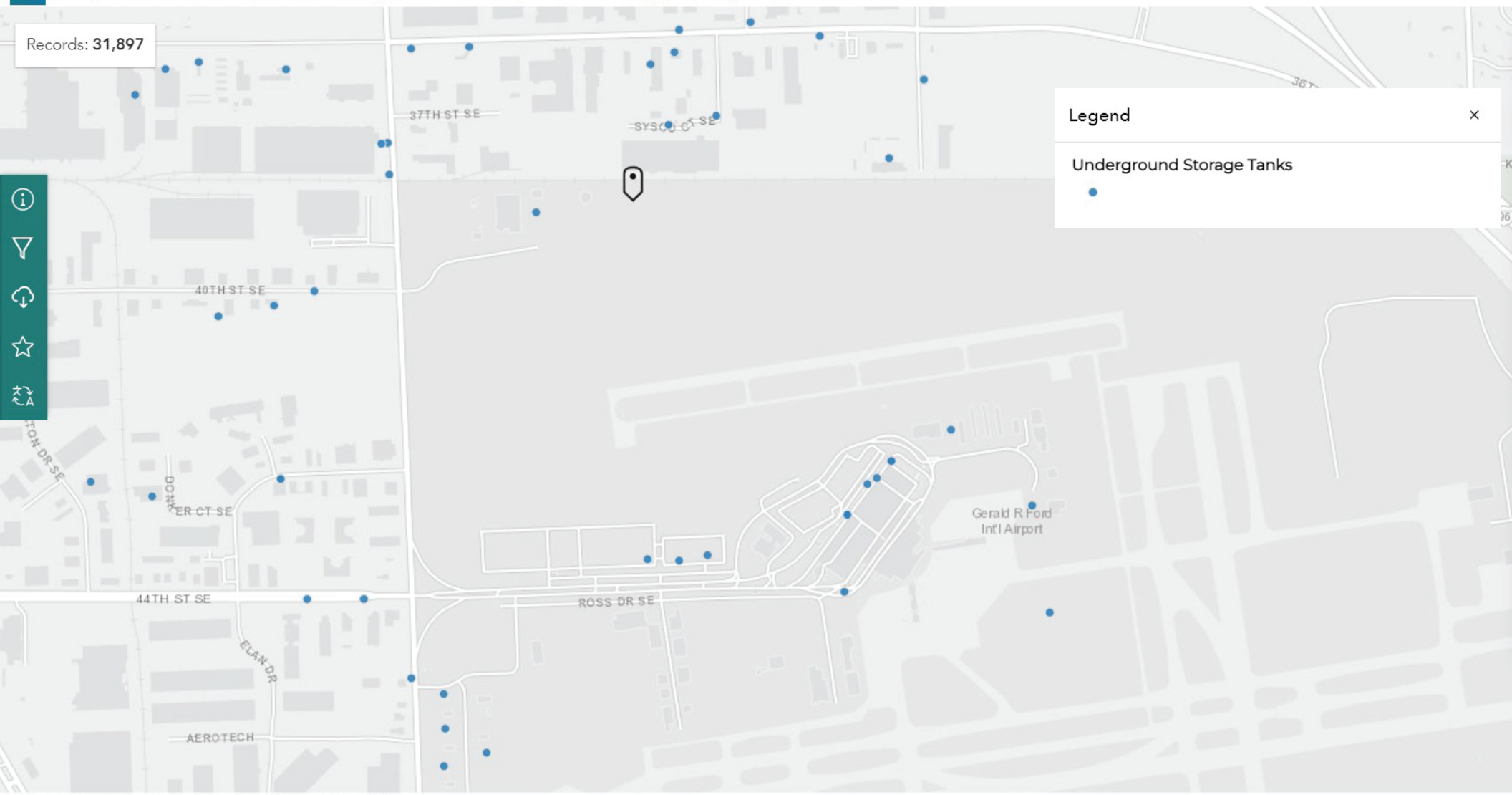
Status

-  NPL Site
-  Deleted NPL Site
-  Proposed NPL Site

© 2024 Microsoft Corporation © 2024 Maxar, ©CNES (2024) Distribution Airbus DS 



Records: 31,897



Legend

Underground Storage Tanks



Records: Filtering 0 of 1,109



Brownfields

Zoom to

OBJECTID_1	999
UniqueID	0
ProjectName	DeJong Holdings, LLC Redevelopment 381 WP
AwardDateYearFunded	March 16, 2022
City	Kentwood
SiteAddress	3838 East Paris Avenue South East



Gerald R  
Ford Int'l  
Airport

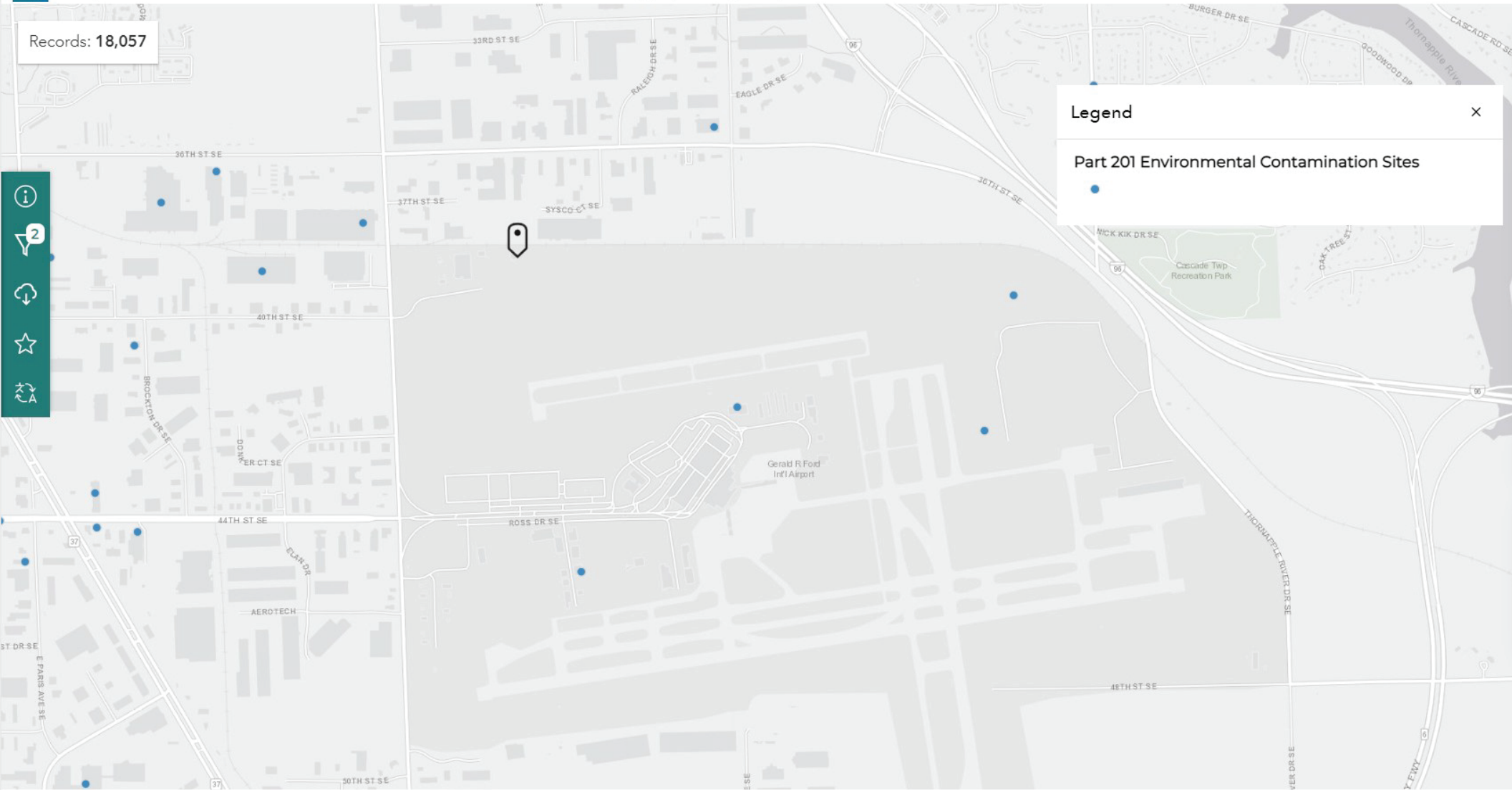


Records: 18,057

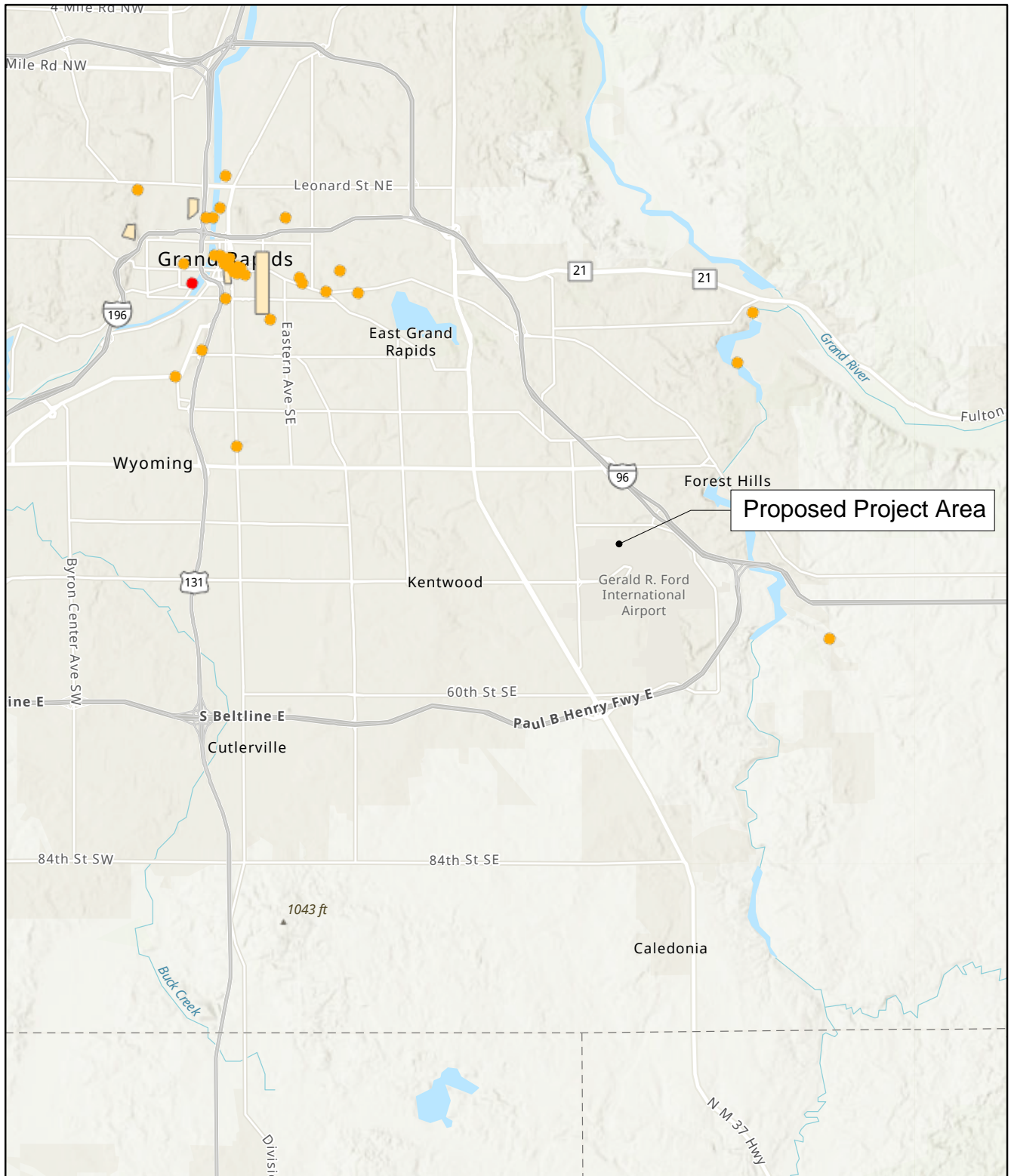


Legend

Part 201 Environmental Contamination Sites



# National Register of Historic Places



6/13/2024

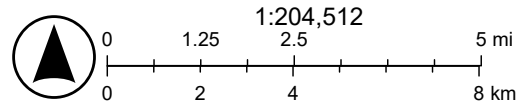
National Register Of Historic Places Points

- National Register of Historic Places
- Removed from National Register of Historic Places

National Register of Historic Places Polygons

- National Register of Historic Places

World Hillshade



Matt Stutts, Cultural Resources GIS, National Park Service, Esri, NASA, NGA, USGS, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS

# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

## ent County, MI

1 mile Ring around the Area  
Population: 1,864  
Area in square miles: 4.29

A3 Landscape



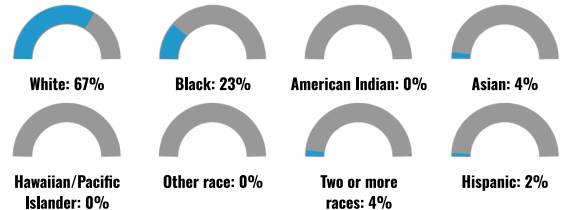
### COMMUNITY INFORMATION



### LANGUAGES SPANISH ENGLISH OTHER

LANGUAGE	PERCENT
English	88%
Spanish	3%
Russian, Polish, or Other Slavic	5%
Other Indo-European	1%
Other Asian and Pacific Island	1%
Arabic	1%
Total Non-English	12%

### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

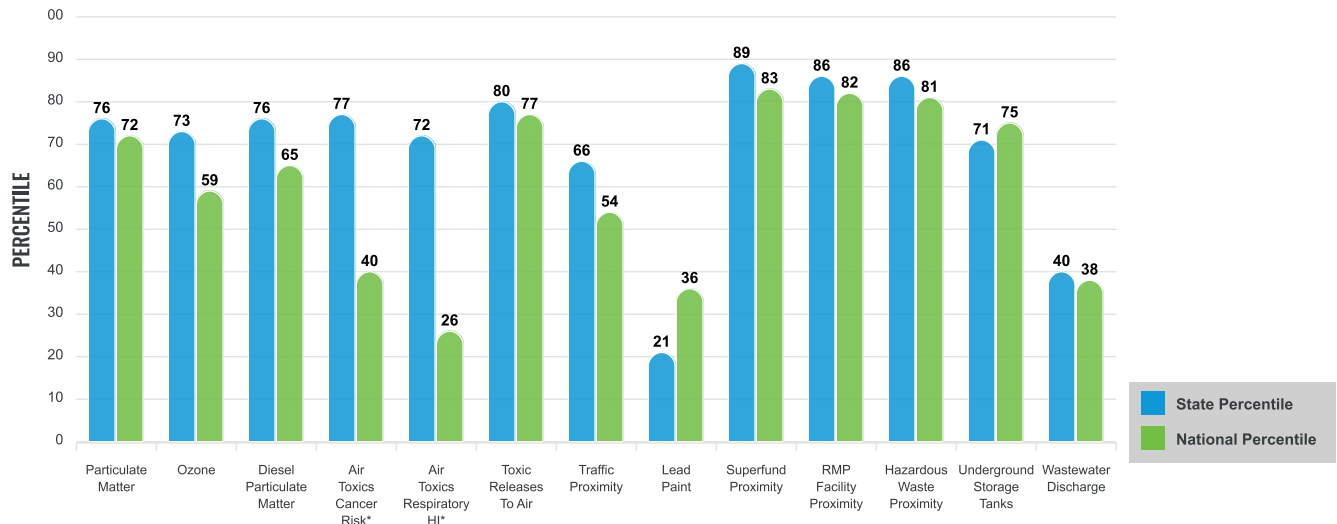
# Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

## EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

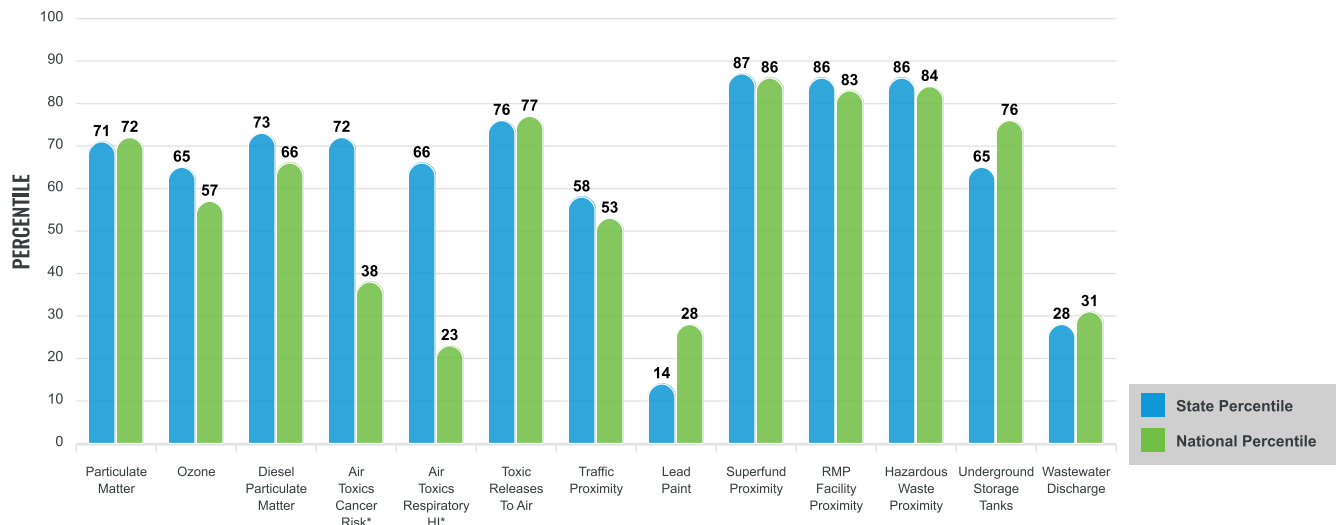
### EJ INDEXES FOR THE SELECTED LOCATION



## SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide a perspective on how the selected buffer area compares to the entire state or nation.

Report for 1 mile Ring around the Area

# EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
<b>POLLUTION AND SOURCES</b>					
Particulate Matter ( g/m <sup>3</sup> )	8.5	8.51	50	8.08	58
Ozone (ppb)	59.8	60	45	61.6	39
Diesel Particulate Matter ( g/m <sup>3</sup> )	0.209	0.183	60	0.261	48
Air Toxics Cancer Risk* (lifetime risk per million)	20	19	14	25	5
Air Toxics Respiratory HI*	0.2	0.2	11	0.31	4
Toxic Releases to Air	1,500	2,500	61	4,600	67
Traffic Proximity (daily traffic count/distance to road)	55	120	46	210	42
Lead Paint (% Pre-1960 Housing)	0.02	0.38	9	0.3	19
Superfund Proximity (site count/km distance)	0.21	0.15	84	0.13	86
RMP Facility Proximity (facility count/km distance)	0.92	0.31	91	0.43	87
Hazardous Waste Proximity (facility count/km distance)	4.3	1.1	96	1.9	87
Underground Storage Tanks (count/km <sup>2</sup> )	3.7	8	51	3.9	71
Wastewater Discharge (toxicity-weighted concentration/m distance)	2E-05	0.13	20	22	21
<b>SOCIOECONOMIC INDICATORS</b>					
Demographic Index	41%	28%	77	35%	66
Supplemental Demographic Index	16%	14%	70	14%	66
People of Color	33%	26%	72	39%	52
Low Income	49%	31%	80	31%	80
Unemployment Rate	13%	7%	86	6%	88
Limited English Speaking Households	0%	2%	0	5%	0
Less Than High School Education	1%	9%	16	12%	15
Under Age 5	6%	5%	65	6%	62
Over Age 64	17%	18%	50	17%	54
Low Life Expectancy	17%	20%	17	20%	25

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's on-going comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

## Sites reporting to EPA within defined area:

Superfund .....	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities .....	2
Water Dischargers .....	15
Air Pollution .....	18
Brownfields .....	0
Toxic Release Inventory .....	12

## Other community features within defined area:

Schools .....	1
Hospitals .....	0
Places of Worship .....	0

## Other environmental data:

Air Non-attainment .....	Yes
Impaired Waters .....	Yes

Selected location contains American Indian Reservation Lands* .....	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community .....	No
Selected location contains an EPA IRA disadvantaged community .....	Yes

Report for 1 mile Ring around the Area

## EJScreen Environment and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	17%	20%	17	20%	25
Heart Disease	5.1	6.6	17	6.1	31
Asthma	10.5	11.6	24	10	69
Cancer	6	6.6	28	6.1	43
Persons with Disabilities	12.1%	14.6%	36	13.4%	47

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	9%	7%	78	12%	64
Wildfire Risk	0%	0%	0	14%	0









CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	11%	14%	47	14%	50
Lack of Health Insurance	4%	5%	41	9%	28
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 1 mile Radius around the Area



June 13, 2024

Wetlands

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.




National Wetlands Inventory (NWI)  
This page was produced by the NWI mapper

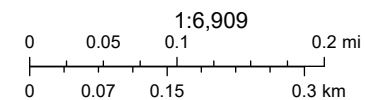
## EGL E Wetlands Map Viewer



June 16, 2024

Part 303 Final Wetlands Inventory

-  Wetlands as identified on NWI and MIRIS maps
-  Soil areas which include wetland soils
-  Wetlands as identified on NWI and MIRIS maps and soil areas which include wetland soils



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Disclaimer: This map is not intended to be used to determine the specific

# National Flood Hazard Layer FIRMette



85°32'35"W 42°53'51"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

85°31'58"W 42°53'25"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes, Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



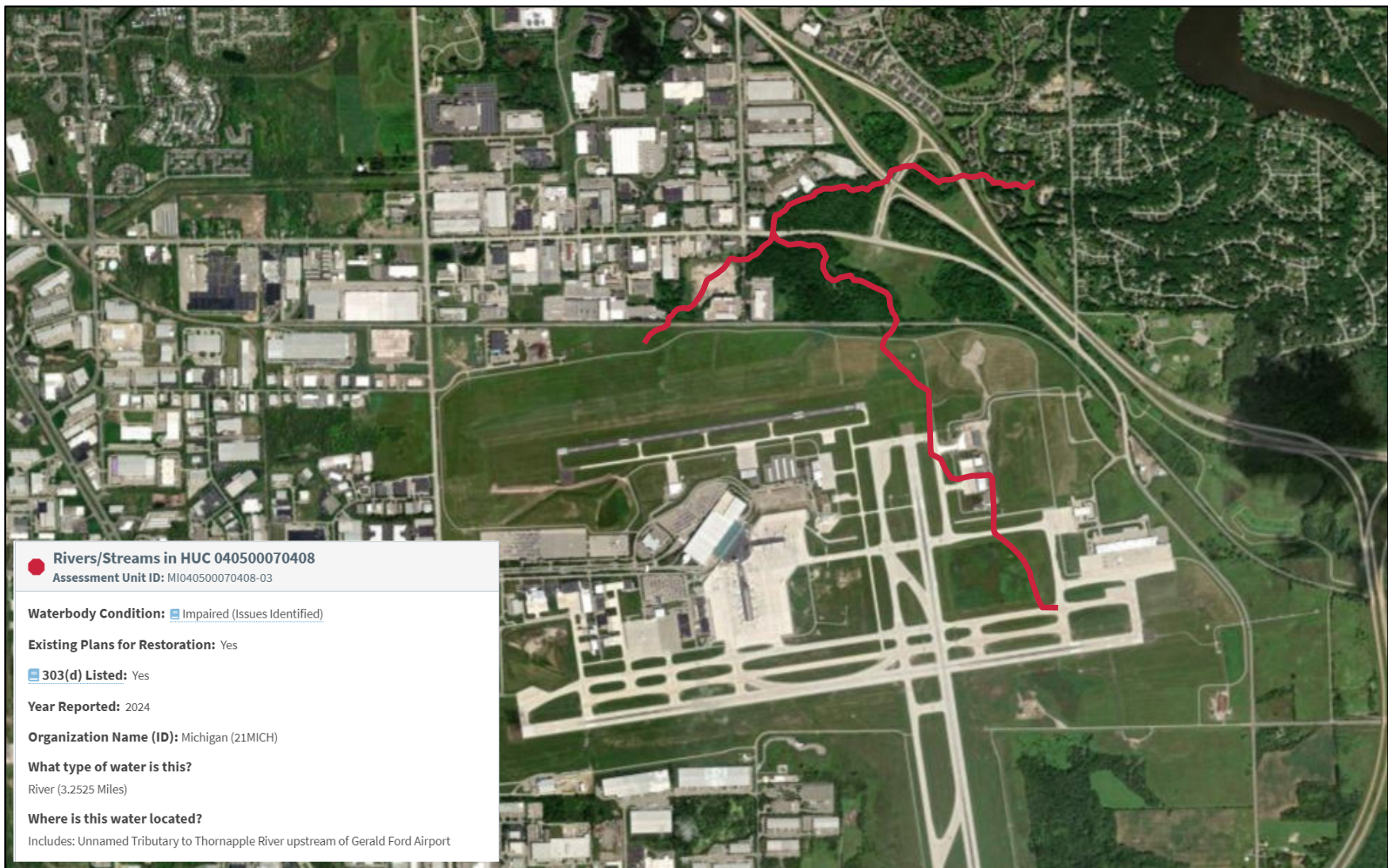
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/11/2024 at 5:00 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

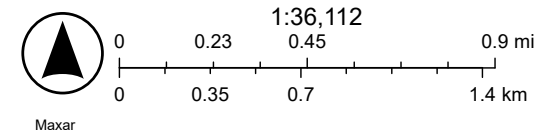
## EPA Surface Waters Map



6/17/2024

Waterbody

Source: EPA Water Body Report, <https://mywaterway.epa.gov/waterbody-report/21MICH/MI040500070408-03/2024>



## *Migratory Birds of Conservation Concern (BCC) & Potential Habitat Review*

According to the USFWS Official Species letter obtained on June 17, 2024 there are twenty-three Migratory BCC that may occur in the vicinity of the AOI (Attachment #2, pages 2-108 to 2-122).

**American Golden-plover:** Habitat includes prairies, mudflats, shores; tundra (summer). During migration, usually found on short-grass prairies, flooded pastures, plowed fields; less often on mudflats, beaches. Breeds on Arctic tundra. In western Alaska, where it overlaps with Pacific Golden-Plover, the American tends to nest at higher elevations, on more barren tundra slopes<sup>1</sup>.

**Bald Eagle:** Habitat includes coasts, rivers, large lakes; in migration, also mountains, open country. Typically close to water, also locally in open dry country. Occurs in a variety of waterside settings where prey is abundant, including swamps in Florida, edges of conifer forest in southeastern Alaska, treeless islands in Aleutians, desert rivers in Arizona. Also winters in some very dry western valleys.<sup>2</sup>

**Black Tern:** Habitat includes fresh marshes, lakes; in migration, coastal waters. For nesting favors fresh waters with extensive marsh vegetation and open water, also sometimes in smaller marshes and wet meadows. In migration found on larger lakes and along coast. Winters in tropical coastal regions, mostly just offshore or around salt lagoons and estuaries.<sup>3</sup>

**Black-billed Cuckoo:** Habitat for the black-billed cuckoo includes wood edges, groves, and thickets. Breeds mostly in deciduous thickets and shrubby places, often on the edges of woodland or around marshes. Also in second growth of mixed deciduous-coniferous woods, or along their brushy edges. In migration, seeks any kind of dense cover, usually among young trees or tall shrubs.<sup>4</sup>

**Bobolink:** Habitat for the bobolink includes hayfields and meadows, and in migration, marshes. Original prime breeding areas were damp meadows and natural prairies with dense growth of grass and weeds and a few low bushes. Such habitats still favored but hard to find, and today most Bobolinks in eastern United States nest in hayfields. Migrants stopover in fields and marshes, often feeding in rice fields.<sup>5</sup>

**Canada Warbler:** Habitat for the Canada warbler includes forest undergrowth and shady thickets. Breeds in mature mixed hardwoods of extensive forests and streamside thickets. Prefers to nest in moist habitat: in luxuriant undergrowth, near swamps, on stream banks, in rhododendron thickets, in deep, rocky ravines and in moist deciduous second-growth. Winters in a variety of habitats in South America, from forest undergrowth to scrub.<sup>6</sup>

**Cerulean Warbler:** Habitat for the Cerulean Warbler includes deciduous forests, especially in river valleys. Breeds in mature hardwoods either in uplands or along streams. Prefers elm, soft maple, oak, birch, hickory, beech, basswood, linden, sycamore, or black ash. Nests only in tall forest with clear understory. In winter in tropics, found mostly in forest and woodland borders in foothills and lower slopes.<sup>7</sup>

<sup>1</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [American Golden-Plover | Audubon Field Guide](#)

<sup>2</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Bald Eagle | Audubon Field Guide](#)

<sup>3</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Black Tern | Audubon Field Guide](#)

<sup>4</sup> Audubon. Guide to North American Birds. Accessed January 16, 2023. Available at: <https://www.audubon.org/field-guide/bird/black-billed-cuckoo>

<sup>5</sup> Audubon. Guide to North American Birds. Accessed: August 22, 2021. Available at: <https://www.audubon.org/field-guide/bird/bobolink>

<sup>6</sup> Audubon. Guide to North American Birds. Accessed: August 22, 2021. Available at: <https://www.audubon.org/field-guide/bird/canada-warbler>

<sup>7</sup> Audubon. Guide to North American Birds. Accessed: June 17, 2024. Available at: [Cerulean Warbler | Audubon Field Guide](#)

**Chimney Swift:** Habitat includes open sky, especially over cities and towns. Forages in the sky over any kind of terrain, wherever there are flying insects. Now most common over towns and cities; within its range, few forests remain with hollow trees large enough to serve as nest sites.<sup>8</sup>

**Eastern Whip-poor-will:** Habitat includes leafy woodlands. Breeds in rich moist woodlands, either deciduous or mixed; seems to avoid purely coniferous forest. Winter habitats are also in wooded areas.<sup>9</sup>

**Golden Eagle:** Habitat includes open mountains, foothills, plains, open country. Requires open terrain. In the north and west, found over tundra, prairie, rangeland, or desert; very wide-ranging in winter, more restricted to areas with good nest sites in summer.<sup>10</sup>

**Golden-winged Warbler:** Habitat includes open woodlands, brushy clearings, undergrowth. Breeds in brushy areas with patches of weeds, shrubs, and scattered trees (such as alder or pine). This habitat type is found in places where a cleared field is growing up to woods again, as well as in marshes and tamarack bogs.<sup>11</sup>

**Grasshopper Sparrow:** Habitat includes grassland, hayfields, prairies. Breeds in rather dry fields and prairies, especially those with fairly tall grass and weeds and a few scattered shrubs. Also nests in overgrown pastures and hayfields, and sometimes in fields of other crops.<sup>12</sup>

**Henslow's Sparrow:** Habitat includes weedy fields. Requirements not well understood; often absent from seemingly suitable habitat. Breeds in fields and meadows, often in low-lying or damp areas, with tall grass, standing dead weeds, and scattered shrubs. Sometimes in old pastures, occasionally in hayfields.<sup>13</sup>

**Lesser Yellowlegs:** Habitat includes Marshes, mudflats, shores, ponds; in summer, open boreal woods. Occurs widely in migration, including coastal estuaries, salt and fresh marshes, edges of lakes and ponds; typically more common on freshwater habitats. Often in same places as Greater Yellowlegs, but may be less frequent on tidal flats. Breeds in large clearings, such as burned areas, near ponds in northern forest.<sup>14</sup>

**Pectoral Sandpiper:** Habitat includes in migration, prairie pools, muddy shores, fresh and tidal marshes; in summer, tundra. Migrants favor grassy places rather than open mudflats. Often seen along grassy edges of shores, at edges of tidal marsh, in flooded fields or wet meadows. Sometimes on dry prairie or even plowed fields. On breeding grounds, favors wet grassy areas of tundra.<sup>15</sup>

**Red-headed Woodpecker:** Habitat includes groves, farm country, orchards, shade trees in towns, large scattered trees. Avoids unbroken forest, favoring open country or at least clearings in the woods. Forest edges, orchards, open pine woods, groves of tall trees in open country are likely habitats. Winter habitats influenced by source of food in fall, such as acorns or beechnuts.<sup>16</sup>

**Ruddy Turnstone:** Habitat includes beaches, mudflats, jetties, rocky shores; in summer, tundra. Mostly coastal in migration and winter, favoring rocky shorelines, rock jetties, or beaches covered with seaweed

<sup>8</sup> Audubon. Guide to North American Birds. Accessed January 16, 2023. Available at: <https://www.audubon.org/field-guide/bird/chimney-swift>

<sup>9</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Eastern Whip-poor-will | Audubon Field Guide](#)

<sup>10</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Golden Eagle | Audubon Field Guide](#)

<sup>11</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Golden-winged Warbler | Audubon Field Guide](#)

<sup>12</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Grasshopper Sparrow | Audubon Field Guide](#)

<sup>13</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Henslow's Sparrow | Audubon Field Guide](#)

<sup>14</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Lesser Yellowlegs | Audubon Field Guide](#)

<sup>15</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Pectoral Sandpiper | Audubon Field Guide](#)

<sup>16</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Red-headed Woodpecker | Audubon Field Guide](#)

or debris. May also feed on mudflats or on plowed fields near coast. Nests on open ground in arctic, including wet tundra and dry rocky ridges.<sup>17</sup>

**Rusty Blackbird:** Habitat includes river groves, wooded swamps; muskeg in summer. Breeds in the muskeg region, in wet northern coniferous forest with many lakes and bogs. During migration and winter, favors areas with trees near water, as in wooded swamps and riverside forest; will also forage in open fields and cattle feedlots with other blackbirds.<sup>18</sup>

**Semipalmated Sandpiper:** Habitat includes beaches, mudflats; tundra in summer. During migration along coast found on mudflats in intertidal zone, shallow estuaries and inlets, beaches. Inland, occurs on edges of lakes and marshes next to very shallow water. Nests on low arctic tundra, near water.<sup>19</sup>

**Short-billed Dowitcher:** Habitat includes mudflats, tidal marshes, pond edges. Migrants and wintering birds favor coastal habitats, especially tidal flats on protected estuaries and bays, also lagoons, salt marshes, sometimes sandy beaches. Migrants also stop inland on freshwater ponds with muddy margins. Breeds in far north, mostly in open bogs, marshes, and edges of lakes within coniferous forest zone.<sup>20</sup>

**Upland Sandpiper:** Habitat includes grassy prairies, open meadows, fields. Favored nesting habitat is native grassland, with mixture of tall grass and broad-leafed weeds. In the northeast, where natural grassland is now scarce, may be found most often on airports. In migration, stops on open pastures, lawns. Almost never on mudflats or other typical shorebird habitats.<sup>21</sup>

**Wood Thrush:** Wood thrush habitat consists mainly of deciduous woodlands. Breeds in the understory of woodlands, mostly deciduous but sometimes mixed, in areas with tall trees. More numerous in damp forest and near streams than in drier woods; will nest in suburban areas where there are enough large trees. In migration, found in various kinds of woodland.<sup>22</sup> Winters in understory of lowland tropical forest. Nests are placed in vertical fork of tree (usually deciduous) or saddled on horizontal branch, usually about 10-15' above the ground, sometimes lower, rarely as high as 50'. Nest is rather like Robin's nest, an open cup of grass, leaves, moss, weeds, bark strips, mixed with mud; has lining of soft material such as rootlets.

**Yellow Rail:** Habitat includes grassy marshes, meadows. In summer, favors large wet meadows or shallow marshes dominated by sedges and grasses. Typically in fresh or brackish marsh with water no more than a foot deep. In winter mostly in coastal salt marsh, especially drier areas with dense stands of spartina; also rice fields, damp meadows near coast.<sup>23</sup>

## Summary

**Table 1** summarizes the potential for migratory BCC and/or habitat to be located within Project Area.

<sup>17</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Ruddy Turnstone | Audubon Field Guide](#)

<sup>18</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Rusty Blackbird | Audubon Field Guide](#)

<sup>19</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Semipalmated Sandpiper | Audubon Field Guide](#)

<sup>20</sup> Audubon. Guide to North American Birds. Accessed January 16, 2023. Available at: [Short-billed Dowitcher | Audubon Field Guide](#)

<sup>21</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Upland Sandpiper | Audubon Field Guide](#)

<sup>22</sup> Audubon. Guide to North American Birds. Accessed: March 9, 2021. Available at: <https://www.audubon.org/field-guide/bird/wood-thrush>

<sup>23</sup> Audubon. Guide to North American Birds. Accessed June 17, 2024. Available at: [Yellow Rail | Audubon Field Guide](#)

**Table 1 – Potential for Migratory BCC & Habitat in Project Areas**

Common Name	Scientific Name	Potential for Species to be Located in Project Area (Yes/No)	Potential for Breeding Habitat in Project Area (Yes/No)	Potential for Foraging Habitat in Project Area (Yes/No)
<b>American Golden-plover</b>	<i>Pluvialis dominica</i>			
<b>Bald Eagle</b>	<i>Haliaeetus leucocephalus</i>	No	No	No
<b>Black Tern</b>	<i>Chlidonias niger</i>	Yes	Yes	Yes
<b>Black-billed Cuckoo</b>	<i>Coccyzus erythrophthalmus</i>	No	No	No
<b>Bobolink</b>	<i>Dolichonyx oryzivorus</i>	Yes	Yes	Yes
<b>Canada Warbler</b>	<i>Cardellina Canadensis</i>	No	No	No
<b>Cerulean Warbler</b>	<i>Setophaga cerulea</i>	No	No	No
<b>Chimney Sweep</b>	<i>Chaetura pelagica</i>	No	No	No
<b>Eastern Whip-poor-will</b>	<i>Antrostomus vociferus</i>	No	No	No
<b>Golden Eagle</b>	<i>Aquila chrysaetos</i>	No	No	No
<b>Golden-winged Warbler</b>	<i>Vermivora chrysoptera</i>	No	No	No
<b>Grasshopper Sparrow</b>	<i>Ammodramus savannarum</i>	Yes	No	Yes
<b>Henslow's Sparrow</b>	<i>Centronyx henslowii</i>	Yes	Yes	Yes
<b>Lesser Yellowlegs</b>	<i>Tringa flavipes</i>	Yes	No	Yes
<b>Pectoral Sandpiper</b>	<i>Calidris melanotos</i>	Yes	No	Yes
<b>Red-headed Woodpecker</b>	<i>Melanerpes erythrocephalus</i>	No	No	No
<b>Ruddy Turnstone</b>	<i>Arenaria interpres</i>	No	No	No
<b>Rusty Blackbird</b>	<i>Euphagus carolinus</i>	No	No	No
<b>Semipalmated Sandpiper</b>	<i>Calidris pusilla</i>	No	No	No
<b>Short-billed Dowitcher</b>	<i>Limnodromus griseus</i>	No	No	Yes
<b>Upland Sandpiper</b>	<i>Bartramia longicauda</i>	Yes	Yes	Yes
<b>Wood Thrush</b>	<i>Hylocichla mustelina</i>	No	No	No
<b>Yellow Rail</b>	<i>Coturnicops noveboracensis</i>	Yes	Yes	Yes

Source: C&S Engineers, Inc.

## **Attachment #4 - T&E Species Report**

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May 10, 2023

Michelle Baker  
Gerald R. Ford International Airport  
5500 44th Street SE  
Grand Rapids, MI, 49512

**Re: Section 7- Protected Species Evaluation Report – Site 12 GRR**

**Dear Ms. Baker:**

Barr Engineering Co. (Barr) conducted a protected species evaluation of the above-referenced project. The purpose of this protected species evaluation report is to summarize the results of the protected species evaluation conducted on May 8, 2023.

## **1.0 Area of Investigation Description**

The Area of Investigation (AOI) includes an approximately 20-acre site on the north side of the Gerald R. Ford International Airport property (parcel number 41-19-20-300-020), located at 5500 44<sup>th</sup> Street SE, in the City of Grand Rapids, Kent County, Michigan. Surrounding land uses and cover types include commercial, industrial, forest, and airport facilities. An active railroad grade extends along the north property boundary. The dominant land uses and cover types within the AOI consist of emergent wetlands and a mowed/maintained field (Figure 1).

## **1.2 Desktop Review**

According to the USFWS Information for Planning and Consultation (IPaC) system, the AOI is within the known range of the following federally listed species:

- Indiana Bat (*Myotis sodalis*) – endangered
- Northern Long-eared Bat (*Myotis septentrionalis*) -endangered
- Tricolored Bat (*Perimyotis subflavus*) – proposed endangered
- Whooping Crane (*Grus americana*) – experimental population, non-essential
- Eastern Massasauga (*Sistrurus catenatus*) - threatened
- Karner Blue Butterfly (*Lycæides melissa samuelis*) – endangered
- Monarch Butterfly (*Danaus plexippus*) – candidate

The official USFWS species list obtained during IPaC review is attached and these species are discussed below.

Barr queried the Michigan Natural Features Inventory (MNFI) database (attached) for the known occurrences of rare species within the Section, Township and Range (Section 19, T6N, R10W) of the AOI. Although some state-protected species were identified on that list, the regularly mowed and maintained area precludes the presence of any rare species or habitat within the AOI.

## 1.3 Methodology

The field survey methods for evaluating the protected species habitat potentially present on-site are consistent with Barr's understanding of USFWS guidelines, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), MNFI recommendations and the judgment of the investigator based on the available habitat.

## 1.4 Results

### Indiana Bat

According to the literature, Indiana bats prefer to roost and brood in trees with exfoliating/peeling bark, or cavities in dead snags or dying trees located primarily in wetlands, floodplain/riparian forests, burr oak forests, and oak openings. Hibernacula are restricted to caves and mines. Maternity and roost trees are usually found in the open or exposed to solar radiation. Clearance is also a factor for ingress and egress. Because of the AOI's lack of trees, it is unlikely that this project would have any impact on the Indiana bat or its potential habitat. Therefore, it is our opinion that the project will have no effect on the Indiana bat.

### Northern Long-eared Bat (NLEB)

According to the USFWS, the NLEB selects trees primarily with regard to the tree's ability to provide bark cover, cracks, and crevices and is known to be less particular than the Indiana bat. Males and non-breeding females are also known to summer roost in caves and mines. NLEB over-wintering habitat is restricted to hibernacula located in caves and mines and there are no known hibernacula or roost trees in Kent County. Because of the AOI's lack of trees, it is unlikely that this project would have any impact on the NLEB or its potential habitat. Therefore, it is our opinion that the project will have no effect on the NLEB.

### Tricolored Bat

According to the USFWS, the tricolored bat roosts in leaf clusters of deciduous hardwood trees, in addition to bunches of pine needles and within other manmade structures. Tricolored bats have been observed using caves, tree cavities, culverts, and abandoned wells for hibernacula. Because of the AOI's lack of trees, it is unlikely that this project would have any impact on the tricolored bat or its potential habitat. Therefore, it is our opinion that the project will have no effect on the tricolored bat. However, this species is currently "proposed endangered" and there are no legal protections for this species at this time.

### Whooping Crane

According to the USFWS, the whooping crane only has three wild populations: one naturally self-sustaining population which travels across the Great Plains of the U.S. in the spring and fall of each year between its summer habitat in central Canada, and its wintering grounds on the Texas coast; a small, introduced population migrating between Wisconsin and Florida; and a small, captive-raised, non-migratory population in central Florida. This species utilizes a variety of wetlands and other habitats for foraging and nesting, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. Although some wetlands were identified on this site, given their small size and proximity to the airport and other highly developed areas, it is unlikely that this project would have any impact on the whooping crane or its potential habitat. Therefore, it is our opinion that the project will have no effect on the whooping crane.

### Eastern Massasauga

According to the MNFI, in southern Michigan this snake is generally associated with a variety of open wetland areas with high water tables, in particular prairie fens, but also bogs, wet meadows, floodplain

forests, wet prairies, and others. No suitable habitat is present within the AOI. Given the lack of suitable habitat on-site, the urban setting and site maintenance, it is our opinion that the proposed project will have no effect on the eastern massasauga rattlesnake.

#### Karner Blue Butterfly

According to the MNFI, the larvae of this butterfly are obligate feeders of wild lupine (*Lupinus perennis*) while the adults may feed on the nectar of a variety of flowering plants. Historical habitat includes a variety of sandy oak plains, openings, and barrens. No suitable habitat was observed on-site as the only upland habitat (within the AOI appeared to be regularly maintained and dominated by field grasses. Given the lack of suitable habitat on-site, it is our opinion that the project will have no effect on the Karner blue butterfly.

#### Monarch Butterfly

According to the literature, monarch butterfly larvae feed exclusively on the leaves of milkweed species (genus *Asclepias*). As adults, monarchs feed on nectar from a wide range of blooming native vegetation, including milkweed plants. Due to the maintained nature of the AOI, there is little likelihood of milkweed species being allowed to grow, therefore, it is our opinion that the project will have no effect on the monarch butterfly. However, this species is currently a "candidate" species and there are no legal protections for this species at this time.

## **1.5 Conclusion**

Since the proposed AOI contains a regularly mowed and maintained field on airport property, it is Barr's professional judgment that no federal or state-protected species are expected to inhabit the property and the proposed project will have no effect on listed species.

Please be advised that the information provided in this report is a professional opinion. The ultimate decision of whether protected species are present is with the USFWS, Michigan Department of Natural Resources and/or EGLE. In addition, the physical characteristics of the site can change with time, depending on the weather, activities on adjacent parcels, or other events. Any of these factors can change the nature/extent of potential habitat on the site.

Thank you for the opportunity to provide this protected species evaluation. If you have any questions, please contact me at your convenience at 616-540-8544 or [jvigna@barr.com](mailto:jvigna@barr.com).

Sincerely,  
BARR ENGINEERING CO.



John R. Vigna  
Senior Environmental Scientist

Figure 1 – Project Location Map

Attachments:

Official USFWS Threatened & Endangered Species List  
MNFI Database Search Results

## Figures

Figure 1 - Project Location Map



## **Attachments**

Official USFWS Threatened & Endangered Species List

MNFI Database Search Results

## Official USFWS Threatened & Endangered Species List



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Michigan Ecological Services Field Office  
2651 Coolidge Road Suite 101  
East Lansing, MI 48823-6360  
Phone: (517) 351-2555 Fax: (517) 351-1443



In Reply Refer To:  
Project Code: 2022-0026689  
Project Name: NEPA Documentation

February 01, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

## Official Species List

The attached species list identifies any Federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the IPaC website (<https://ipac.ecosphere.fws.gov/>) at regular intervals during project planning and implementation. To update an Official Species List in IPaC: from the My Projects page, find the project, expand the row, and click Project Home. In the What's Next box on the Project Home page, there is a Request Updated List button to update your species list. Be sure to select an "official" species list for all projects.

## Consultation requirements and next steps

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize Federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-Federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are two approaches to evaluating the effects of a project on listed species.

Approach 1. Use the All-species Michigan determination key in IPaC. This tool can assist you in making determinations for listed species for some projects. In many cases, the determination key

will provide an automated concurrence that completes all or significant parts of the consultation process. Therefore, we strongly recommend screening your project with the **All-Species Michigan Determination Key (Dkey)**. For additional information on using IPaC and available Determination Keys, visit <https://www.fws.gov/media/mifo-ipac-instructions> (and click on the attachment). Please carefully review your Dkey output letter to determine whether additional steps are needed to complete the consultation process.

Approach 2. Evaluate the effects to listed species on your own without utilizing a determination key. Once you obtain your official species list, you are not required to continue in IPaC, although in most cases using a determination key should expedite your review. If the project is a Federal action, you should review our section 7 step-by-step instructions before making your determinations: <https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance>. If you evaluate the details of your project and conclude “no effect,” document your findings, and your listed species review is complete; you do not need our concurrence on “no effect” determinations. If you cannot conclude “no effect,” you should coordinate/consult with the Michigan Ecological Services Field Office. The preferred method for submitting your project description and effects determination (if concurrence is needed) is electronically to [EastLansing@fws.gov](mailto:EastLansing@fws.gov). Please include a copy of this official species list with your request.

For all **wind energy projects** and **projects that include installing communications towers that use guy wires**, please contact this field office directly for assistance, even if no Federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

### **Migratory Birds**

Please see the “Migratory Birds” section below for important information regarding incorporating migratory birds into your project planning. Our Migratory Bird Program has developed recommendations, best practices, and other tools to help project proponents voluntarily reduce impacts to birds and their habitats. The Bald and Golden Eagle Protection Act prohibits the take and disturbance of eagles without a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <https://www.fws.gov/program/eagle-management/eagle-permits> to help you avoid impacting eagles or determine if a permit may be necessary.

Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your consideration of threatened and endangered species during your project

planning. Please include a copy of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Michigan Ecological Services Field Office**

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

(517) 351-2555

## Project Summary

Project Code: 2022-0026689

Project Name: NEPA Documentation

Project Type: Airport - Maintenance/Modification

Project Description: Preliminary investigation for potential development project

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.87652755,-85.52643839756729,14z>



Counties: Kent County, Michigan

## Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a> General project design guidelines: <a href="https://ipac.ecosphere.fws.gov/project/6ZZJSRYDMVD33GA5TYF5HPCNMM/documents/generated/6982.pdf">https://ipac.ecosphere.fws.gov/project/6ZZJSRYDMVD33GA5TYF5HPCNMM/documents/generated/6982.pdf</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a> General project design guidelines: <a href="https://ipac.ecosphere.fws.gov/project/6ZZJSRYDMVD33GA5TYF5HPCNMM/documents/generated/6983.pdf">https://ipac.ecosphere.fws.gov/project/6ZZJSRYDMVD33GA5TYF5HPCNMM/documents/generated/6983.pdf</a>	Threatened
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

## Birds

NAME	STATUS
<p>Whooping Crane <i>Grus americana</i></p> <p>Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY)</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a></p>	Experimental Population, Non-Essential

## Reptiles

NAME	STATUS
<p>Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i></p> <p>No critical habitat has been designated for this species.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> <li>For all Projects: Project is within EMR Range</li> </ul> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/2202">https://ecos.fws.gov/ecp/species/2202</a></p> <p>General project design guidelines:</p> <p><a href="https://ipac.ecosphere.fws.gov/project/6ZZJSRYDMVD33GA5TYF5HPCNMM/documents/generated/5280.pdf">https://ipac.ecosphere.fws.gov/project/6ZZJSRYDMVD33GA5TYF5HPCNMM/documents/generated/5280.pdf</a></p>	Threatened

## Insects

NAME	STATUS
<p>Karner Blue Butterfly <i>Lycaeides melissa samuelis</i></p> <p>There is <b>proposed</b> critical habitat for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/6656">https://ecos.fws.gov/ecp/species/6656</a></p>	Endangered
<p>Monarch Butterfly <i>Danaus plexippus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a></p>	Candidate

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

## **USFWS National Wildlife Refuge Lands And Fish Hatcheries**

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31

NAME	BREEDING SEASON
<b>Black Tern <i>Chlidonias niger</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3093">https://ecos.fws.gov/ecp/species/3093</a>	Breeds May 15 to Aug 20
<b>Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9399">https://ecos.fws.gov/ecp/species/9399</a>	Breeds May 15 to Oct 10
<b>Bobolink <i>Dolichonyx oryzivorus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
<b>Canada Warbler <i>Cardellina canadensis</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
<b>Cerulean Warbler <i>Dendroica cerulea</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/2974">https://ecos.fws.gov/ecp/species/2974</a>	Breeds Apr 22 to Jul 20
<b>Chimney Swift <i>Chaetura pelagica</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
<b>Eastern Whip-poor-will <i>Antrostomus vociferus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
<b>Golden Eagle <i>Aquila chrysaetos</i></b> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds elsewhere
<b>Golden-winged Warbler <i>Vermivora chrysoptera</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8745">https://ecos.fws.gov/ecp/species/8745</a>	Breeds May 1 to Jul 20
<b>Henslow's Sparrow <i>Ammodramus henslowii</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3941">https://ecos.fws.gov/ecp/species/3941</a>	Breeds May 1 to Aug 31
<b>Lesser Yellowlegs <i>Tringa flavipes</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>	Breeds elsewhere

NAME	BREEDING SEASON
<b>Long-eared Owl <i>asio otus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3631">https://ecos.fws.gov/ecp/species/3631</a>	Breeds Mar 1 to Jul 15
<b>Marbled Godwit <i>Limosa fedoa</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds May 1 to Jul 31
<b>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
<b>Ruddy Turnstone <i>Arenaria interpres morinella</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
<b>Rusty Blackbird <i>Euphagus carolinus</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
<b>Short-billed Dowitcher <i>Limnodromus griseus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere
<b>Upland Sandpiper <i>Bartramia longicauda</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9294">https://ecos.fws.gov/ecp/species/9294</a>	Breeds May 1 to Aug 31
<b>Wood Thrush <i>Hylocichla mustelina</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31
<b>Yellow Rail <i>Coturnicops noveboracensis</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9476">https://ecos.fws.gov/ecp/species/9476</a>	Breeds May 15 to Sep 10

## Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### **Breeding Season (■)**

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### **Survey Effort (|)**

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

### **No Data (—)**

A week is marked as having no data if there were no survey events for that week.

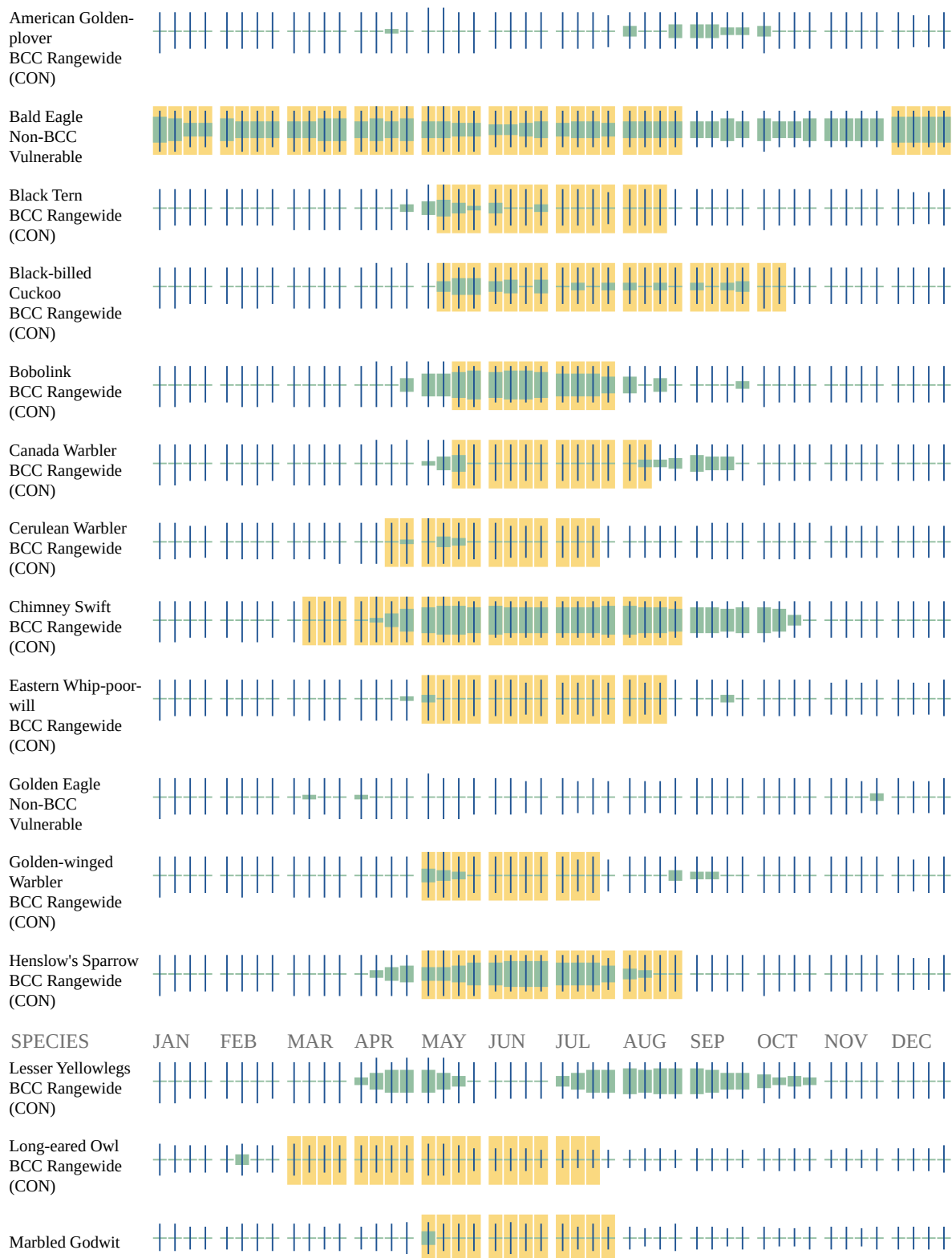
### **Survey Timeframe**

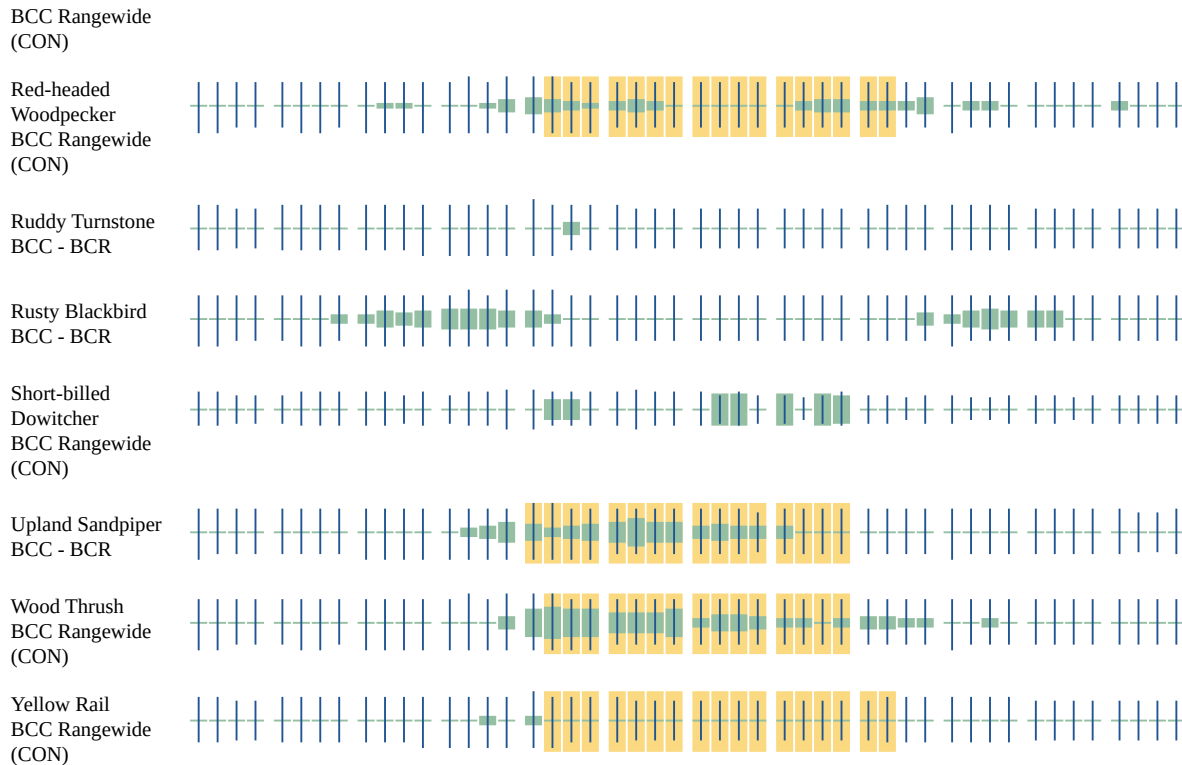
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

---

■ probability of presence   ■ breeding season   | survey effort   — no data

SPECIES   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

## Migratory Birds FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles)

potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

## FRESHWATER EMERGENT WETLAND

- [PEM1C](#)
- [PEM1Cd](#)
- [PEM1A](#)

## FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1C](#)
- [PSS1A](#)

## FRESHWATER POND

- [PUBF](#)

## RIVERINE

- [R5UBFx](#)

## **IPaC User Contact Information**

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Address: 499 Col. Eileen Collins Blvd

City: Syracuse

State: NY

Zip: 13212






Email: [kyoung@cscos.com](mailto:kyoung@cscos.com)

Phone: 3157034194

## **MNFI Database Search Results**

Search Results for Town 06N, Range 10W, Section 19  
 Displaying Record 1 to 8 of 8 Records Found

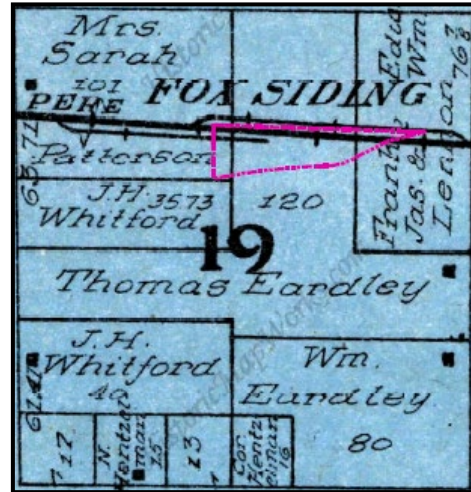
Query Results Generated on May 08, 2023  
 Database Updated on Apr 01, 2023

								New Search	Refine Search		◀ Previous 25 Records		Next 25 Records ▶	
<div>Common Name</div>	<div>Scientific Name</div>	<div>State Status</div>	<div>Federal Status</div>	<div>Last Observed Date</div>	<div>Element Category</div>	<div>Mapping Precision</div>	<div>Site of Observation</div>	<div>Best Documentation of EO</div>	<div>Town</div>	<div>Range</div>	<div>Section</div>		<div>County</div>	
<div>Creeping whitlow grass</div>	<div>Draba reptans</div>	<div>T</div>		<div>1879-05-06</div>	<div>Plant</div>	<div>GX</div>	<div>ADA</div>	<div>Stilwell, O.J. 1879. #518 ALMA.</div>	<div>06N</div>	<div>10W</div>	<div>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28</div>		<div>Kent</div>	
<div> Ginseng</div>	<div>Panax quinquefolius</div>	<div>T</div>		<div>1896-09-01</div>	<div>Plant</div>	<div>GX</div>	<div>CASCADE SPRINGS</div>	<div>Cole, E.J. 1896. MICH</div>	<div>06N</div>	<div>10W</div>	<div>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36</div>		<div>Kent</div>	
<div>Hairy-fruited sedge</div>	<div>Carex trichocarpa</div>	<div>SC</div>		<div>1879-05-25</div>	<div>Plant</div>	<div>GX</div>	<div>Ada</div>	<div>Stilwell, O.J. 1879. #518 ALMA.</div>	<div>06N</div>	<div>10W</div>	<div>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29</div>		<div>Kent</div>	
<div>Missouri rock-cress</div>	<div>Boechera missouriensis</div>	<div>T</div>		<div>1893-06-18</div>		<div>GX</div>	<div>GRAND RAPIDS</div>	<div>Specimen (temporary placeholder citation)</div>	<div>06N</div>	<div>10W</div>	<div>5, 6, 7, 8, 18, 19</div>		<div>Kent</div>	
<div> Prairie smoke</div>	<div>Geum triflorum</div>	<div>T</div>		<div>1897-05-22</div>	<div>Plant</div>	<div>GX</div>	<div>ADA</div>	<div>STILWELL, O.J. 1897. ALMA</div>	<div>06N</div>	<div>10W</div>	<div>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28</div>		<div>Kent</div>	
<div> Red mulberry</div>	<div>Morus rubra</div>	<div>T</div>		<div>1879-05-31</div>	<div>Plant</div>	<div>GX</div>	<div>ADA</div>	<div>Stilwell, O.J. 1879. #518 ALMA.</div>	<div>06N</div>	<div>10W</div>	<div>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28</div>		<div>Kent</div>	
<div> Red mulberry</div>	<div>Morus rubra</div>	<div>T</div>		<div>1901-06-29</div>	<div>Plant</div>	<div>GX</div>	<div>CASCADE SPRINGS</div>	<div>Holt, C.F. 1901. MICH.</div>	<div>06N</div>	<div>10W</div>	<div>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36</div>		<div>Kent</div>	
<div> Virginia bluebells</div>	<div>Mertensia virginica</div>	<div>T</div>		<div>2018-05-14</div>	<div>Plant</div>	<div>GX</div>	<div>Ada</div>	<div>Stillwell, O.J. 1878. #66 ALMA</div>	<div>06N</div>	<div>10W</div>	<div>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28</div>		<div>Kent</div>	
								New Search	Refine Search		◀ Previous 25 Records		Next 25 Records ▶	

## **Attachment #5 - Historic Resources Documentation**

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**CULTURAL RESOURCES LITERATURE REVIEW**  
**23-acre Nonaeronautical Development Site**  
**Gerald R. Ford International Airport**  
**Kent County, Michigan**  
**L&A Project No: 23-0053**



Prepared by:  
Lawhon & Associates, Inc.  
1441 King Avenue  
Columbus, Ohio 43212  
March 13, 2023



Prepared for:  
**C&S Companies**  
**499 Col. Eileen Collins Blvd**  
**Syracuse, NY 13212**

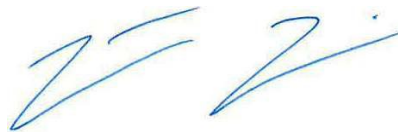
**Cultural Resources Literature Review for a Proposed 23-acre  
Nonaeronautical Development Site at Gerald R. Ford International Airport  
in Kent County, Michigan**

**by**

**Ryan A. Killion, RPA**

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---

**Justin P. Zink, RPA  
Practice Leader, Cultural Resources**

**March 13, 2023**

## **0.1 ABSTRACT**

In March of 2023, Lawhon & Associates, Inc. (L&A) completed a cultural resources literature review for a proposed 23-acre nonaeronautical development site at the Gerald R. Ford International Airport in Cascade Township, Kent County, Michigan. The literature review did not identify any previously recorded archaeological sites or historic resources within the project area or in the immediate vicinity of the proposed development site. The project area has not seen any significant changes since the earliest available historical maps depicting the area.

Prehistoric cultural materials, if encountered, are likely to consist of transient hunting activity in the form of low-density lithic scatters or isolated finds located on the landforms better suited to occupation (i.e. relatively flat, well drained areas). Given the information gathered during the literature review, significant cultural materials are deemed unlikely to be located within the proposed project area.

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## 1.0 INTRODUCTION

Lawhon & Associates, Inc. (L&A), under contract with C&S Companies, conducted a cultural resources literature review of a proposed 23-acre nonaeronautical development site at the Gerald R. Ford International Airport in Cascade Township, Kent County, Michigan (Figure 1—Figure 2). The project area is mainly an open, short-grass field at the northern edge of the airport, immediately south of the Chesapeake and Ohio Railway.

The project area is in the Southern Lower Peninsula Hills and Plains physiographic province. The landscape represents a complex glacial history, being where the Michigan and Saginaw lobes of the Wisconsin ice sheet came together, leaving behind interlobate moraines forming an undulated plain incised by glacial meltwater streams (MSU Department of Geology 2023). The valleys left behind by these streams hold today's modern streams and rivers, which are much smaller in size. The main rivers in the county include the Grand River, Rogue River, Flat River, Thornapple River, and the Coldwater River, with the Grand River being the major drainage (USDA SCS 1986). The project area is drained by an unnamed tributary of the Thornapple River, which is located approximately 2.2 miles to the east. The project is in the Ithaca-Rimer-Pennington soil association, consisting of nearly level to gently rolling, somewhat poorly drained to well drained loamy and sandy soils. Soils within the project area include the Blount, Pewamo, Colwood, Belleville, Rimer, and Ithaca types (USDA NRSC 2023).

Ryan A. Killion, RPA, completed the literature review for this project on March 13, 2023.

## 2.0 LITERATURE REVIEW

The literature review examined an area of approximately 2 km (1.2 mi) from each exterior corner of the proposed project limits, covering the township sections containing the project area and those surrounding it. This size is usually sufficient to provide the necessary contextual information regarding previously identified cultural resources and historical information on the project area. The report author examined following sources from the State Historic Preservation Office and various online resources.

1. Hinsdale's 1931 Archaeological Atlas of Michigan
2. Michigan Archaeological Site Files
3. Contract Cultural Resource Management reports
4. National Historic Landmark listings
5. NRHP Listings
6. USGS 7.5' and 15' series topographic maps, historical aerial photographs, and Kent County historic atlases

The *Archaeological Atlas of Michigan* (Hinsdale 1931) does not indicate any prehistoric resources within or adjacent to the project (Figure 3). Hinsdale (1931:24) noted a total of 12 village sites, 4 "burying grounds," 41 mounds, and 1 circular enclosure in Kent County. One mound is shown east of the Thornapple

River in Cascade Township. These resources will not be impacted by the proposed project, although they do indicate that Cascade Township is not without archaeological potential.

The Michigan Archaeological Site Files indicate that there are no previously recorded archaeological sites within the proposed project limits. There are five previously recorded archaeological sites within the 2 km study radius for the project; these resources will not be impacted by the undertaking (Table 1).

Table 1. Previously Recorded Archaeological Sites within the Study Radius.

Site #	Site Type	Temporal Affiliation	Eligibility Status
20KT167	Isolated Find	Historic	Needed/Unevaluated
20KT168	Isolated Find	Unassigned Precontact	Not Eligible
20KT277	Isolated Find	Unassigned Precontact	Not Eligible
20KT154	Lithic Scatter	Paleo-Indian Period; Archaic Period; Early Woodland Period; Late Woodland Period	Needed/Unevaluated
20KT25	Reported Village Site	Archaic Period	Needed/Unevaluated

A review of the archaeology maps supplied by the Michigan SHPO indicated there are six surveys within the study radius. None of the surveys intersect the proposed project limits. (Figure 4). Bibliographic data was not supplied for ER-7623 but it appears to be an addendum survey for ER-7622 (Table 2). None of these surveys determined that any NRHP-eligible resources were present in their study areas; indeed, most surveys did not identify any cultural resources at all.

Table 2. Previous Surveys within the Study Radius.

Survey ID #	Title	Author	Date
ER03-67.12.61120751	Phase I Archaeology Survey, Cascade, MI, 5050 Kendrick Street SE Grand Rapids, Kent County, Michigan	Ayers-Rigsby	2012
ER-183	A Preliminary Survey Archaeological Survey of Proposed Kent County Airport Development, Grand Rapids, Michigan	Black and Black	1976
ER-06-450	Phase I Cultural Resource Survey, Jamestown Pipeline Project in Ottawa and Kent Counties, Michigan	Bergman, C.	2006
ER-7622	Phase I Archaeological and Architectural Survey and Phase II Archaeological Testing, Proposed Construction of M-6, the Grand Rapids South Beltline, Kent and Ottawa Counties, Michigan	Weir et al.	1994

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Survey ID #	Title	Author	Date
ER-910190	Intensive Level Survey of Above-Ground Resources for the I-96 Airport Area Access Study, Cascade Township, Kent County, Michigan	Linn and Weir	2001

There are no NRHP listings or National Historic Landmarks within the literature review study radius.

Examination of available historical maps dating to the mid-nineteenth century allows for a reconstruction of landscape history and can identify the potential for historical sites within a project area. The project area is completely contained within section 19 in Cascade Township, which guides the analysis of the relevant historical property maps. The 1876 Map of Cascade Township (Figure 5) shows the project area split between the parcels of C. Patterson and E. Lennon. No structures are present within the project area. By 1907 (Figure 6) the construction of the Chesapeake and Ohio Railway had been completed within Cascade Township and is shown running east-west along the northern edge of the project area. The project area is split between the parcels of Mrs. Sarah Patterson, Thomas Eardley, and Frank Jas and E. W. Lennon. No structures are indicated within the project area. The 1920 Map of Cascade Township (Figure 7) does not indicate any changes from the 1907 map other than new landowners. New landowners of the time were I.C. Seheer, W. T. J. Lennon, and A. D. McLenithan. The 1914 USGS 15' Series Topographic Map of Grand Rapids (Figure 8) does not indicate land ownership at the time, however it does indicate that presence of structures; one structure is indicated within the central portion of the project area.

Aerial photographs depicting the project area (NETR 2023; Google Earth) shows that the literature review study radius has seen significant changes related to urban development, however the project area itself has remained largely unchanged. The 1955 aerial photograph shows the project area as part of a rural landscape, consisting of a mix of woods and agricultural fields. The project area then remains nearly unchanged until 1999 when the construction of an access road along the southern boundary is in progress. The building and industrial infrastructure to the west of the project area had also been completed by 1999. Starting in 2013, the southwestern portion of the project area appears to have been used as a waste area. By 2021, this activity appears to have stopped and the graded soil can be seen recovering to its present state.

### **3.0 SUMMARY AND CONCLUSIONS**

Under contract with C&S Companies, Lawhon and Associates, Inc. completed a cultural resources literature review for a proposed 23-acre nonaeronautical development site at the Gerald R. Ford International Airport in Cascade Township, Kent County, Michigan in March of 2023. The literature review did not identify any previously recorded archaeological sites and historic resources within the project area or in the immediate vicinity of the proposed development site. No previous

surveys have ever been conducted within the project area. Historical maps and aerial photographs suggest that the project area was largely undeveloped and used for agricultural or woodlots up to the late twentieth century. Aside from the access road along the southern border and the former waste activities within the southwestern portion, the project area has not seen any significant changes since the earliest available maps of the area.

Prehistoric cultural materials, if encountered, are likely to consist of transient hunting activity in the form of low-density lithic scatters or isolated finds located on the landforms better suited to occupation (i.e. relatively flat, well drained areas). Given the information gathered during the literature review, significant cultural materials are deemed unlikely to be located within the proposed project area.

#### 4.0 REFERENCES

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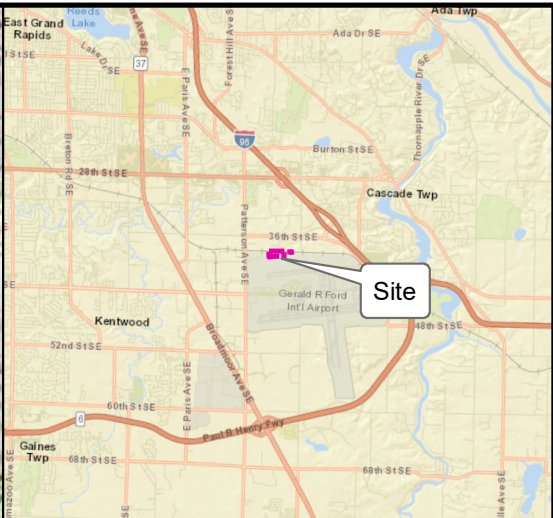
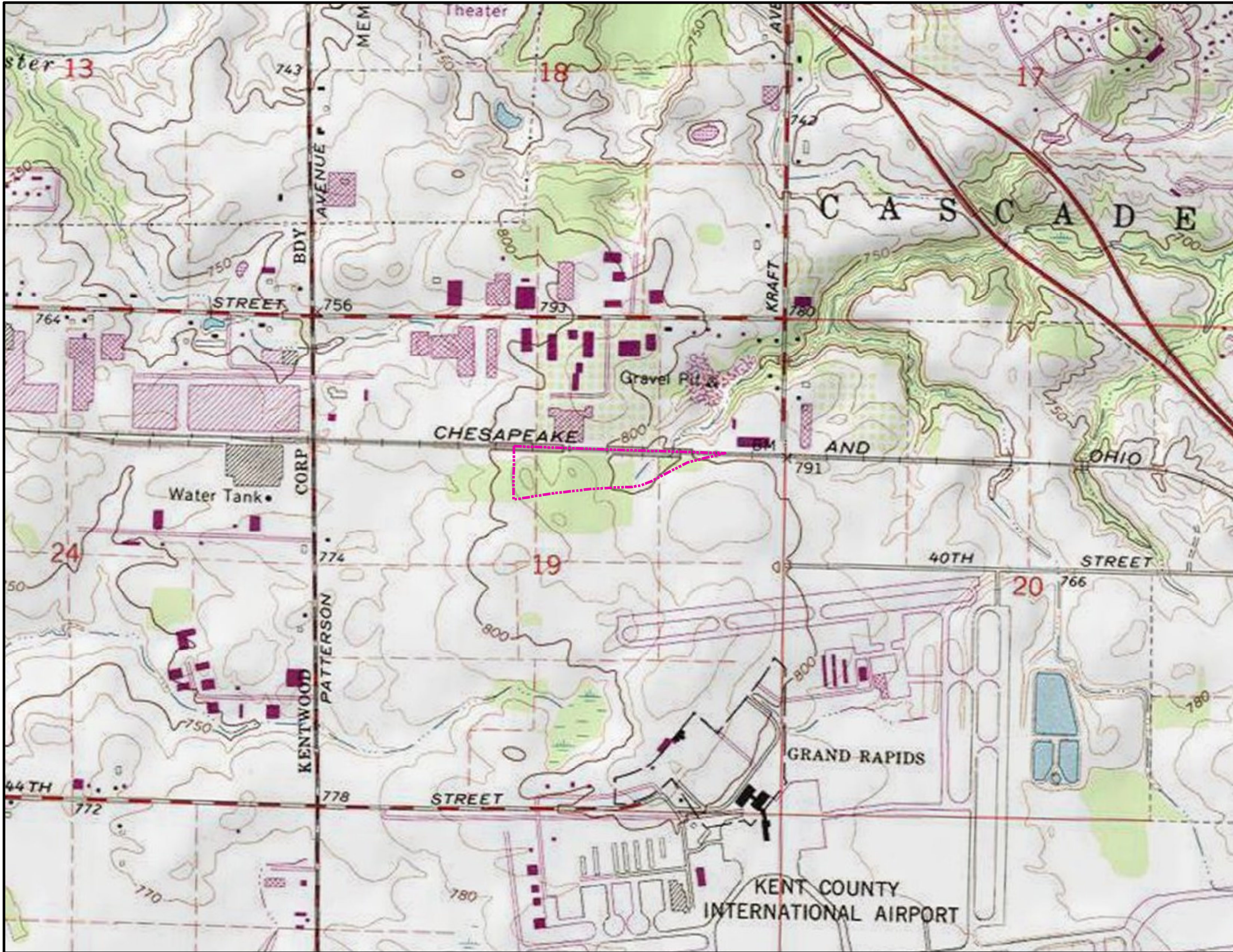
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United States Department of Agriculture, Soil Conservation Service (USDA SCS)

1986 *Soil Survey of Kent County, Ohio*. U.S. Government Printing Office, Washington, D.C.

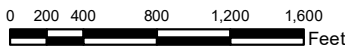
## **5.0 FIGURES**



Site Location Map

**Legend**

 Project Area



**Gerald R. Ford  
International Airport**

Modern Topographic Map



Lawton & Associates, Inc.

Date: March 2023	Approved by: JZ	L&A No. 23-0053	Figure 1
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File Name: 01-Topo.mxd Edited: 3/13/2023 By: afraley

Source: Esri World Imagery



Site Location Map

**Legend**

 Project Area



0 200 400  
Feet

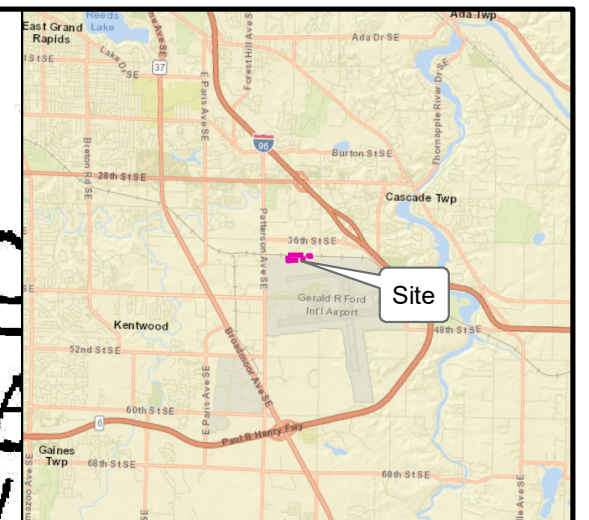
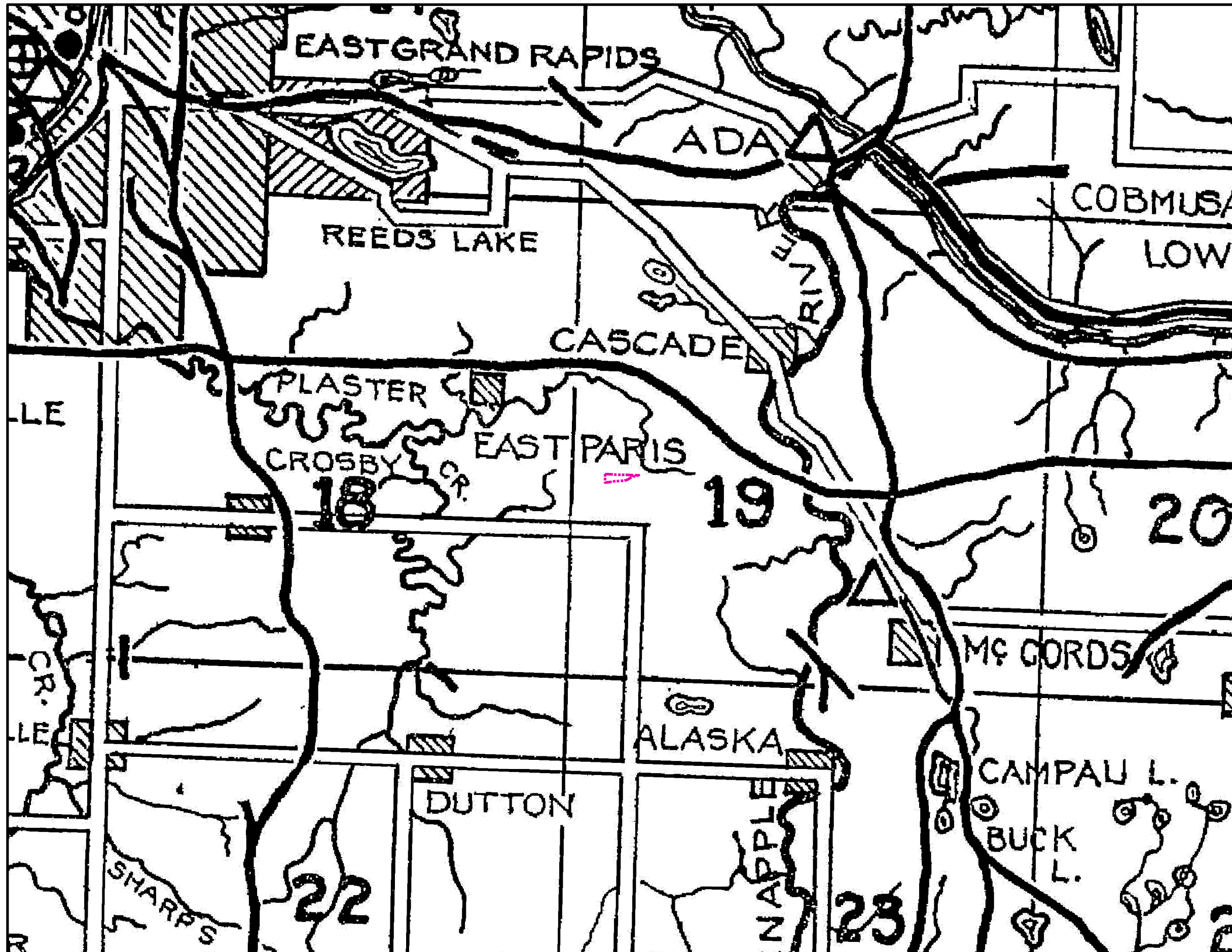
**Gerald R. Ford  
International Airport**

Modern Aerial Imagery Map



Lawhon & Associates, Inc.

Date: March 2023	Approved by: JZ	L&A No. 23-0053	Figure 2
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Site Location Map

### Legend

  Project Area



0 0.5 1 2 Miles

Gerald R. Ford  
International Airport

Detail of Kent County  
Map from Hinsdale 1931

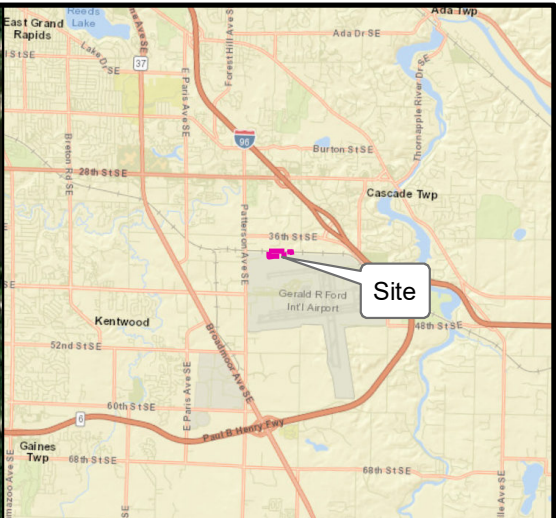
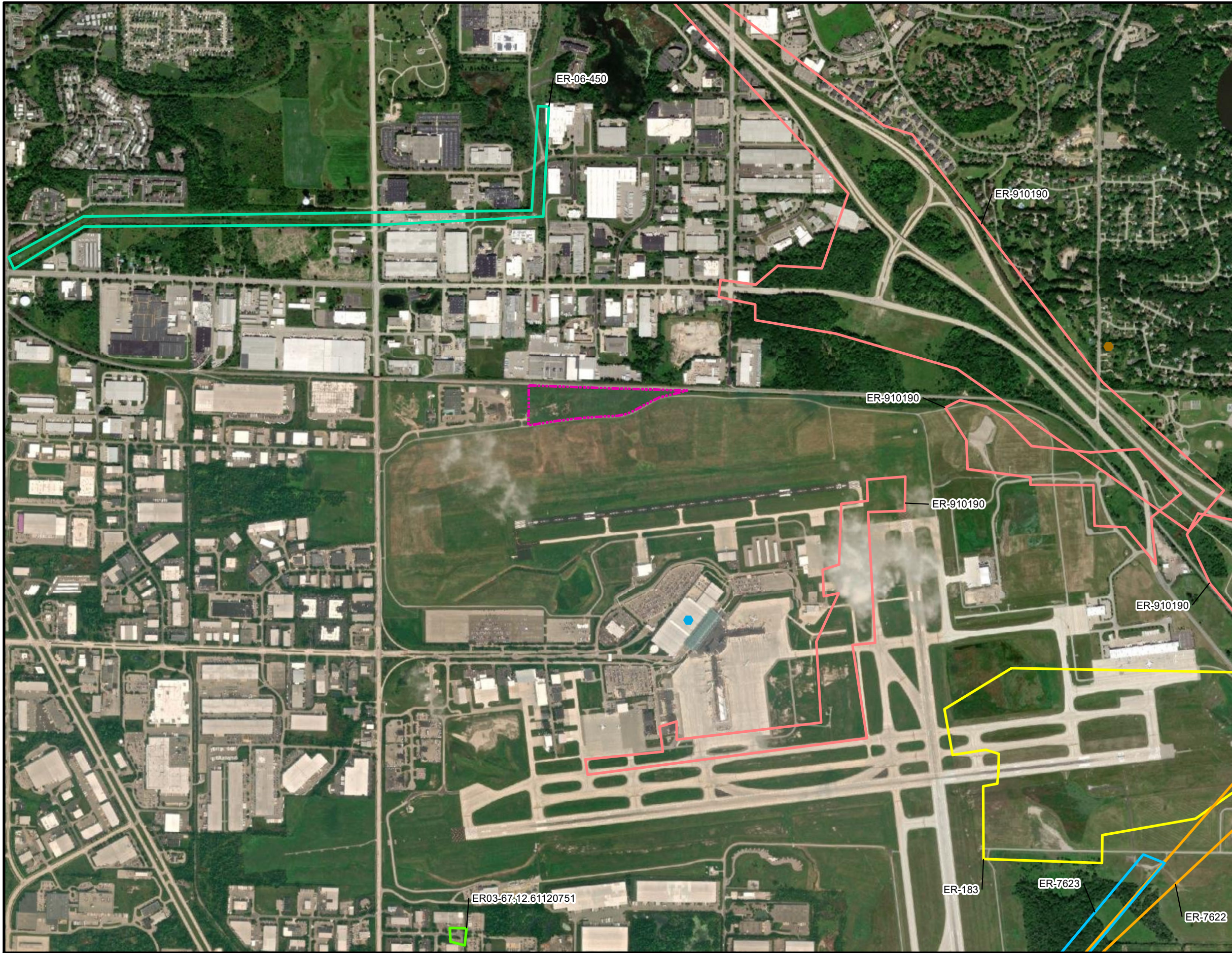


Date: March 2023	Approved by: JZ	L&A No. 23-0053	Figure 3
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File Name: 03-1931 Kent Co.mxd

Edited: 3/13/2023 By: afrale

Source:



Site Location Map

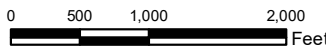
**Legend**

- Project Area
- Not Eligible for NRHP
- Unevaluated Resource



**Previous Surveys**

- ER-06-450
- ER-183
- ER-7622
- ER-7623
- ER-910190
- ER03-67.12.61120751



**Gerald R. Ford  
International Airport**

Previous Cultural  
Resources Surveys

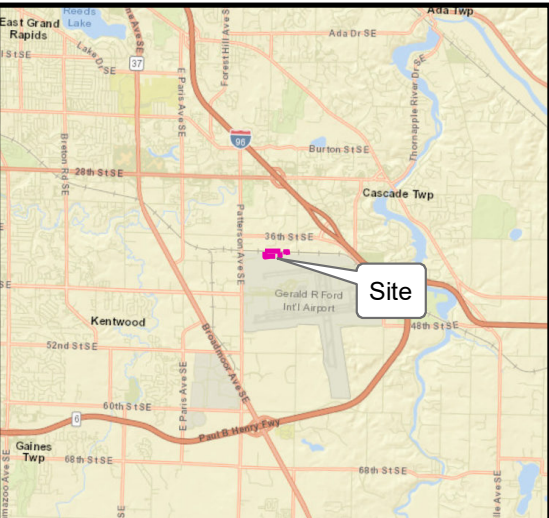
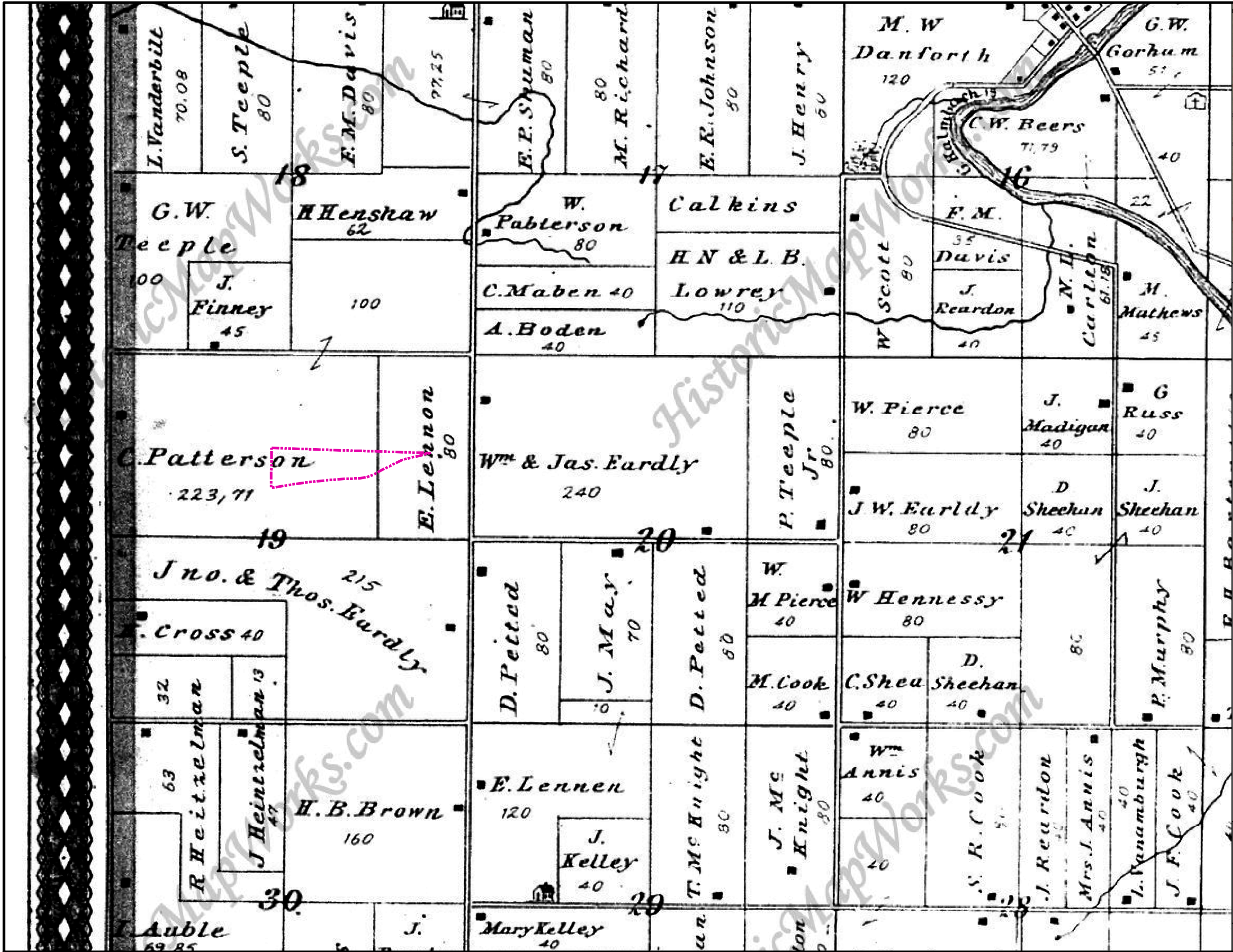


Lawton & Associates, Inc.

Date: March 2023	Approved by: JZ	L&A No. 23-0053	Figure 4
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File Name: 04-MISHPO.mxd Edited: 3/13/2023 By: afraley

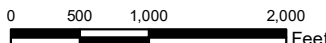
Source:



Site Location Map

Legend

 Project Area



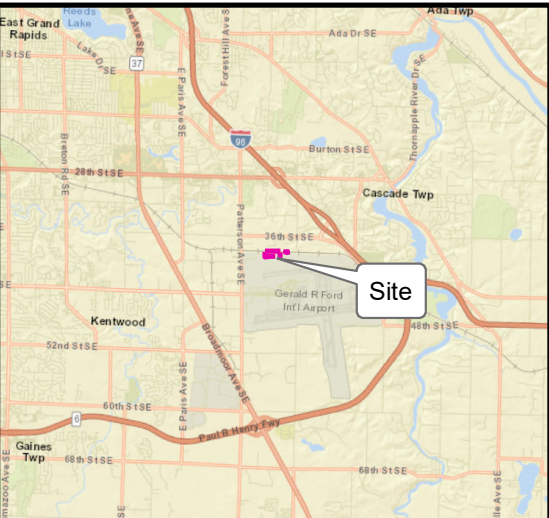
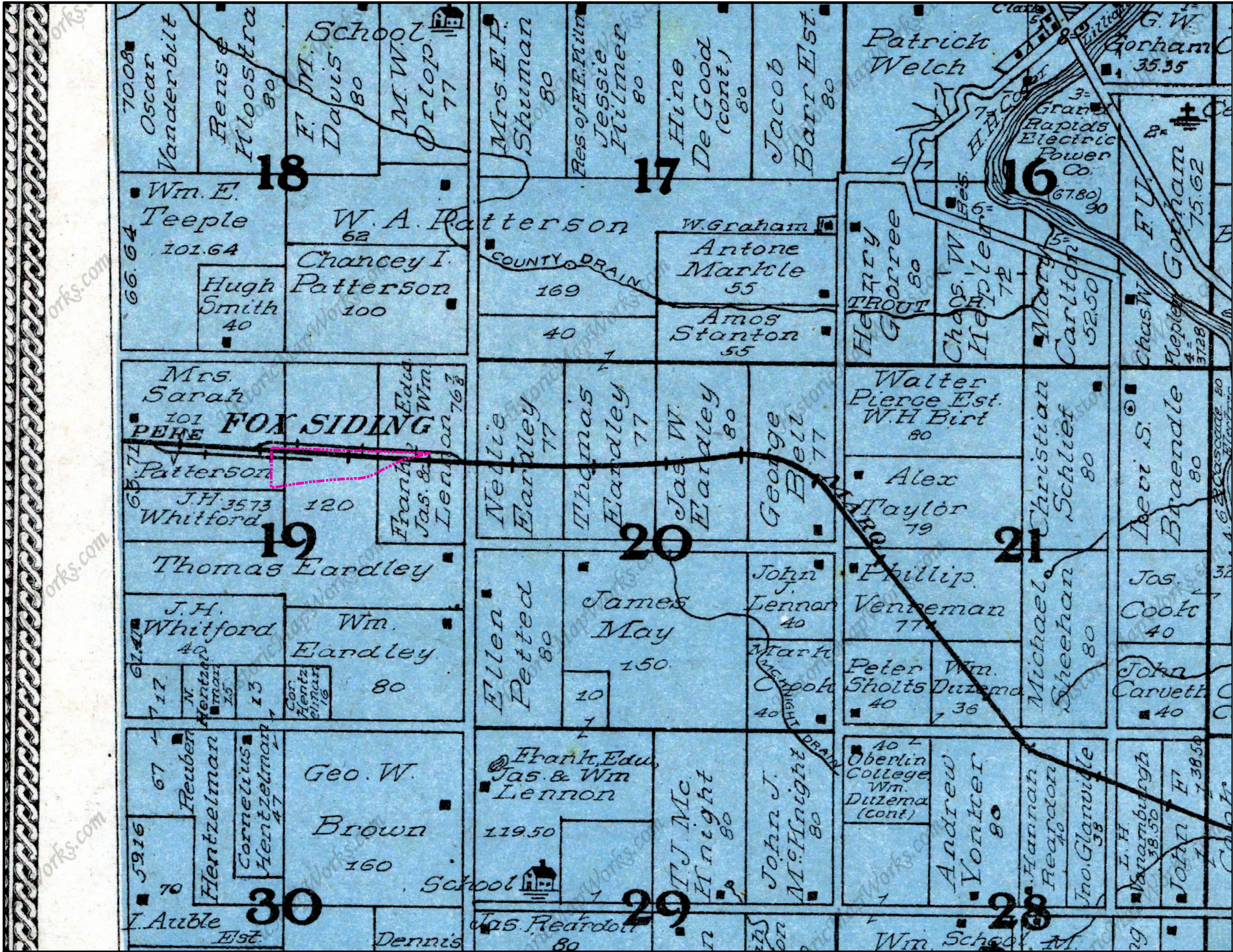
Gerald R. Ford  
International Airport

Detail of 1876 Plat of  
Cascade Township



Lawton & Associates, Inc.

Date: March 2023	Approved by: JZ	L&A No. 23-0053	Figure 5
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Site Location Map

**Legend**

Project Area

N

0 500 1,000 2,000 Feet

**Gerald R. Ford International Airport**

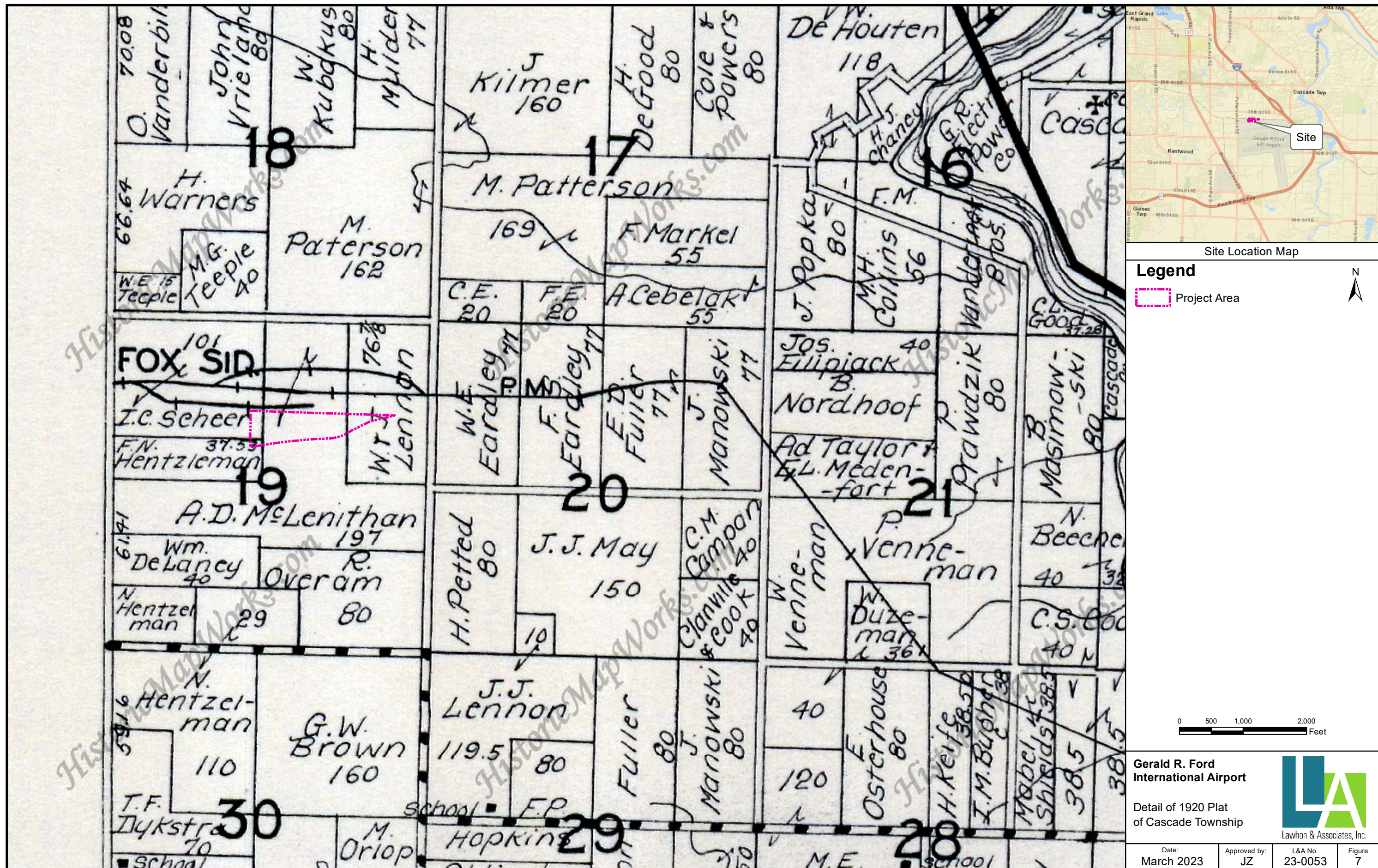
Detail of 1907 Plat of Cascade Township

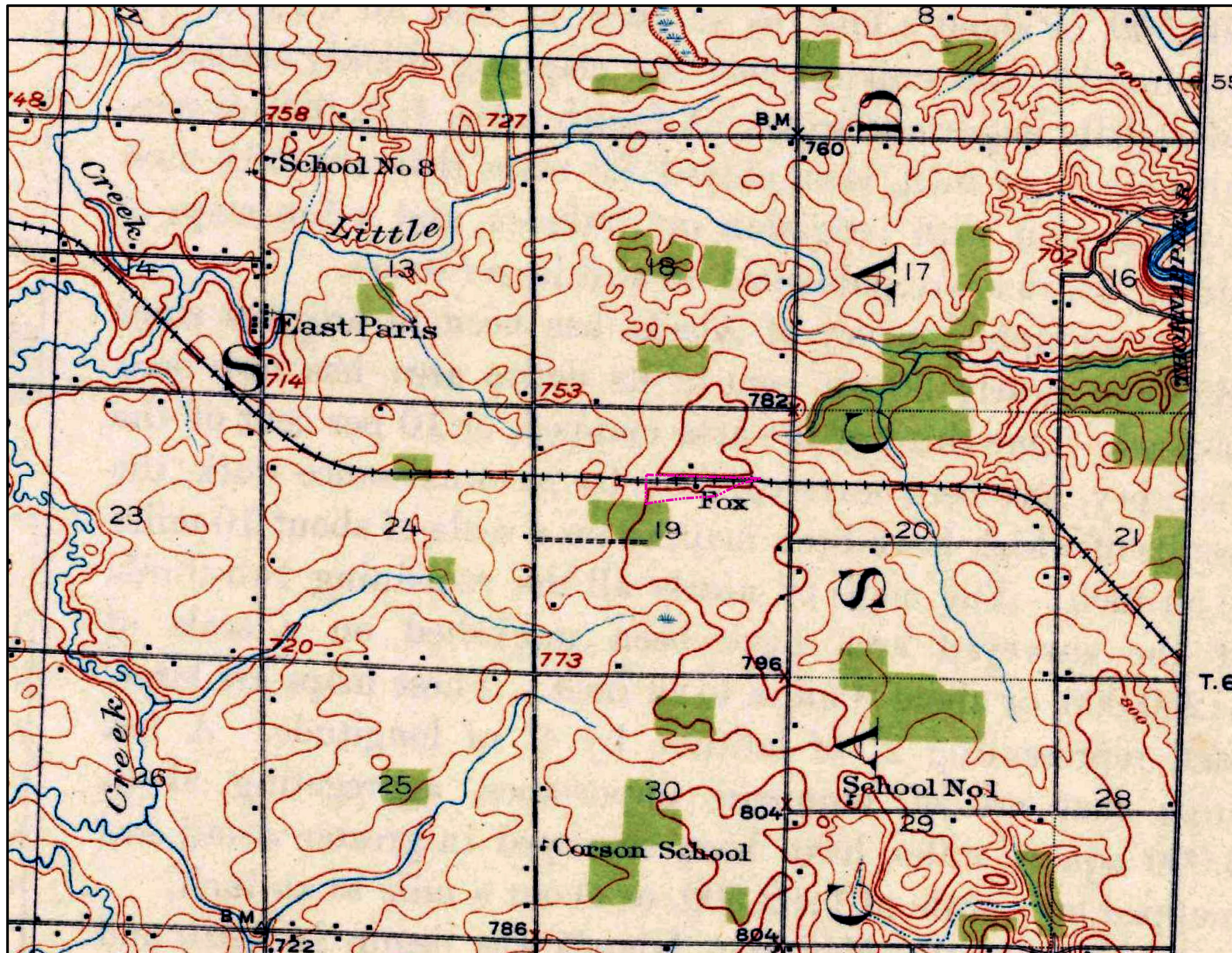
Lawhon & Associates, Inc.

Date: March 2023	Approved by: JZ	L&A No. 23-0053	Figure 6
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File Name: 06-1907 Plat.mxd Edited: 3/13/2023 By: aforale

Source:





Site Location Map

### Legend

Project Area



0 500 1,000 2,000 3,000  
Feet

Gerald R. Ford  
International Airport

1914 Grand Rapids, Michigan  
15' Series Topographic Map



Lawton & Associates, Inc.

Date: March 2023	Approved by: JZ	L&A No. 23-0053	Figure 8
---------------------	--------------------	--------------------	-------------

File Name: 08-1914 Topo.mxd

Edited: 3/13/2023

By: aforley

Source:



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
MICHIGAN STRATEGIC FUND  
STATE HISTORIC PRESERVATION OFFICE

QUENTIN L. MESSER, JR.  
PRESIDENT

June 20, 2023

MISTY PEAVELER  
ENVIRONMENTAL PROTECTION SPECIALIST  
FEDERAL AVIATION ADMINISTRATION  
11677 S. WAYNE ROAD, SUITE 107  
ROMULUS, MICHIGAN 48174-1412

RE: ER23-748                      Nonaeronautical Development Site at Gerald R. Ford International  
Airport, Grand Rapids, Cascade Township, Kent County (FAA)

Dear Ms. Peaveler

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

This letter evidences the Federal Aviation Administration's (FAA) compliance with 36 CFR § 800.4 "Identification of historic properties," and the fulfillment of the FAA's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected." **If the scope of work changes in any way, or in the unlikely event that human remains or archaeological material are encountered during construction activities related to the above-cited undertaking, work must be halted, and the Michigan SHPO and other appropriate authorities must be contacted immediately.**

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

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



300 NORTH WASHINGTON SQUARE • LANSING, MICHIGAN 48913  
michigan.gov/shpo • (517) 335-9840

If you have any questions, please contact Michael J. Hambacher, Staff Archaeologist at (517)-243-9513 or by email at [hambacherm@michigan.gov](mailto:hambacherm@michigan.gov). **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Hambacher", with a long horizontal flourish extending to the right.

Michael J. Hambacher  
Staff Archaeologist

KMBY:MJH

Copy: Michelle Baker, Gerald R. Ford International Airport Authority  
Kara Young, C&S Companies

## **Attachment #6 - Wetland Delineation**

---

July 8, 2022

Michelle Baker  
Gerald R. Ford International Airport  
5500 44<sup>th</sup> Street SE  
Grand Rapids, MI, 49512

**Re: Wetland Delineation Report – Site 12, 5500 44<sup>th</sup> Street Southeast**

Dear Ms. Baker:

As requested by Gerald R. Ford International Airport, Barr Engineering Co. (Barr) conducted a wetland delineation at the above-referenced site. The purpose of this wetland delineation report is to summarize the results of the wetland delineation conducted on June 22, 2022.

## **1.0 Area of Investigation Description**

The Area of Investigation (AOI) includes a portion of parcel number 41-19-20-300-020, located at 5500 44<sup>th</sup> Street SE, in the City of Grand Rapids, Kent County, Michigan. Surrounding land uses and cover types include commercial, industrial, forest, and airport facilities. The dominant land uses and cover types within the AOI consist of wetlands and mowed/maintained field.

## **1.1 Desktop Review**

Barr conducted a desktop review to evaluate aerial imagery, topography, soil types, and mapped wetlands within the AOI prior to the wetland delineation. As part of the desktop review, Barr staff reviewed resources such as the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS; Figure 1), the National Wetlands Inventory (NWI; Figure 2), and aerial photography.

## **1.2 Methodology**

The wetland delineation was conducted in a manner consistent with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, USACE 2012). The wetland delineation procedures outlined in these manuals require the evaluation of on-site vegetation, soils, and hydrologic characteristics. Site observations are described in the sections below.

The wetland boundaries were flagged in the field with alphanumerically labeled pink pin flags and/or pink flagging tape. Flagging was located using a GPS unit capable of sub-meter accuracy.

## **1.3 Results**

The AOI includes palustrine, or freshwater, emergent (PEM) habitat. Figure 3 depicts the approximate location of the wetland areas encountered on site and the attached U.S. Army Corps of Engineers (USACE) wetland data forms provide additional wetland detail.

## **Vegetation, Soil, and Hydrology**

### **Wetland A**

This PEM/PSS wetland is located in the northeast portion of the AOI as identified by flags A1 – A28. The vegetation identified within the wetland includes species such as reed canary grass, soft-stemmed rush, purple loosestrife, Bebb's sedge, and tall fescue. Primary and secondary hydrology indicators were identified within the wetland. The soils are described in the WSS as Glynwood loam, a somewhat poorly drained soil. The soils evaluated within the wetland were not consistent with this description, as they appeared to be poorly drained, displaying hydric characteristics.

### **Wetland B**

This PEM/PSS wetland is located in the north-central portion of the AOI as identified by flags B1 – B14. The vegetation identified within the wetland includes species such as reed canary grass, Missouri river willow, Gray's sedge, Bebb's sedge, and Kentucky blue grass. Primary and secondary hydrology indicators were identified within the wetland. The soils are described in the WSS as Pewamo loam, a poorly drained soil. The soils evaluated within the wetland were consistent with this description, as they appeared to be poorly drained, displaying hydric characteristics.

### **Wetland C**

This PEM/PSS wetland is located in the northwest portion of the AOI as identified by flags C1 – C48. The vegetation identified within the wetland includes species such as field horsetail, dark-green bullrush, soft-stemmed rush, hybrid cattail, and dogbane. Primary and secondary hydrology indicators were identified within the wetland. The soils are described in the WSS as Glynwood loam, a somewhat poorly drained soil. The soils evaluated within the wetland were not consistent with this description, as they appeared to be poorly drained, displaying hydric characteristics.

In contrast, the adjacent upland areas included species such as Kentucky blue grass, tall fescue, smooth brome, Queen Anne's lace, Kentucky bluegrass, tall fescue, smooth brome, blackberry, ox-eye daisy, red clover, quack grass, and yellow sweet clover with no observed evidence of wetland hydrology or soils.

## **1.4 Conclusions**

Based on observations of topography, vegetation, soil, and indicators of hydrology, Barr has determined that wetland habitat is present within the AOI. According to Part 303, Wetlands Protection, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, wetlands regulated by the State of Michigan include wetlands that are:

1. Located within 500 feet of, or having a direct surface water connection to, an inland lake, pond, river, or stream; or
2. Greater than 5 acres in size; or
3. Located within 1,000 feet of, or having a direct surface water connection to, the Great Lakes or Lake St. Clair; or
4. A water of the United States as that term is used in section 502(7) of the Federal Water Pollution Control Act, 33 USC 1362; or
5. Known to have a documented presence of an endangered or threatened species under Part 365 of State of Michigan 1994 PA 451, as amended or the Federal Endangered Species Act of 1973, Public Law 93-205; or
6. Rare or imperiled.

Wetlands A, B, and C appear to be regulated under Part 303 of 1994 PA 451 as they appear to have a direct surface water connection to or are within 500 feet of a tributary to the Thornapple River. Therefore, a Part 303 permit would be required from EGLE to place fill, remove soil, drain surface water from, or make use of these wetlands.

Please be advised that EGLE and in some coastal cases USACE have regulatory authority regarding the wetland boundary location(s) and jurisdictional status of wetlands in the State of Michigan. Barr's wetland determination was performed in general accordance with accepted procedures for conducting wetland determinations. Barr provides no warranty, guarantee, or other agreement in respect to the period of time for which this wetland determination will remain valid. Barr's conclusions reflect our professional opinion based on the site conditions within the AOI observed during the site visits. Discrepancies may arise between current and future wetland determinations and delineations due to changes in vegetation and/or hydrology as the result of land use practices or other environmental factors, whether on-site or on adjacent or nearby properties. In addition, wetland delineations performed outside the growing season, from late-October until late-April, may differ from those performed at the same site during the growing season due to the presence of snow cover or frozen ground conditions. We recommend our wetland boundary determination and jurisdictional opinion be reviewed by EGLE prior to undertaking any activity within any identified wetlands.

Thank you for the opportunity to provide this wetland delineation. If you have any questions, please contact me at your convenience at 616.512.7042 or [rphillips@barr.com](mailto:rphillips@barr.com).

Sincerely,

BARR ENGINEERING CO.



Randall Phillips, PWS

Senior Ecologist



## References

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual*. Washington, DC.

USACE. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. Washington, DC.

### Figures:

Figure 1 – WSS

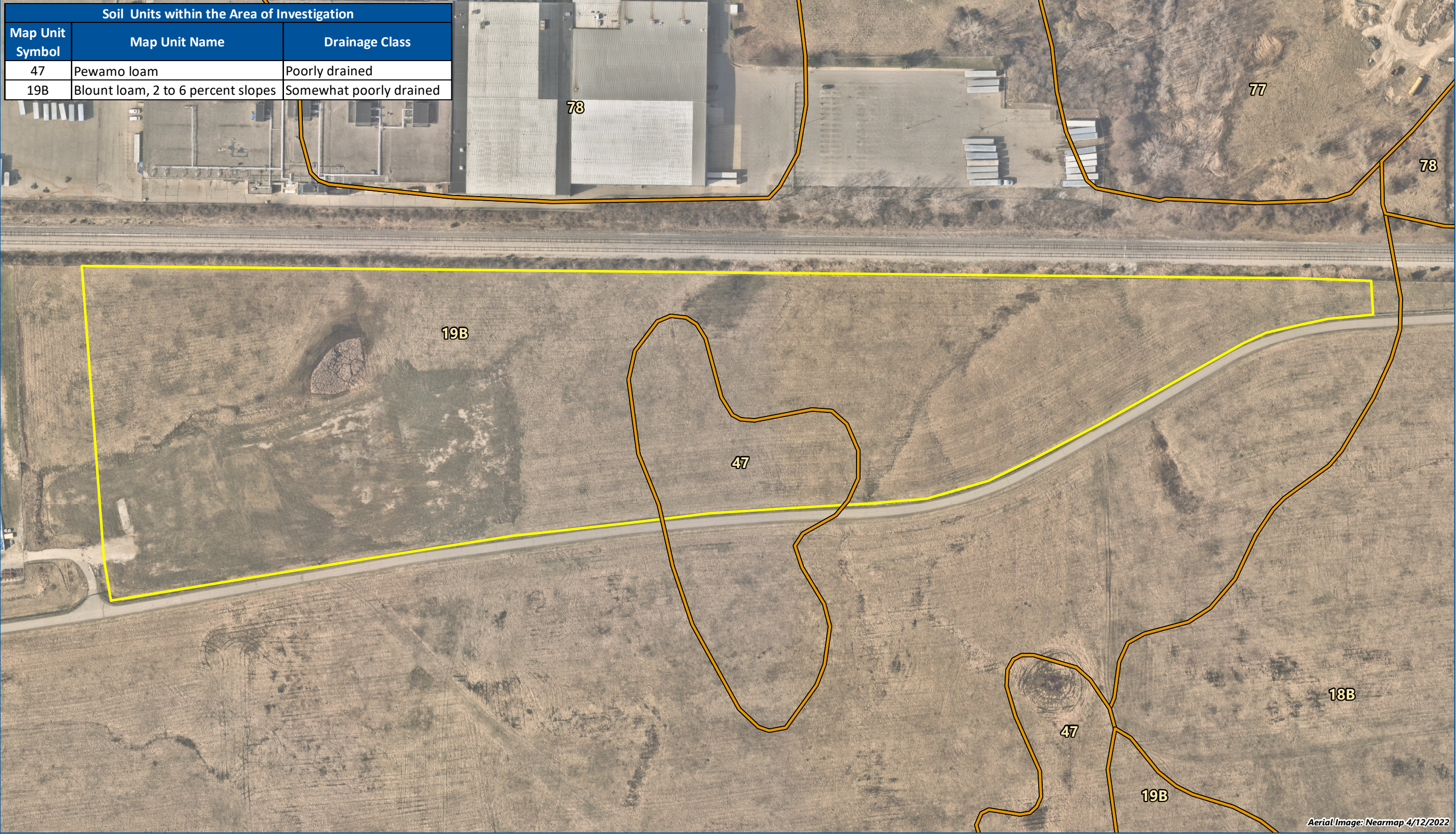
Figure 2 – NWI

Figure 3 – Mapped Wetlands

### Attachments:



Attachment 1 – USACE Wetland Determination Data Forms

Soil Units within the Area of Investigation		
Map Unit Symbol	Map Unit Name	Drainage Class
47	Pewamo loam	Poorly drained
19B	Blount loam, 2 to 6 percent slopes	Somewhat poorly drained

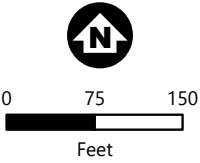


Aerial Image: Nearmap 4/12/2022



-  Area of Investigation
-  Soil Unit

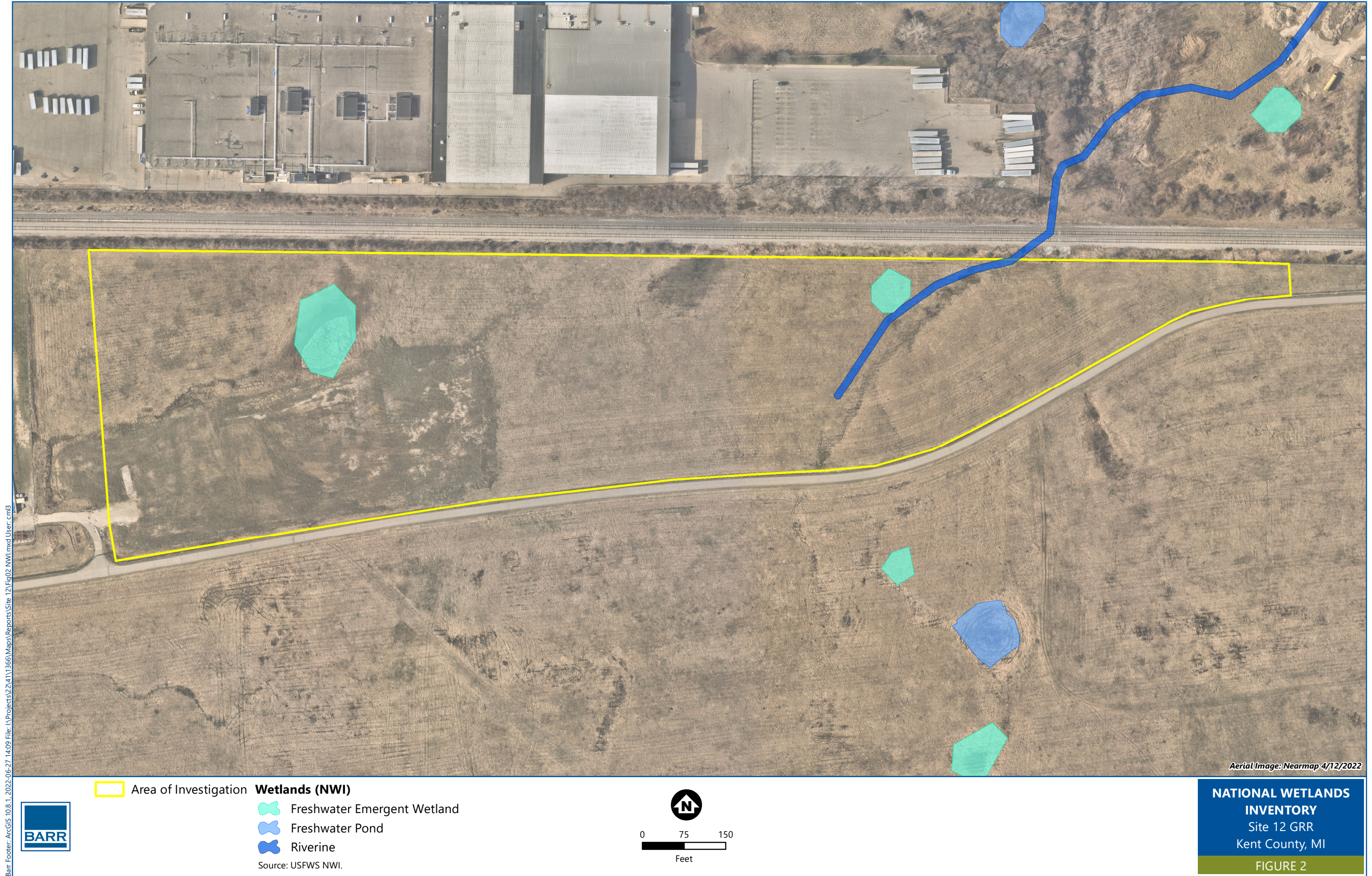
Source: Soil Survey Staff, NRCS USDA.  
 Soil Survey Geographic (SSURGO) Database.  
 Available online at:  
<https://sdmdataaccess.sc.egov.usda.gov>



**SOIL UNITS**  
 Site 12 GRR  
 Kent County, MI

FIGURE 1

Barr Footer: ArcGIS 10.8.1, 2022-06-27 14:09 File: \\Projects\\22\\411366\\Maps\\Reports\\Site 12\\Fig01 Soil Units.mxd User: cm3



Barr Footer: ArcGIS 10.8.1, 2022-06-27 14:09 File: \\Projects\22\411366\Maps\Reports\Site 12\Fig02 NWI.mxd User: cm13



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Site 12 City/County: Grand Rapids/Kent Sampling Date: 6/22/2022  
 Applicant/Owner: Gerald R. Ford Airport Authority State: MI Sampling Point: A wet  
 Investigator(s): R.L. Phillips Section, Township, Range: S19 T6N R10W  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope %: 5-8  
 Subregion (LRR or MLRA): LRR L Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount loam, 2 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Near Flag A20. Area previously mowed/maintained.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b>	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: A wet

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>110</u></td> <td>x 4 = <u>440</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>150</u> (A)</td> <td><u>580</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.87</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>110</u>	x 4 = <u>440</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>150</u> (A)	<u>580</u> (B)	Prevalence Index = B/A = <u>3.87</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>5</u>	x 1 = <u>5</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>110</u>	x 4 = <u>440</u>																			
UPL species <u>15</u>	x 5 = <u>75</u>																			
Column Totals: <u>150</u> (A)	<u>580</u> (B)																			
Prevalence Index = B/A = <u>3.87</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Hydrophytic Vegetation Indicators:</b>  <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
Herb Stratum (Plot size: <u>5'</u> )																				
1. <u>Poa pratensis</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Vicia sativa</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Rubus allegheniensis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Cornus racemosa</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
5. <u>Festuca arundinacea</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Solidago altissima</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Leucanthemum vulgare</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
8. <u>Scirpus atrovirens</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
9. <u>Tragopogon dubius</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
10. <u>Carex gracillima</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
11. <u>Dianthus armeria</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
12. _____	_____	_____	_____																	
<u>150</u> =Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>  </u> No <u>X</u>																
=Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

Sampling Point: A wet

Northcentral and Northeast Region – Version 2.0

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Site 12 City/County: Grand Rapids/Kent Sampling Date: 6/22/2022  
 Applicant/Owner: Gerald R. Ford Airport Authority State: MI Sampling Point: A wet  
 Investigator(s): R.L. Phillips Section, Township, Range: S19 T6N R10W  
 Landform (hillside, terrace, etc.): swale/depression Local relief (concave, convex, none): concave Slope %: 2-3  
 Subregion (LRR or MLRA): LRR L Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount loam, 2 to 6 percent slopes NWI classification: R/PEM [PEM obs.]  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Near Flag A20. Area previously mowed/maintained.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) <u>X</u> Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		

**VEGETATION – Use scientific names of plants.**

Sampling Point: A wet

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>70</u></td> <td>x 1 = <u>70</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>345</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.23</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>70</u>	x 1 = <u>70</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>345</u> (B)	Prevalence Index = B/A = <u>2.23</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>70</u>	x 1 = <u>70</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>50</u>	x 4 = <u>200</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>155</u> (A)	<u>345</u> (B)																			
Prevalence Index = B/A = <u>2.23</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Hydrophytic Vegetation Indicators:</b>  <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: <u>5'</u> )																				
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Festuca arundinacea</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Lythrum salicaria</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Carex bebbii</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Vicia sativa</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Poa pratensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
8. <u>Juncus canadensis</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
9. <u>Trifolium repens</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
10. <u>Agrimonia parviflora</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
11. <u>Asclepias incarnata</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
12. _____	_____	_____	_____																	
<u>155</u> =Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____																

Sampling Point: A wet

Northcentral and Northeast Region – Version 2.0

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Site 12 City/County: \_\_\_\_\_ Sampling Date: 6/22/2022  
 Applicant/Owner: Gerald R. Ford Airport Authority State: MI Sampling Point: B up  
 Investigator(s): R.L. Phillips Section, Township, Range: S19 T6N R10W  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope %: 0-2  
 Subregion (LRR or MLRA): LRR L Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pewamo loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Near Flag B8. Area previously mowed/maintained.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		

**VEGETATION** – Use scientific names of plants.

Sampling Point: B up

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>135</u></td> <td>x 4 = <u>540</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>640</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.13</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>135</u>	x 4 = <u>540</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>155</u> (A)	<u>640</u> (B)	Prevalence Index = B/A = <u>4.13</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>135</u>	x 4 = <u>540</u>																			
UPL species <u>20</u>	x 5 = <u>100</u>																			
Column Totals: <u>155</u> (A)	<u>640</u> (B)																			
Prevalence Index = B/A = <u>4.13</u>																				
=Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Poa pratensis</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Rubus allegheniensis</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Festuca arundinacea</u>	<u>20</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Leucanthemum vulgare</u>	<u>10</u>	<u>No</u>	<u>UPL</u>																	
5. <u>Trifolium pratense</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Achillea millefolium</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Centaurea stoebe</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
8. <u>Hypochaeris radicata</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
9. <u>Tragopogon dubius</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
10. <u>Plantago lanceolata</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
11. <u>Carex gracillima</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
12. _____	_____	_____	_____																	
<u>155</u> =Total Cover																				
<b>Woody Vine Stratum (Plot size: _____)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>  </u> No <u>X</u>																
Remarks: (Include photo numbers here or on a separate sheet.)          																				

Sampling Point: B up

Northcentral and Northeast Region – Version 2.0

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Site 12 City/County: \_\_\_\_\_ Sampling Date: 6/22/2022  
 Applicant/Owner: Gerald R. Ford Airport Authority State: MI Sampling Point: B wet  
 Investigator(s): R.L. Phillips Section, Township, Range: S19 T6N R10W  
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope %: 0-2  
 Subregion (LRR or MLRA): LRR L Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pewamo loam NWI classification: none [PEM obs.]

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Near Flag B8. Area previously mowed/maintained.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		

**VEGETATION – Use scientific names of plants.**

Sampling Point: B wet

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>90</u></td> <td>x 2 = <u>180</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>175</u> (A)</td> <td><u>445</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.54</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>90</u>	x 2 = <u>180</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>175</u> (A)	<u>445</u> (B)	Prevalence Index = B/A = <u>2.54</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>20</u>	x 1 = <u>20</u>																			
FACW species <u>90</u>	x 2 = <u>180</u>																			
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Column Totals: <u>175</u> (A)	<u>445</u> (B)																			
Prevalence Index = B/A = <u>2.54</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Hydrophytic Vegetation Indicators:</b>  <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
Herb Stratum (Plot size: <u>5'</u> )																				
1. <u>Phalaris arundinacea</u>	<u>35</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Salix eriocephala</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Carex grayi</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Carex bebbii</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
5. <u>Poa pratensis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
6. <u>Rubus allegheniensis</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Symphyotrichum lateriflorum</u>	<u>15</u>	<u>No</u>	<u>FAC</u>																	
8. <u>Elymus repens</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
9. <u>Carex swanii</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
10. <u>Ulmus americana</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>175</u> =Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____																
=Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: B wet

[illegible]<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R</b> ,     |
| <input type="checkbox"/> Histic Epipedon (A2)              | <b>MLRA 149B)</b>  |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b> |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> High Chroma Sands (S11) ( <b>LRR K, L</b> )       |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )      |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Redox (S5)                  | <input type="checkbox"/> Redox Depressions (F8)                            |
| <input type="checkbox"/> Stripped Matrix (S6)              | <input type="checkbox"/> Marl (F10) ( <b>LRR K, L</b> )                    |
| <input type="checkbox"/> Dark Surface (S7)                 |  |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?      Yes    X    No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Site 12 City/County: Grand Rapids/Kent Sampling Date: 6/22/2022  
 Applicant/Owner: Gerald R. Ford Airport Authority State: MI Sampling Point: C up  
 Investigator(s): R.L. Phillips Section, Township, Range: S19 T6N R10W  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope %: 3-5  
 Subregion (LRR or MLRA): LRR L Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount loam, 2 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Near Flag C2. Area previously mowed/maintained.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b>			
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>	
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION – Use scientific names of plants.**

Sampling Point: C up

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>110</u></td> <td>x 4 = <u>440</u></td> </tr> <tr> <td>UPL species <u>40</u></td> <td>x 5 = <u>200</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>655</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.23</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>110</u>	x 4 = <u>440</u>	UPL species <u>40</u>	x 5 = <u>200</u>	Column Totals: <u>155</u> (A)	<u>655</u> (B)	Prevalence Index = B/A = <u>4.23</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>110</u>	x 4 = <u>440</u>																			
UPL species <u>40</u>	x 5 = <u>200</u>																			
Column Totals: <u>155</u> (A)	<u>655</u> (B)																			
Prevalence Index = B/A = <u>4.23</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Hydrophytic Vegetation Indicators:</b>  <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
Herb Stratum (Plot size: <u>5'</u> )																				
1. <u>Festuca arundinacea</u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Bromus inermis</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>																	
3. <u>Elymus repens</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Cirsium arvense</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Rubus allegheniensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Apocynum cannabinum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
7. <u>Leucanthemum vulgare</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
8. <u>Melilotus altissimus</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
9. <u>Trifolium pratense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
10. <u>Dactylis glomerata</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>155</u> =Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
=Total Cover																				
Woody Vine Stratum (Plot size: _____ )																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

Sampling Point: C up

Northcentral and Northeast Region – Version 2.0

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Site 12 City/County: Grand Rapids/Kent Sampling Date: 6/22/2022  
 Applicant/Owner: Gerald R. Ford Airport Authority State: MI Sampling Point: C wet  
 Investigator(s): R.L. Phillips Section, Township, Range: S19 T6N R10W  
 Landform (hillside, terrace, etc.): depression/swale Local relief (concave, convex, none): concave Slope %: 0-2  
 Subregion (LRR or MLRA): LRR L Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount loam, 2 to 6 percent slopes NWI classification: PEM [PEM obs.]  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Near Flag C2. Area previously mowed/maintained.	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) <u>X</u> Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> <u>X</u> Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		

**VEGETATION** – Use scientific names of plants.

Sampling Point: C wet

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
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Total % Cover of:	Multiply by:																			
OBL species <u>80</u>	x 1 = <u>80</u>																			
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Column Totals: <u>210</u>	(A) <u>460</u> (B)																			
Prevalence Index = B/A = <u>2.19</u>																				
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Sapling/Shrub Stratum (Plot size: <u>15'</u> )																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Hydrophytic Vegetation Indicators:</b>  <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: <u>5'</u> )																				
1. <u>Equisetum arvense</u>	<u>65</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Scirpus atrovirens</u>	<u>35</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Juncus effusus</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>																	
4. <u>Festuca arundinacea</u>	<u>20</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Typha X glauca</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Apocynum cannabinum</u>	<u>15</u>	<u>No</u>	<u>FAC</u>																	
7. <u>Salix interior</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Phalaris arundinacea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
9. <u>Lythrum salicaria</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
10. <u>Symphotrichum lanceolatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
11. <u>Juncus dudleyi</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
12. _____	_____	_____	_____																	
210 =Total Cover																				
Woody Vine Stratum (Plot size: _____ )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

## SOIL

Sampling Point: C wet

[illegible]<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R</b> ,     |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <b>MLRA 149B)</b>  |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b> |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> High Chroma Sands (S11) ( <b>LRR K, L</b> )       |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )      |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input checked="" type="checkbox"/> Depleted Matrix (F3)                   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Redox (S5)                             | <input type="checkbox"/> Redox Depressions (F8)                            |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Marl (F10) ( <b>LRR K, L</b> )                    |
| <input type="checkbox"/> Dark Surface (S7)                            |  |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?      Yes    X    No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

## **Attachment #7 - Appraisal**

---

**Integra Realty Resources**  
**Grand Rapids**

**Appraisal of Real Property**

**Site 12**

Vacant Land  
Northeast of Patterson Avenue and 40th Street  
Grand Rapids, Kent County, Michigan 49512

**Prepared For:**

Gerald R. Ford International Airport Authority

**Date of the Report:**

December 2, 2021

**Report Format:**

Appraisal Report

**IRR - Grand Rapids**

File Number: 213-2021-0337



## Subject Photographs



### Site 12

Northeast of Patterson Avenue and 40th Street  
Grand Rapids, Michigan

## Aerial Photograph





December 2, 2021

Ms. Laura Feigel  
Executive Assistant  
Gerald R. Ford International Airport Authority  
5500 44th Street, SE  
Grand Rapids, MI 49512-4055

SUBJECT:       Market Value Appraisal  
                  Site 12  
                  Northeast of Patterson Avenue and 40th Street  
                  Grand Rapids, Kent County, Michigan 49512  
                  IRR - Grand Rapids File No. 213-2021-0337

Dear Ms. Feigel:

Integra Realty Resources – Grand Rapids is pleased to submit the accompanying appraisal of the referenced property. The purpose of the appraisal is to develop an opinion of the market rent, pertaining to the fee simple interest in the property.

- The market rent of the fee simple interest in the subject property as of the effective date of the appraisal, December 1, 2021

The client for the assignment is Gerald R. Ford International Airport Authority. The intended user of this report is the client. The intended use of the report is for determining a market value opinion for use in establishing a land lease rate for future tenant decisions. No other party or parties may use or rely on the information, opinions, and conclusions contained in this report.

The subject is a parcel of vacant land containing an area of 22.70 acres or 988,812 square feet. The property is zoned PUD, Planned Unit Development. The site is triangular in shape. The road and utilities will need to be extended to the site.

The appraisal conforms to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Practice of the Appraisal Institute and applicable state appraisal regulations.

Standards Rule 2-2 (Content of a Real Property Appraisal Report) contained in the Uniform Standards of Professional Appraisal Practice (USPAP) requires each written real property appraisal report to be prepared as either an Appraisal Report or a Restricted Appraisal Report. This report is prepared as an Appraisal Report as defined by USPAP under Standards Rule 2-2(a), and incorporates practical explanation of the data, reasoning, and analysis that were used to develop the opinion of value.

Based on the valuation analysis in the accompanying report, and subject to the definitions, assumptions, and limiting conditions expressed in the report, the concluded opinions of value are as follows:

Value Conclusion				
Value Type & Appraisal Premise	Interest Appraised	Date of Value	Market Rent/Year	Market Rent/Month
Market Rent	Fee Simple	December 1, 2021	\$116,900	\$9,700

#### Extraordinary Assumptions and Hypothetical Conditions

The value conclusions are subject to the following extraordinary assumptions. An extraordinary assumption is an assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions.

1. None

The value conclusions are based on the following hypothetical conditions. A hypothetical condition is a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.

1. No legal description currently exists for Site 12, since the subject property is part of a larger parcel owned by Gerald R. Ford International Airport Authority. The appraisal is based upon the extraordinary assumption that the site is 22.70 acres as described in the property analysis section of this report. If this assumption proves to be incorrect, the value conclusion could be impacted.

The use of any extraordinary assumption or hypothetical condition may have affected the assignment results.

The value conclusion(s) in this report consider the impact of COVID-19 on the subject property.

The opinions of value expressed in this report are based on estimates and forecasts which are prospective in nature and subject to considerable risk and uncertainty. Events may occur which could cause the performance of the property to differ materially from the estimates contained herein, such as changes in the economy, interest rates, capitalization rates, financial strength of tenants, and behavior of investors, lenders, and consumers. Additionally, the concluded opinions and forecasts are based partly on data obtained from interviews and third-party sources, which are not always completely reliable. Although the findings are considered reasonable based on available evidence, IRR is not responsible for the effects of future, unforeseen occurrences.



Ms. Laura Feigel  
Gerald R. Ford International Airport Authority  
December 2, 2021  
Page 3

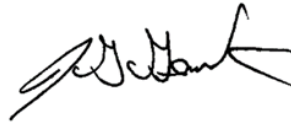
If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

**Integra Realty Resources - Grand Rapids**



Michelle Bilardello, MAI  
Michigan Certified General Appraiser  
#1205071240  
Telephone: 616.261.5000  
Email: mbilardello@irr.com



Jeffrey Genzink, MAI  
Michigan Certified General Appraiser  
#1205002640  
Telephone: 616.261.5000  
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# Quality Assurance

## IRR Quality Assurance Program

At IRR, delivering a quality report is a top priority. Integra has an internal Quality Assurance Program in which managers review material and pass an exam in order to attain IRR Certified Reviewer status. By policy, every Integra valuation assignment is assessed by an IRR Certified Reviewer who holds the MAI designation, or is, at a minimum, a named Director with at least ten years of valuation experience.

This quality assurance assessment consists of reading the report and providing feedback on its quality and consistency. All feedback from the IRR Certified Reviewer is then addressed internally prior to delivery. The intent of this internal assessment process is to maintain report quality.

## Designated IRR Certified Reviewer

The IRR Certified Reviewer who provided the quality assurance assessment for this assignment is Jeffrey Genzink, MAI.

## Executive Summary

Property Name	Site 12
Address	Northeast of Patterson Avenue and 40th Street Grand Rapids, Kent County, Michigan 49512
Property Type	Land - Airport
Owner of Record	County of Kent
Tax ID	part of 41-19-20-300-020
Land Area	22.70 acres; 988,812 SF
Zoning Designation	PUD, Planned Unit Development
Highest and Best Use	Airport commerce development
Exposure Time; Marketing Period	3 to 6 months; 3 to 6 months
Effective Date of the Appraisal	December 1, 2021
Date of the Report	December 2, 2021
Property Interest Appraised	Fee Simple

### Value Conclusion

Value Type & Appraisal Premise	Interest Appraised	Date of Value	Market Rent/Year	Market Rent/Month
Market Rent	Fee Simple	December 1, 2021	\$116,900	\$9,700

The values reported above are subject to the definitions, assumptions, and limiting conditions set forth in the accompanying report of which this summary is a part. No party other than Gerald R. Ford International Airport Authority may use or rely on the information, opinions, and conclusions contained in the report. It is assumed that the users of the report have read the entire report, including all of the definitions, assumptions, and limiting conditions contained therein.

### Extraordinary Assumptions and Hypothetical Conditions

The value conclusions are subject to the following extraordinary assumptions. An extraordinary assumption is an assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions.

#### 1. None

The value conclusions are based on the following hypothetical conditions. A hypothetical condition is a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.

1. No legal description currently exists for Site 12, since the subject property is part of a larger parcel owned by Gerald R. Ford International Airport Authority. The appraisal is based upon the extraordinary assumption that the site is 22.70 acres as described in the property analysis section of this report. If this assumption proves to be incorrect, the value conclusion could be impacted.

The use of any extraordinary assumption or hypothetical condition may have affected the assignment results.

**Strengths, Weaknesses, Opportunities, Threats (SWOT Analysis)**

The analyses presented in this report consider the internal strengths and weaknesses of the subject property, as well as opportunities and external threats. The overall valuation influences are summarized in the following table.

Valuation Influences
<b>Strengths</b> <ul style="list-style-type: none"><li>• The property is part of the Gerald R. Ford International Airport.</li></ul>
<b>Weaknesses</b> <ul style="list-style-type: none"><li>• The road and utilities need to be extended.</li><li>• There is no direct runway access.</li><li>• The site is triangular shaped.</li><li>• The exterior fencing for the airport is located within Site 12 and will need to be moved.</li></ul>
<b>Opportunities</b> <ul style="list-style-type: none"><li>• None observed</li></ul>
<b>Threats</b> <ul style="list-style-type: none"><li>• Future uncertainty of COVID-19</li></ul>



# Identification of the Appraisal Problem

## Subject Description

The subject is a parcel of vacant land containing an area of 22.70 acres or 988,812 square feet. The property is zoned PUD, Planned Unit Development. The site is triangular in shape. The road and utilities will need to be extended to the site. The subject property is part of a larger parcel. A legal description of the larger parcel is provided in the Addenda.

### Property Identification

Property Name	Site 12
Address	Northeast of Patterson Avenue and 40th Street Grand Rapids, Michigan 49512
Tax ID	part of 41-19-20-300-020
Owner of Record	County of Kent

## Sale History

No known sales or transfers of ownership have taken place within a three-year period prior to the effective appraisal date.

## Pending Transactions

Based on discussions with the appropriate contacts, the property is not subject to an agreement of sale or an option to buy, nor is it listed for sale, as of the effective appraisal date.

## Appraisal Purpose

The purpose of the appraisal is to develop the following opinion(s) of value:

- The market rent of the fee simple interest in the subject property as of the effective date of the appraisal, December 1, 2021

The date of the report is December 2, 2021. The appraisal is valid only as of the stated effective date or dates.

## Value Type Definitions

The definitions of the value types applicable to this assignment are summarized below.

### Market Value

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;

2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market;
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.<sup>1</sup>

**Market Rent**

The most probable rent that a property should bring in a competitive and open market under all the conditions requisite to a fair lease transaction, the lessee and lessor each acting prudently and knowledgeably, and assuming the rent is not affected by undue stimulus. Implicit in this definition is the execution of a lease as of a specified date under conditions whereby:

- Lessee and lessor are typically motivated;
- Both parties are well informed or well advised, and acting in what they consider their best interests;
- Payment is made in terms of cash or in terms of financial arrangements comparable thereto; and
- The rent reflects specified terms and conditions, such as permitted uses, use restrictions, expense obligations, duration, concessions, rental adjustments and revaluations, renewal and purchase options, and tenant improvements (Tis).<sup>2</sup>

**Appraisal Premise Definitions**

The definitions of the appraisal premises applicable to this assignment are specified as follows.

**As Is Market Value**

The estimate of the market value of real property in its current physical condition, use, and zoning as of the appraisal date.<sup>3</sup>

**Property Rights Definitions**

The property rights appraised which are applicable to this assignment are defined as follows.

**Fee Simple Estate**

Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.<sup>4</sup>

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<sup>1</sup> Code of Federal Regulations, Title 12, Chapter I, Part 34.42[h]; also Interagency Appraisal and Evaluation Guidelines, Federal Register, 75 FR 77449, December 10, 2010, page 77472

<sup>2</sup> Appraisal Institute, *The Appraisal of Real Estate*, 15th ed. (Chicago: Appraisal Institute, 2020), 421.

<sup>3</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 6th ed. (Chicago: Appraisal Institute, 2015)

<sup>4</sup> Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 6th ed. (Chicago: Appraisal Institute, 2015)

## Client and Intended User(s)

The client and intended user is Gerald R. Ford International Airport Authority. No other party or parties may use or rely on the information, opinions, and conclusions contained in this report.

## Intended Use

The intended use of the appraisal is for determining a market value opinion for use in establishing a land lease rate for future tenant decisions. The appraisal is not intended for any other use.

## Applicable Requirements

This appraisal report conforms to the following requirements and regulations:

- Uniform Standards of Professional Appraisal Practice (USPAP);
- Code of Professional Ethics and Standards of Professional Practice of the Appraisal Institute;
- Applicable state appraisal regulations.

## Report Format

Standards Rule 2-2 (Content of a Real Property Appraisal Report) contained in the Uniform Standards of Professional Appraisal Practice (USPAP) requires each written real property appraisal report to be prepared as either an Appraisal Report or a Restricted Appraisal Report. This report is prepared as an Appraisal Report as defined by USPAP under Standards Rule 2-2(a), and incorporates practical explanation of the data, reasoning, and analysis used to develop the opinion of value.

## Prior Services

USPAP requires appraisers to disclose to the client any other services they have provided in connection with the subject property in the prior three years, including valuation, consulting, property management, brokerage, or any other services. We have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding the agreement to perform this assignment.

## Appraiser Competency

No steps were necessary to meet the competency provisions established under USPAP. The assignment participants have appraised several properties similar to the subject in physical, locational, and economic characteristics, and are familiar with market conditions and trends; therefore, appraiser competency provisions are satisfied for this assignment. Appraiser qualifications and state credentials are included in the addenda of this report.

# Scope of Work

## Introduction

The appraisal development and reporting processes require gathering and analyzing information about the assignment elements necessary to properly identify the appraisal problem. The scope of work decision includes the research and analyses necessary to develop credible assignment results, given the intended use of the appraisal. Sufficient information includes disclosure of research and analyses performed and might also include disclosure of research and analyses not performed.

To determine the appropriate scope of work for the assignment, the intended use of the appraisal, the needs of the user, the complexity of the property, and other pertinent factors were considered. The concluded scope of work is described below.

## Research and Analysis

The type and extent of the research and analysis conducted are detailed in individual sections of the report. The steps taken to verify comparable data are disclosed in the addenda of this report. Although effort has been made to confirm the arms-length nature of each sale with a party to the transaction, it is sometimes necessary to rely on secondary verification from sources deemed reliable.

## Subject Property Data Sources

The legal and physical features of the subject property, including size of the site, flood plain data, property zoning, existing easements and encumbrances, access and exposure, and condition of the improvements (as applicable) were confirmed and analyzed.

## Contacts

In addition to public records and other sources cited in this appraisal, information pertaining to the subject was obtained from the following party:

Property Contacts		
Contact Name	Title/Role	Company
Laura Feigel	Executive Assistant	Gerald R. Ford International Airport Authority
Tom Cizauskas	Purchasing Manager	Gerald R. Ford International Airport Authority

## Inspection

Details regarding the property inspection conducted as part of this appraisal assignment are summarized as follows:



### Property Inspection

Party	Inspection Type	Inspection Date	Inspection Details
Michelle Bilardello, MAI	On-site	December 1, 2021	Accompanied by Tom Cizauskas
Jeffrey Genzink, MAI	None	Did not inspect	

### Valuation Methodology

Three approaches to value are typically considered when developing a market value opinion for real property. These are the cost approach, the sales comparison approach, and the income capitalization approach. Use of the approaches in this assignment is summarized as follows:

### Approaches to Value

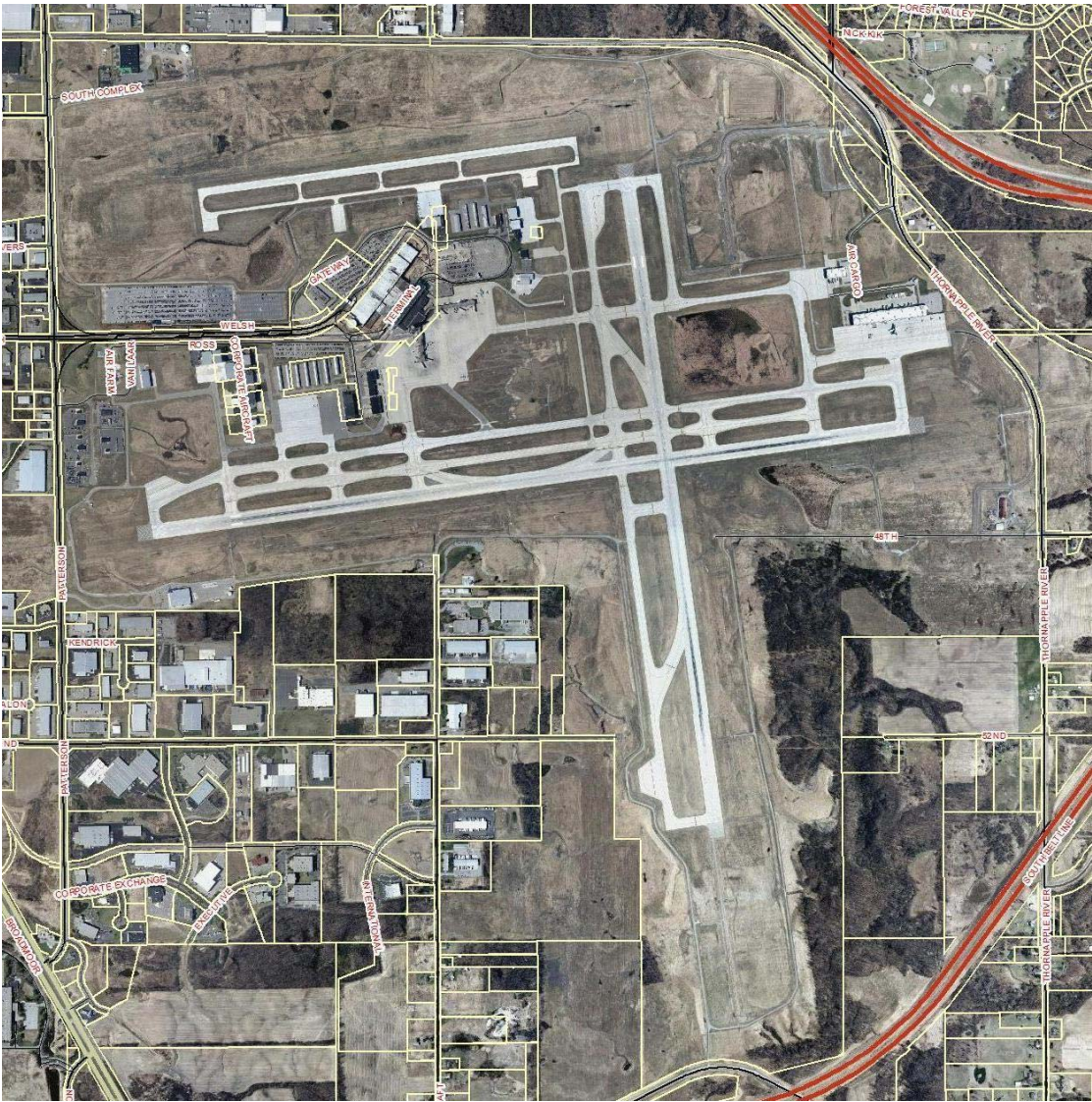
Approach	Applicability to Subject	Use in Assignment
Cost Approach	Not Applicable	Not Utilized
Sales Comparison Approach	Applicable	Utilized
Income Capitalization Approach	Applicable	Utilized

We use the sales comparison approach in developing an opinion of value for the subject site. This approach is applicable to the subject because there is an active market for similar properties, and sufficient sales data is available for analysis.

We use the income approach in developing an opinion of value for market rent for the subject. The market rental rate will be derived by direct capitalization, which is a method used in the income capitalization approach. The direct capitalization provides an annual rent by multiplying the market value of the vacant land by a land capitalization rate.

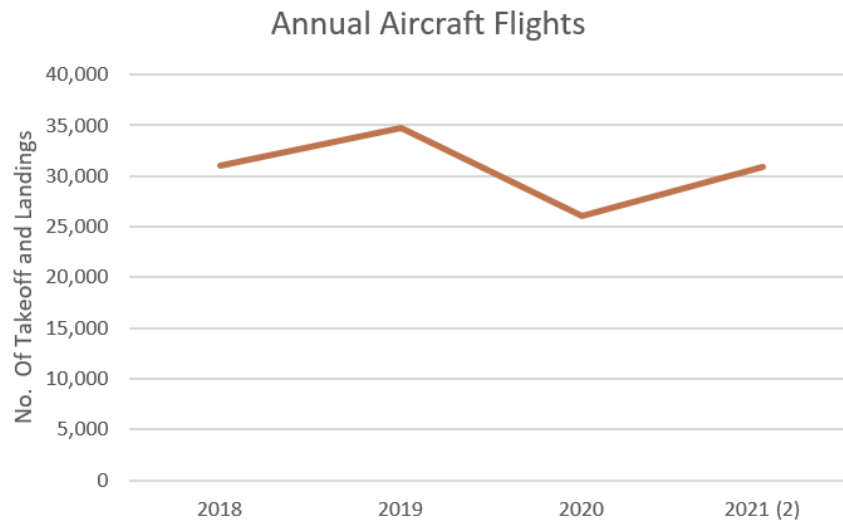
Market Analysis

An aerial view of the Gerald R. Ford International Airport is provided below.



Source: Kent County GIS

The annual number of departures and arrivals for all aircraft operations at the Gerald R. Ford International Airport are provided in the following graph and table.



#### Annual Aircraft Flights<sup>(1)</sup>

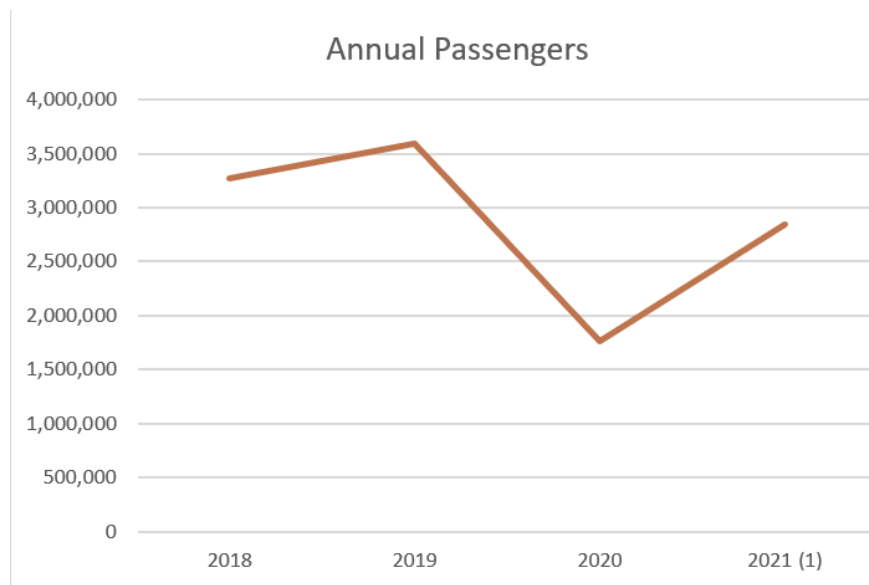
Year	2018	2019	annual change	2020	annual change	2021 (2)	annual change
Air Carrier	30,975	34,800	3,825	26,118	-8,682	30,881	4,763

(1) total departures and arrivals

(2) annualized based on data through October 2021

The data indicates an upward trend of increasing air carrier traffic from 2018 to 2019, a decrease in 2020 and an increase in 2021. The increase in annual flights was +18% from 2020 to 2021, but has not reached pre-pandemic levels.

The annual passenger activity at the Gerald R. Ford International Airport is provided in the following graph and table.



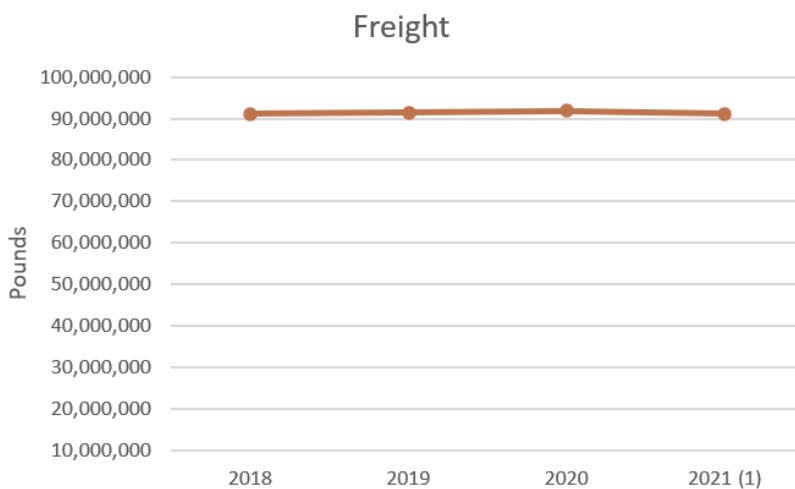
#### Annual Passengers

Year	2018	2019	annual change	2020	annual change	2021 (1)	annual change
Total Passengers	3,265,242	3,587,767	322,525	1,758,741	-1,829,026	2,850,151	1,091,410

\*Annualized from data available through October 2021.

The number of annual passengers increased from 2018 to 2019. There was a decrease in 2020 due to COVID-19 restrictions, then an increase in 2021. The percentage change is +62% from 2020 to 2021, but has not reached 2019 pre-pandemic levels.

The annual cargo activity at the Gerald R. Ford International Airport is provided in the following graph and table.



#### Annual Cargo

Year	2018	2019	annual change	2020	annual change	2021 (1)	annual change
Cargo	91,043,947	91,396,014	352,067	91,883,489	487,475	91,067,028	-816,461

(1) annualized based on data through October 2021

The annual cargo (based upon pounds) increased from 2018 to 2019, then decreased in 2020 and again in 2021. The percentage change is -8% from 2020 to 2021, but has remained steady from 2018 to 2021.

The following table provides a summary of the land lease rates at other international airports in the area.

#### Comparable Airport Summary

Name	Current Lease Rates Without Access	Current Lease Rates With Access	Metropolitan Statistical Area	2022 MSA Population <sup>(2)</sup>	2020 Commercial Airline Passengers Arrivals <sup>(3)</sup>
Gerald R. Ford International Airport	\$0.10	\$0.50	Grand Rapids-Kentwood, MI	1,446,407	855,406
Capital Region International Airport	\$0.14	\$0.28	Lansing-East Lansing, MI	555,532	57,338
Fort Wayne International Airport	\$0.30	\$0.30	Fort Wayne, IN	423,283	212,087

(1) As of March 2020. Data is no longer published.

(2) Source: Environics Analytics (Estimate)

(3) Source: Bureau of Transportation Statistics

There is a wide spread of lease rates at the Gerald R. Ford International Airport with the non-aeronautical operators paying an average of \$0.10/SF and corporate aeronautical operators paying \$0.45/SF to \$0.49/SF. The corporate aeronautical operators are the smallest sites, which represent

the upper end of the lease rate range, which is reasonable considering the population surrounding the airport and airline activity.

**Summary:** The overall activity at the Gerald R. Ford International Airport, including flights, passengers and cargo has increased from 2018 to 2019. In 2020, due to the COVID-19 pandemic, flights, passengers and cargo decreased. In 2021, flights and passengers increased; however, cargo decreased. Prior to the COVID-19 pandemic, the airport showed increases in all categories. This historical pattern of growth is expected to continue through 2022.

## Property Analysis

### Land Description and Analysis

Land Description	
Land Area	22.70 acres; 988,812 SF
Source of Land Area	Client
Primary Street Frontage	Tom Dougherty Drive - After road extension
Shape	Irregular
Corner	Yes
Rail Access	Yes
Topography	Level
Drainage	No problems reported or observed
Environmental Hazards	None reported or observed
Ground Stability	No problems reported or observed
Flood Area Panel Number	2608140025A
Date	November 6, 1991
Zone	X
Description	Outside of 500-year floodplain
Insurance Required?	No
Zoning; Other Regulations	
Zoning Jurisdiction	Cascade Township
Zoning Designation	PUD
Description	Planned Unit Development
Legally Conforming?	Appears to be legally conforming
Zoning Change Likely?	No, future land use is Airport
Permitted Uses	Permitted uses are based on approval of development plan.
Utilities	
Service	Provider
Water	Municipal (after extension)
Sewer	Municipal (after extension)
Electricity	Available
Natural Gas	Available
Local Phone	Various Providers

The site is zoned PUD, Planned Unit Development, and the permitted uses are based on approval of development plan. An appropriately qualified land use attorney should be engaged if a determination of compliance with zoning is required.

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**Streets, Access and Frontage**


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Street	Tom Dougherty Drive
Frontage Feet	After road extension
Paving	Asphalt
Curbs	Yes
Sidewalks	No
Lanes	2 way, 1 lane each way
Direction of Traffic	East/West
Condition	Average
Traffic Levels	Low
Signals/Traffic Control	Traffic light
Access/Curb Cuts	After road extension
Visibility	Average

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**Easements, Encroachments and Restrictions**

We were not provided a title commitment or ALTA survey for the subject property. There are no other known easements that adversely affect the subject property and the appraisal assumes no adverse easements exist.

**Deed Restrictions**

According to Mr. Joel Burgess, former Business Development Manager, Gerald R. Ford Airport, there is a deed restriction on the Economy Lot, which is located southeast of the subject site along John J. Oostema Blvd. According to Mr. Burgess "There was a deed restriction put on that specific area for new drinking water wells and unfortunately how the restriction is listed, it is not specific to that site and will show up on a deed search of the overall 3,200 acre campus." Since the subject property has access to a public water source, the deed restriction does not have a negative impact to the subject site.

**Conclusion of Site Analysis**

Overall, the physical characteristics and the availability of utilities (after road and utilities extension) result in a functional site, suitable for a variety of uses including those permitted by zoning. No other restrictions on development are apparent.



View of Site 12 facing northwest.



View of Site 12 facing north.



View of Site 12 facing northeast.



View of Site 12 facing east.



View of Site 12 facing southeast.



View of Site 12 facing south.



View of Site 12 facing southwest.



View of Site 12 facing west.



Street view of Tim Dougherty Drive facing east.



Street view of Tim Dougherty Drive facing west.



Street view of Patterson Avenue facing north.



Street view of Patterson Avenue facing south.

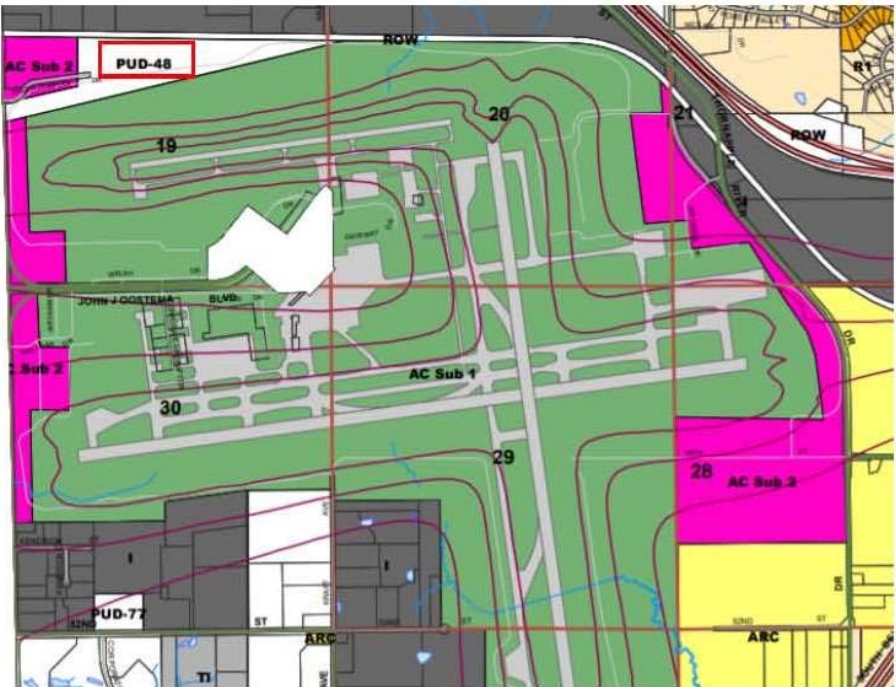
## Aerial Photograph



Flood Hazard Map



Zoning Map



- |                                     |  |
|-------------------------------------|--|
| Airport Noise Contours 2005         | B2, General Business                     |
| FP, Farmland Preservation           | B1, Village Business                     |
| ARC, Agriculture Rural Conservation | ES, Expressway Service                   |
| TI, Transitional Industrial         | O, Office                                |
| I, Industrial                       | Airport Commerce Sub Zone 1              |
| R1                                  | Airport Commerce Sub Zone 2              |
| R2                                  | Centennial Park Overlay Zoning District* |
- conditional rezone 2768 Orange Ave; 3/14/18
- \* Includes Underlying Zoning Districts  
PUD 39, PUD 40, PUD 88 and B2

## Real Estate Taxes

The subject property is exempt from paying real property taxes, due to its current ownership and use. Therefore, we have not calculated the property taxes for the subject.

## Highest and Best Use

The highest and best use of a property is the reasonably probable use resulting in the highest value, and represents the use of an asset that maximizes its productivity.

### Process

Before a property can be valued, an opinion of highest and best use must be developed for the subject site, both as though vacant, and as improved or proposed. By definition, the highest and best use must be:

- Physically possible.
- Legally permissible under the zoning regulations and other restrictions that apply to the site.
- Financially feasible.
- Maximally productive, i.e., capable of producing the highest value from among the permissible, possible, and financially feasible uses.

### As Though Vacant

First, the property is evaluated as though vacant, with no improvements.

#### Physically Possible

The physical characteristics of the site do not appear to impose any unusual restrictions on development. Overall, the physical characteristics of the site and the availability of utilities (after extension) result in functional utility suitable for a variety of uses.

#### Legally Permissible

The site is zoned PUD, Planned Unit Development and the permitted uses are based on approval of development plan. There are no apparent legal restrictions, such as easements or deed restrictions, effectively limiting the use of the property. Given prevailing land use patterns in the area, only airport commerce development is given further consideration in determining highest and best use of the site, as though vacant.

#### Financially Feasible

Based on the accompanying analysis of the market, there is currently adequate demand for airport commerce development in the subject's area. It appears a newly developed airport commerce development on the site would have a value commensurate with its cost. Therefore, airport commerce development is considered to be financially feasible.

**Maximally Productive**

There does not appear to be any reasonably probable use of the site that would generate a higher residual land value than airport commerce development. Accordingly, airport commerce development, developed to the normal market density level permitted by zoning, is the maximally productive use of the property.

**Conclusion**

Development of the site for airport commerce development is the only use which meets the four tests of highest and best use. Therefore, it is concluded to be the highest and best use of the property as though vacant.

**As Improved**

No improvements are situated on the subject. Therefore, a highest and best analysis as improved is not applicable.

**Most Probable Buyer**

Taking into account the characteristics of the site, as well as area development trends, the probable buyer is a developer.

## Sales Comparison Approach

To develop an opinion of the subject's land value, as if vacant and available to be developed to its highest and best use, we utilize the sales comparison approach. This approach develops an indication of value by researching, verifying, and analyzing sales of similar properties.

Our sales research focused on transactions within the following parameters:

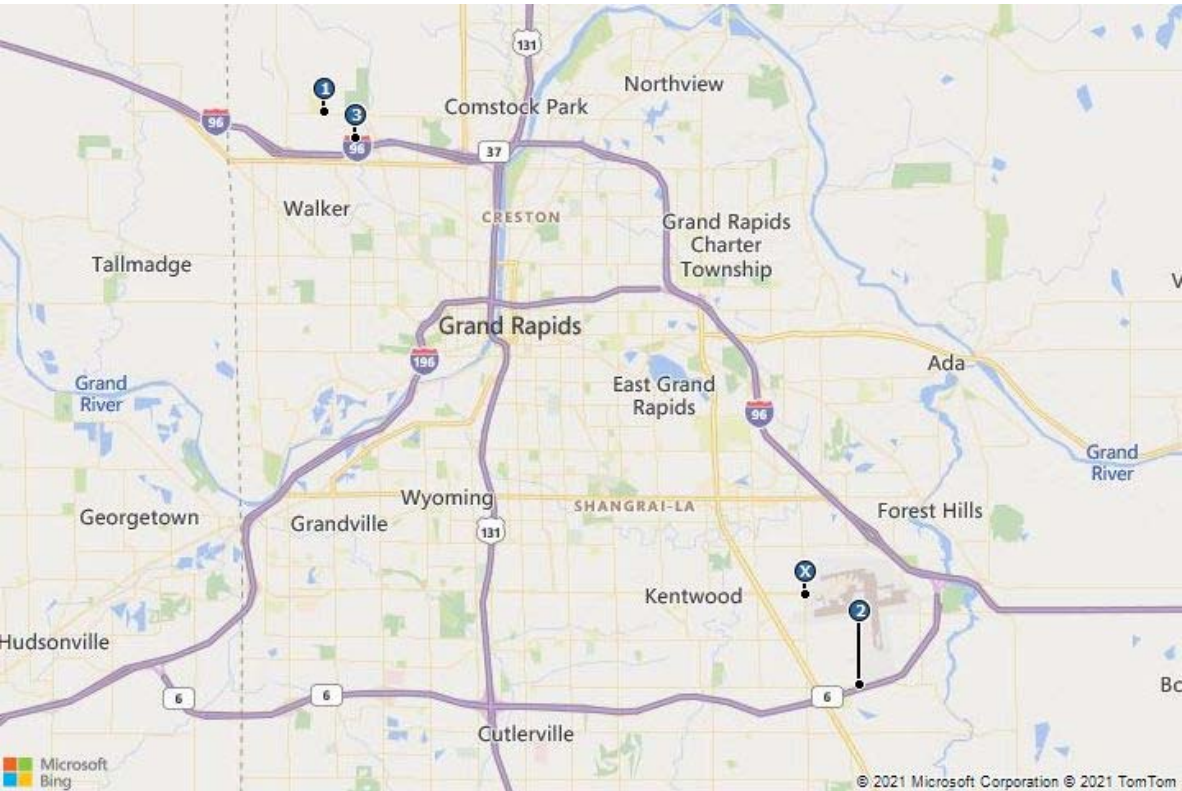
- Location: Kent County
- Size: 15 to 50 acres
- Use: Industrial
- Transaction Date: January 2019 to effective date of value, including pending sales

For this analysis, we use price per acre as the appropriate unit of comparison because market participants typically compare sale prices and property values on this basis. The most relevant sales are summarized in the following table.

### Summary of Comparable Land Sales

No.	Name/Address	Sale Date; Status	Effective Sale Price	SF; Acres	Zoning	\$/SF Land	\$/Acre
1	Vacant Industrial Land 3174 4 Mile Rd. Walker Kent County MI	Jun-21 Closed	\$1,630,000	719,176 16.51	IPUD	\$2.27	\$98,728
Comments: This parcel was purchased for the development of a 216,000 SF industrial/Distribution building.							
2	Vacant Industrial Land 5737 & 5795 60th St & 5880, 5950 & 5980 Cascade Township Kent County MI	Sep-19 Closed	\$2,765,000	1,163,052 26.70	TI	\$2.38	\$103,558
3	Vacant Industrial Land 1854 Northridge Dr. NW. Walker Kent County MI	Oct-19 Closed	\$2,508,100	1,560,755 35.83	IPUD	\$1.61	\$70,000
4	Confidential Confidential Kent County MI	Nov-21 Offer Pending	\$3,809,500	1,463,616 33.60	R-S	\$2.60	\$113,378
Comments: Buyer plans to use property for industrial use.							
<b>Subject</b>				988,812	PUD		
Site 12				22.70			
Grand Rapids, MI							

Comparable Land Sales Map





Sale 1  
Vacant Industrial Land



Sale 2  
Vacant Industrial Land



Sale 3  
Vacant Industrial Land

### Analysis and Adjustment of Sales

The sales are compared to the subject and adjusted to account for material differences that affect value. Adjustments are considered for the following factors, in the sequence shown below.

Adjustment Factors	
Effective Sale Price	Accounts for atypical economics of a transaction, such as demolition cost, expenditures by the buyer at time of purchase, or other similar factors. Usually applied directly to sale price on a lump sum basis.
Real Property Rights	Fee simple, leased fee, leasehold, partial interest, etc.
Financing Terms	Seller financing, or assumption of existing financing, at non-market terms.
Conditions of Sale	Extraordinary motivation of buyer or seller, assemblage, forced sale, related parties transaction.
Market Conditions	Changes in the economic environment over time that affect the appreciation and depreciation of real estate.
Location	Market or submarket area influences on sale price; surrounding land use influences.
Access/Visibility	Convenience to transportation facilities; ease of site access; visibility from main thoroughfares; traffic counts.
Size	Inverse relationship that often exists between parcel size and unit value.
Shape and Topography	Primary physical factors that affect the utility of a site for its highest and best use.

The following table summarizes the adjustments we make to each sale.

<b>Land Sales Adjustment Grid</b>					
	Subject	Comparable 1	Comparable 2	Comparable 3	Comparable 4
Name	Site 12	Vacant Industrial Land	Vacant Industrial Land	Vacant Industrial Land	Confidential
Address	Northeast of Patterson Avenue and 40th Street	3174 4 Mile Rd.	5737 & 5795 60th St & 5880, 5950 & 5980 Kraft Ave.	1854 Northridge Dr. NW.	Confidential
City	Grand Rapids	Walker	Cascade Township	Walker	Confidential
County	Kent	Kent	Kent	Kent	Kent
State	Michigan	MI	MI	MI	MI
Sale Date		Jun-21	Sep-19	Oct-19	Nov-21
Sale Status		Closed	Closed	Closed	Offer Pending
Sale Price		\$1,630,000	\$2,725,000	\$2,508,100	\$2,609,500
Other Adjustment		\$0	\$0	\$0	\$1,200,000
Price Adjustment		—	\$40,000	—	—
Description of Adjustment			Demolition		Road/Sewer
Effective Sale Price		\$1,630,000	\$2,765,000	\$2,508,100	\$3,809,500
Square Feet	988,812	719,176	1,163,052	1,560,755	1,463,616
Acres	22.70	16.51	26.70	35.83	33.60
Accessibility Rating	Average	Average	Average	Above average	Average
Visibility Rating	Good	Average	Good	Good	Average
Shape	Irregular	Irregular	Irregular	Irregular	Irregular
Topography	Sloping with 5.8 acres wetlands	Level	Level	Level	Level
Corner	Yes	Yes	Yes	No	No
Utilities Description	All Available after road and utilities extension	All Available	All Available	All Available	All Available
<b>Price per Acre</b>		<b>\$98,728</b>	<b>\$103,558</b>	<b>\$70,000</b>	<b>\$113,378</b>
Property Rights		Fee Simple	Fee Simple	Fee Simple	Fee Simple
% Adjustment		—	—	—	—
Financing Terms		Cash to seller	Cash to seller	Cash to seller	Cash to seller
% Adjustment		—	—	—	—
Conditions of Sale		Arm's Length	Arm's Length	Arm's Length	Arm's Length
% Adjustment		—	—	—	—
Market Conditions	12/1/2021	Jun-21	Sep-19	Oct-19	Nov-21
Annual % Adjustment	5%	2%	11%	11%	—
<b>Cumulative Adjusted Price</b>		<b>\$100,703</b>	<b>\$114,949</b>	<b>\$77,700</b>	<b>\$113,378</b>
Location		—	—	—	—
Access/Visibility		10%	—	—	10%
Size		—	—	5%	5%
Shape		-10%	-10%	-10%	-10%
Topography		—	—	—	—
Net \$ Adjustment		\$0	-\$11,495	-\$3,885	\$5,669
Net % Adjustment		0%	-10%	-5%	5%
<b>Final Adjusted Price</b>		<b>\$100,703</b>	<b>\$103,454</b>	<b>\$73,815</b>	<b>\$119,047</b>
Overall Adjustment		2%	0%	5%	5%
<b>Range of Adjusted Prices</b>		<b>\$73,815 - \$119,047</b>			
<b>Indicated Value</b>		<b>\$100,000</b>			

**Land Value Conclusion**

Prior to adjustment, the sales reflect a range of \$70,000 - \$113,378 per acre. After adjustment, the range is narrowed to \$73,815 - \$119,047 per acre, with an average of \$99,255 per acre. To arrive at an indication of value, we place greater emphasis on Sales 1 and 4 since they are the most recent sales.

Based on the preceding analysis, we reach a land value conclusion as follows:

<b>Land Value Conclusion</b>	
Indicated Value per Acre	\$100,000
Subject Acres	22.70
Indicated Value	\$2,270,000
Adjustments	
Road and Utilities Extension	-\$600,000
Indicated Value	\$1,670,000
Rounded	\$1,670,000

## Income Capitalization Approach

The market rental rate will be derived by direct capitalization, which is a method used in the income capitalization approach. The direct capitalization provides an annual rent by multiplying the market value of the vacant land by a land capitalization rate.

Due to the lack of land leased properties similar to the subject we have relied upon two national published data sources to determine the land capitalization rates for the subject property. The primary source is the Second Quarter 2021 RealtyRates.com Investor Survey which provides overall capitalization rates for industrial land lease transactions, which is provided in the following table.

### Realty Rates 2nd Quarter 2021 Investor Survey

Market	Low	High	Average
Industrial (Land Lease)	1.67%	8.97%	5.84%

As secondary support, a summary of overall capitalization rates (improved properties) published in the Third Quarter 2021 PwC (Pricewaterhouse-Coopers) Real Estate Investor Survey and Second Quarter 2021 Realty Rates is provided in the following tables.

### PwC 3rd Quarter 2021 Investor Survey

#### OAR Summary (Improved Properties)

Market	Low	High	Average
National Warehouse, Institutional Grade	3.00%	6.50%	4.43%

### Realty Rates 2nd Quarter 2021 Investor Survey

#### OAR Summary (Improved Properties)

Market	Low	High	Average
Industrial, All Types	4.48%	13.32%	8.19%
Industrial, Warehouse & Distribution Centers	4.48%	11.37%	7.07%
Industrial, Flex/R&D	5.65%	13.32%	8.91%

We have given primary consideration to the RealtyRates.com Investor Survey for land lease capitalization rates. The estimated land capitalization rate for the subject property is 7.00%. The market rent for the subject property is indicated in the following table.

### Market Rent -Site 12<sup>(1)</sup>

	22.70 Acres
Market Value of Vacant Land	\$1,670,000
Land Capitalization Rate	x 7.00%
Annual Market Rate	\$116,900
Monthly Market Rent (Rounded)	\$9,700

(1) Market rent is based upon tenant paying for all operating expenses.

## Reconciliation and Conclusion of Value

As discussed previously, we use only the sales comparison approach in developing an opinion of value for the subject. The cost and income approaches are not applicable, and are not used.

Based on the preceding valuation analysis and subject to the definitions, assumptions, and limiting conditions expressed in the report, our value opinion follows:

### Value Conclusion

Value Type & Appraisal Premise	Interest Appraised	Date of Value	Market Rent/Year	Market Rent/Month
Market Rent	Fee Simple	December 1, 2021	\$116,900	\$9,700

### Extraordinary Assumptions and Hypothetical Conditions

The value conclusions are subject to the following extraordinary assumptions. An extraordinary assumption is an assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions.

#### 1. None

The value conclusions are based on the following hypothetical conditions. A hypothetical condition is a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.

1. No legal description currently exists for Site 12, since the subject property is part of a larger parcel owned by Gerald R. Ford International Airport Authority. The appraisal is based upon the extraordinary assumption that the site is 22.70 acres as described in the property analysis section of this report. If this assumption proves to be incorrect, the value conclusion could be impacted.

The use of any extraordinary assumption or hypothetical condition may have affected the assignment results.

The value conclusion(s) in this report consider the impact of COVID-19 on the subject property.

The opinions of value expressed in this report are based on estimates and forecasts that are prospective in nature and subject to considerable risk and uncertainty. Events may occur that could cause the performance of the property to differ materially from our estimates, such as changes in the economy, interest rates, capitalization rates, financial strength of tenants, and behavior of investors, lenders, and consumers. Additionally, our opinions and forecasts are based partly on data obtained from interviews and third party sources, which are not always completely reliable. Although we are of the opinion that our findings are reasonable based on available evidence, we are not responsible for the effects of future occurrences that cannot reasonably be foreseen at this time.

## Exposure Time

Exposure time is the length of time the subject property would have been exposed for sale in the market had it sold on the effective valuation date at the concluded market value. Exposure time is always presumed to precede the effective date of the appraisal. Based on our review of recent sales transactions for similar properties and our analysis of supply and demand in the local market, it is our

opinion that the probable exposure time for the subject at the concluded market values stated previously is 3 to 6 months.

**Marketing Time**

Marketing time is an estimate of the amount of time it might take to sell a property at the concluded market value immediately following the effective date of value. Accordingly, we estimate the subject's marketing period at 3 to 6 months.

## Certification

We certify that, to the best of our knowledge and belief:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. We have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding the agreement to perform this assignment.
5. We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
6. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
8. Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice as well as applicable state appraisal regulations.
9. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.
10. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
11. Michelle Bilardello, MAI, made a personal inspection of the property that is the subject of this report. Jeffrey Genzink, MAI, did not make a personal inspection of the property that is the subject of this report.
12. No one provided significant real property appraisal assistance to the person(s) signing this certification.
13. We have experience in appraising properties similar to the subject and are in compliance with the Competency Rule of USPAP.
14. As of the date of this report, Michelle Bilardello, MAI and Jeffrey Genzink, MAI, have completed the continuing education program for Designated Members of the Appraisal Institute.
15. In Michigan, appraisers are required to be licensed and are regulated by the Michigan Department of Licensing and Regulatory Affairs, P.O. Box 30018, Lansing, Michigan 48909.



Michelle Bilardello, MAI  
Certified General Appraiser  
Michigan Certificate # 1205071240



Jeffrey Genzink, MAI  
Certified General Appraiser  
Michigan Certificate # 1205002640

## Assumptions and Limiting Conditions

This appraisal and any other work product related to this engagement are limited by the following standard assumptions, except as otherwise noted in the report:

1. The title is marketable and free and clear of all liens, encumbrances, encroachments, easements and restrictions. The property is under responsible ownership and competent management and is available for its highest and best use.
2. There are no existing judgments or pending or threatened litigation that could affect the value of the property.
3. There are no hidden or undisclosed conditions of the land or of the improvements that would render the property more or less valuable. Furthermore, there is no asbestos in the property.
4. The revenue stamps placed on any deed referenced herein to indicate the sale price are in correct relation to the actual dollar amount of the transaction.
5. The property is in compliance with all applicable building, environmental, zoning, and other federal, state and local laws, regulations and codes.
6. The information furnished by others is believed to be reliable, but no warranty is given for its accuracy.

This appraisal and any other work product related to this engagement are subject to the following limiting conditions, except as otherwise noted in the report:

1. An appraisal is inherently subjective and represents our opinion as to the value of the property appraised.
2. The conclusions stated in our appraisal apply only as of the effective date of the appraisal, and no representation is made as to the effect of subsequent events.
3. No changes in any federal, state or local laws, regulations or codes (including, without limitation, the Internal Revenue Code) are anticipated.
4. No environmental impact studies were either requested or made in conjunction with this appraisal, and we reserve the right to revise or rescind any of the value opinions based upon any subsequent environmental impact studies. If any environmental impact statement is required by law, the appraisal assumes that such statement will be favorable and will be approved by the appropriate regulatory bodies.
5. Unless otherwise agreed to in writing, we are not required to give testimony, respond to any subpoena or attend any court, governmental or other hearing with reference to the property without compensation relative to such additional employment.
6. We have made no survey of the property and assume no responsibility in connection with such matters. Any sketch or survey of the property included in this report is for illustrative purposes only and should not be considered to be scaled accurately for size. The appraisal

covers the property as described in this report, and the areas and dimensions set forth are assumed to be correct.

7. No opinion is expressed as to the value of subsurface oil, gas or mineral rights, if any, and we have assumed that the property is not subject to surface entry for the exploration or removal of such materials, unless otherwise noted in our appraisal.
8. We accept no responsibility for considerations requiring expertise in other fields. Such considerations include, but are not limited to, legal descriptions and other legal matters such as legal title, geologic considerations such as soils and seismic stability; and civil, mechanical, electrical, structural and other engineering and environmental matters. Such considerations may also include determinations of compliance with zoning and other federal, state, and local laws, regulations and codes.
9. The distribution of the total valuation in the report between land and improvements applies only under the reported highest and best use of the property. The allocations of value for land and improvements must not be used in conjunction with any other appraisal and are invalid if so used. The appraisal report shall be considered only in its entirety. No part of the appraisal report shall be utilized separately or out of context.
10. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraisers, or any reference to the Appraisal Institute) shall be disseminated through advertising media, public relations media, news media or any other means of communication (including without limitation prospectuses, private offering memoranda and other offering material provided to prospective investors) without the prior written consent of the persons signing the report.
11. Information, estimates and opinions contained in the report and obtained from third-party sources are assumed to be reliable and have not been independently verified.
12. Any income and expense estimates contained in the appraisal report are used only for the purpose of estimating value and do not constitute predictions of future operating results.
13. If the property is subject to one or more leases, any estimate of residual value contained in the appraisal may be particularly affected by significant changes in the condition of the economy, of the real estate industry, or of the appraised property at the time these leases expire or otherwise terminate.
14. Unless otherwise stated in the report, no consideration has been given to personal property located on the premises or to the cost of moving or relocating such personal property; only the real property has been considered.
15. The current purchasing power of the dollar is the basis for the values stated in the appraisal; we have assumed that no extreme fluctuations in economic cycles will occur.
16. The values found herein are subject to these and to any other assumptions or conditions set forth in the body of this report but which may have been omitted from this list of Assumptions and Limiting Conditions.
17. The analyses contained in the report necessarily incorporate numerous estimates and assumptions regarding property performance, general and local business and economic

conditions, the absence of material changes in the competitive environment and other matters. Some estimates or assumptions, however, inevitably will not materialize, and unanticipated events and circumstances may occur; therefore, actual results achieved during the period covered by our analysis will vary from our estimates, and the variations may be material.

18. The Americans with Disabilities Act (ADA) became effective January 26, 1992. We have not made a specific survey or analysis of the property to determine whether the physical aspects of the improvements meet the ADA accessibility guidelines. We claim no expertise in ADA issues, and render no opinion regarding compliance of the subject with ADA regulations. Inasmuch as compliance matches each owner's financial ability with the cost to cure the non-conforming physical characteristics of a property, a specific study of both the owner's financial ability and the cost to cure any deficiencies would be needed for the Department of Justice to determine compliance.
19. The appraisal report is prepared for the exclusive benefit of you, your subsidiaries and/or affiliates. It may not be used or relied upon by any other party. All parties who use or rely upon any information in the report without our written consent do so at their own risk.
20. No studies have been provided to us indicating the presence or absence of hazardous materials on the subject property or in the improvements, and our valuation is predicated upon the assumption that the subject property is free and clear of any environment hazards including, without limitation, hazardous wastes, toxic substances and mold. No representations or warranties are made regarding the environmental condition of the subject property. IRR - Grand Rapids, Integra Realty Resources, Inc., and their respective officers, owners, managers, directors, agents, subcontractors or employees (the "Integra Parties"), shall not be responsible for any such environmental conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because we are not experts in the field of environmental conditions, the appraisal report cannot be considered as an environmental assessment of the subject property.
21. The persons signing the report may have reviewed available flood maps and may have noted in the appraisal report whether the subject property is located in an identified Special Flood Hazard Area. However, we are not qualified to detect such areas and therefore do not guarantee such determinations. The presence of flood plain areas and/or wetlands may affect the value of the property, and the value conclusion is predicated on the assumption that wetlands are non-existent or minimal.
22. We are not a building or environmental inspector. The Integra Parties do not guarantee that the subject property is free of defects or environmental problems. Mold may be present in the subject property and a professional inspection is recommended.
23. The appraisal report and value conclusions for an appraisal assume the satisfactory completion of construction, repairs or alterations in a workmanlike manner.
24. **IRR - Grand Rapids is an independently owned and operated company. The parties hereto agree that Integra shall not be liable for any claim arising out of or relating to any appraisal report or any information or opinions contained therein as such appraisal report is the sole and exclusive responsibility of IRR - Grand Rapids. In addition, it is expressly agreed that in**

**any action which may be brought against the Integra Parties arising out of, relating to, or in any way pertaining to the engagement letter, the appraisal reports or any related work product, the Integra Parties shall not be responsible or liable for any incidental or consequential damages or losses, unless the appraisal was fraudulent or prepared with intentional misconduct. It is further expressly agreed that the collective liability of the Integra Parties in any such action shall not exceed the fees paid for the preparation of the assignment (unless the appraisal was fraudulent or prepared with intentional misconduct). It is expressly agreed that the fees charged herein are in reliance upon the foregoing limitations of liability.**

25. IRR - Grand Rapids is an independently owned and operated company, which has prepared the appraisal for the specific intended use stated elsewhere in the report. The use of the appraisal report by anyone other than the Client is prohibited except as otherwise provided. Accordingly, the appraisal report is addressed to and shall be solely for the Client's use and benefit unless we provide our prior written consent. We expressly reserve the unrestricted right to withhold our consent to your disclosure of the appraisal report or any other work product related to the engagement (or any part thereof including, without limitation, conclusions of value and our identity), to any third parties. Stated again for clarification, unless our prior written consent is obtained, no third party may rely on the appraisal report (even if their reliance was foreseeable).
26. The conclusions of this report are estimates based on known current trends and reasonably foreseeable future occurrences. These estimates are based partly on property information, data obtained in public records, interviews, existing trends, buyer-seller decision criteria in the current market, and research conducted by third parties, and such data are not always completely reliable. The Integra Parties are not responsible for these and other future occurrences that could not have reasonably been foreseen on the effective date of this assignment. Furthermore, it is inevitable that some assumptions will not materialize and that unanticipated events may occur that will likely affect actual performance. While we are of the opinion that our findings are reasonable based on current market conditions, we do not represent that these estimates will actually be achieved, as they are subject to considerable risk and uncertainty. Moreover, we assume competent and effective management and marketing for the duration of the projected holding period of this property.
27. All prospective value opinions presented in this report are estimates and forecasts which are prospective in nature and are subject to considerable risk and uncertainty. In addition to the contingencies noted in the preceding paragraph, several events may occur that could substantially alter the outcome of our estimates such as, but not limited to changes in the economy, interest rates, and capitalization rates, behavior of consumers, investors and lenders, fire and other physical destruction, changes in title or conveyances of easements and deed restrictions, etc. It is assumed that conditions reasonably foreseeable at the present time are consistent or similar with the future.
28. The appraisal is also subject to the following:

---

**Extraordinary Assumptions and Hypothetical Conditions**

---

The value conclusions are subject to the following extraordinary assumptions. An extraordinary assumption is an assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions.

1. None

The value conclusions are based on the following hypothetical conditions. A hypothetical condition is a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.

1. No legal description currently exists for Site 12, since the subject property is part of a larger parcel owned by Gerald R. Ford International Airport Authority. The appraisal is based upon the extraordinary assumption that the site is 22.70 acres as described in the property analysis section of this report. If this assumption proves to be incorrect, the value conclusion could be impacted.

The use of any extraordinary assumption or hypothetical condition may have affected the assignment results.

---

## **Addendum A**

### **Appraiser Qualifications**

# Michelle Bilardello, MAI

## Experience

Ms. Bilardello is a Certified General Appraiser in the State of Michigan and has been appraising real estate since 2005. She has experience in the appraisal of apartments, single and multi-tenant retail, mixed use buildings, agricultural land, development land for residential, commercial, office and industrial use, deep water ports, waterfront properties, easements, and special purpose properties including schools and religious facilities.

Ms. Bilardello has extensive experience in the appraisal of industrial buildings. Valuation assignments have been completed for estate planning, tax appeal, charitable tax contribution, divorce settlement, acquisition and disposition, and loan underwriting.

## Professional Activities & Affiliations

Appraisal Institute, Member (MAI)  
Member: National Association of Realtors  
Member: Michigan Association of Realtors  
Member: Commercial Alliance of Realtors  
Member: Great Lakes Chapter of the Appraisal Institute

## Licenses

Michigan, Certified General Appraiser, 1205071240, Expires July 2022

## Education

B.S. in Finance, Concentration in Real Estate, University of Illinois Urbana-Champaign, Champaign Illinois, 1990

Numerous courses, seminars and continuing education classes taken through the Appraisal Institute, including:

Analyzing Operating Expenses, The Michigan Experience  
Real Estate Finance, Statistics, and Valuation Modeling  
General Demonstration Report-Capstone Program  
Advanced Concepts & Case Studies  
Quantitative Analysis  
Advanced Income Capitalization  
Advanced Market Analysis and Highest & Best Use  
Case Studies in Appraising Green Commercial Buildings  
General Demonstration Report Writing  
General Appraiser Sales Comparison Approach  
Business Practices and Ethics  
Marshall & Swift Commercial Cost Training

## Integra Realty Resources - Grand Rapids

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T 616.261.5000  
F 616.261.5045

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[mbilardello@irr.com](mailto:mbilardello@irr.com) - 616.261.5000



GRETCHEN WHITMER GOVERNOR	STATE OF MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS BUREAU OF PROFESSIONAL LICENSING CERTIFIED GENERAL APPRAISER LICENSE	P770322
MICHELLE YVETTE BILARDELL0		
LICENSE NO. 1205071240	EXPIRATION DATE 07/31/2022	AUDIT NO 3458202
THIS DOCUMENT IS ONLY ISSUED UNDER THE LAWS OF THE STATE OF MICHIGAN		

# Jeffrey Genzink, MAI

## Experience

Mr. Genzink, Senior Managing Director has been active in appraisal and advisory services since 1990. Mr. Genzink has extensive experience with easement valuations and diminution-in-value assignments, which include environmental, title defects, eminent domain and other conditions involving a wide variety of property types. Additional appraisal and counseling assignments have been completed for estate planning, tax appeal, charitable tax contribution, divorce settlement, acquisition and disposition, and loan underwriting. As a qualified expert, Mr. Genzink has testified in Federal, State and County Courts.

Mr. Genzink has served on various professional and nonprofit Boards and committees including the Appraisal Institute, and the Commercial Alliance of Realtors Board. He is a Member of the Appraisal Institute (MAI) and a graduate of Calvin College.

## Professional Activities & Affiliations

Appraisal Institute, Member (MAI)

Member: Great Lakes Chapter

Board of Director: Commercial Alliance of Realtors, January 2011 - December 2014

Member: Leadership Development & Advisory Council, January 2001 - December 2001

Member: Young Advisory Council, January 1998 - December 1998

Member: National Association of Realtors

Member: Michigan Association of Realtors

Member: Commercial Alliance of Realtors

Member: Greater Regional Alliance of Realtors

Member: Great Lakes Chapter Nominating Committee, January 2019 - December 2020

Member: Great Lakes Chapter Education Committee, January 2019 - December 2019

## Licenses

Michigan, Certified General Appraiser, 1205002640, Expires July 2023

## Education

Bachelor of Arts Degree with Major in Business Administration and Sociology,  
Calvin College, Grand Rapids, Michigan, 1988

Numerous courses, seminars and continuing education classes taken through the Appraisal Institute and American Institute of Real Estate Appraisers, including:

Analyzing Operating Expenses

Uniform Standards of Professional Appraisal Practice

Expert Insights into Michigan Property Tax Issues and the Tribunal

Mastering Unique & Complex Property Appraisals and Assessments

Business Practices and Ethics

Challenging Michigan Highest and Best Use Properties

Practical Regression Using Microsoft Excel

The Appraiser as an Expert Witness: Preparation & Testimony

Condemnation Appraising: Principles & Applications

Litigation Skills for the Appraiser

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jgenzink@irr.com - 616.261.5000

## Jeffrey Genzink, MAI

### Education (Cont'd)

Uniform Appraisal Standards for Federal Land Acquisitions  
Highest & Best Use and Market Analysis  
Appraisal of Nonconforming Uses  
Highest and Best Use Applications  
Report Writing & Valuation Analysis  
Case Studies in R.E. Valuation  
Cap Theory & Tech, Part A  
Cap Theory & Tech, Part B  
Basic Valuation Procedures  
R.E. Appraisal Principles

### Qualified Before Courts & Administrative Bodies

Court Qualified as an Expert Witness in Michigan Tax Tribunal, United States District Court, Berrien County Circuit Court, Ottawa County Circuit Court, Kalamazoo County Circuit Court, Kent County Circuit Court and Lapeer County Circuit Court

### Integra Realty Resources - Grand Rapids

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GRETCHEN WHITMER GOVERNOR	STATE OF MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS BUREAU OF PROFESSIONAL LICENSING	Q012850
CERTIFIED GENERAL APPRAISER LICENSE		
JEFFREY GLENN GENZINK		
LICENSE NO. 1205002640	EXPIRATION DATE 07/31/2023	AUDIT NO. 3481648
THIS DOCUMENT IS DULY ISSUED UNDER THE LAWS OF THE STATE OF MICHIGAN		

## About IRR

Integra Realty Resources, Inc. (IRR) provides world-class commercial real estate valuation, counseling, and advisory services. Routinely ranked among leading property valuation and consulting firms, we are now the largest independent firm in our industry in the United States, with local offices coast to coast and in the Caribbean.

IRR offices are led by MAI-designated Senior Managing Directors, industry leaders who have over 25 years, on average, of commercial real estate experience in their local markets. This experience, coupled with our understanding of how national trends affect the local markets, empowers our clients with the unique knowledge, access, and historical perspective they need to make the most informed decisions.

Many of the nation's top financial institutions, developers, corporations, law firms, and government agencies rely on our professional real estate opinions to best understand the value, use, and feasibility of real estate in their market.

*Local Expertise...Nationally!*

# irr.com



## **Addendum B**

### **IRR Quality Assurance Survey**

## IRR Quality Assurance Survey

### **We welcome your feedback!**

At IRR, providing a quality work product and delivering on time is what we strive to accomplish. Our local offices are determined to meet your expectations. Please reach out to your local office contact so they can resolve any issues.

### **Integra Quality Control Team**

Integra does have a Quality Control Team that responds to escalated concerns related to a specific assignment as well as general concerns that are unrelated to any specific assignment. We also enjoy hearing from you when we exceed expectations! You can communicate with this team by clicking on the link below. If you would like a follow up call, please provide your contact information and a member of this Quality Control Team will call contact you.

Link to the IRR Quality Assurance Survey: [quality.irr.com](https://quality.irr.com)

## **Addendum C**

### **Legal Description**

411920300020 PART OF SEC'S 17, 19, 20, 21, 28, 29, 30 & 32 T6N R10W DESC AS - COM AT INT OF W LINE OF SEC 19 & SLY LINE OF C&O RR R/W /100 FT WIDE/ TH ELY ALONG SLY LINE OF SD RR R/W TO W 1/8 LINE OF SEC 20 TH N ALONG W 1/8 LINES OF SEC'S 20 & 17 TO NW COR OF S 1/2 SE 1/4 SW 1/4 OF SEC 17 TH E ALONG N LINE OF S 1/2 SE 1/4 SW 1/4 OF SEC 17 TO SWLY LINE OF HWY I-96 TH SELY ALONG SD SWLY LINE TO WLY LINE OF THORNAPPLE RIVER DR /150 FT WIDE/ TH S ALONG WLY LINE OF SD DR TO SLY LINE OF SD RR R/W TH SELY ALONG SLY LINE OF SD RR R/W TO W LINE OF E 60 FT OF SE 1/4 NE 1/4 OF SEC 20 TH S ALONG SD W LINE TO E&W 1/4 LINE OF SEC 20 TH E ALONG E&W 1/4 LINE OF SEC 20 TO W LINE OF E 43.0 FT OF SE 1/4 TH S ALONG SD W LINE TO S LINE OF N 163.0 FT OF SE 1/4 TH E ALONG SD S LINE TO SWLY LINE OF FORMER THORNAPPLE RIVER DR /120 FT WIDE/ TH SELY ALONG SD SWLY LINE TO SWLY LINE OF THORNAPPLE RIVER DR /120 FT WIDE/ TH SELY & SLY ALONG SD SWLY LINE TO E&W 1/4 LINE OF SEC 28 TH E ALONG E&W 1/4 LINE OF SEC 28 TO N&S 1/4 LINE OF SEC 28 TH S ALONG N&S 1/4 LINE OF SEC 28 TO S 1/8 LINE OF SEC 28 TH W ALONG S 1/8 LINE OF SEC 28 TO E LINE OF SEC 29 TH S ALONG E LINES OF SEC'S 29 & 32 TO A PT 1487.69 FT S 0D 07M 45S E FROM E 1/4 COR OF SEC 32 TH SWLY 80.06 FT ALONG A 4284.46 FT RAD CURVE TO RT /LONG CHORD BEARS S 58D 04M 34S W 80.06 FT/ TO A LINE BEARING NELY FROM A PT 470.0 FT N ALONG N&S 1/4 LINE OF SEC 32 FROM S 1/4 COR OF SEC 32 TH SWLY ALONG SD LINE TO A PT WHICH IS 697.0 FT N 0D 15M 16S W ALONG N&S 1/4 LINE OF SEC 32 & 548.51 FT N 63D 31M 56S E & 1132.02 FT S 89D 28M 02S E & 67.20 FT S 62D 28M 00S E FROM S 1/4 COR OF SEC 32 TH N 62D 28M 00S W 67.20 FT TH WLY 1175.03 FT ALONG A 1132.02 FT RAD CURVE TO LT /LONG CHORD BEARS N 89D 28M 02S W 1132.02 FT/ TH S 63D 31M 56S W 548.51 FT TO A PT 697.0 FT N ALONG N&S 1/4 LINE FROM S 1/4 COR OF SEC 32 TH N ALONG N&S 1/4 LINE OF SEC 32 TO N 1/8 LINE OF SEC 32 TH W ALONG N 1/8 LINE OF SEC 32 TO W LINE OF E 10 A. OF NE 1/4 NW 1/4 OF SEC 32 TH N ALONG SD W LINE TO S LINE OF SEC 29 TH W ALONG S LINE OF SEC 29 TO A PT 320.0 FT E ALONG S LINE OF SEC 29 FROM W 1/8 LINE OF SEC 29 TH N PAR WITH W 1/8 LINE OF SEC 29 TO N LINE OF S 3/4 SW 1/4 OF SEC 29 TH W ALONG SD N LINE TO E LINE OF SEC 30 TH N ALONG E LINE OF SEC 30 TO A PT 481.96 FT S FROM E 1/4 COR OF SEC 30 TH W 1328.13 FT PAR WITH E&W 1/4 LINE OF SEC 30 TO E 1/8 LINE OF SEC 30 TH SWLY 1265.28 FT TO A PT 73.0 FT E & 642.18 FT S FROM CEN OF SEC 30 TH S PAR WITH N&S 1/4 LINE OF SD SEC TO A PT 179.86 FT S FROM EXT S LINE OF N 40 A. OF SWFRL 1/4 OF SEC 30 TH W PAR WITH E&W 1/4 LINE OF SEC 30 TO W LINE OF SEC 30 TH N ALONG W LINES OF SEC'S 30 & 19 TO BEG EX PART OF SE 1/4 OF SEC 19 & PART OF SW 1/4 OF SEC 20 & PART OF NE 1/4 OF SEC 30 COM AT S 1/4 COR OF SEC 19 TH N 88D 37M E ALONG S LINE OF SD SEC 788.16 FT TH N 1D 23M W 108.0 FT TO BEG OF THIS EX - TH NELY 690.20 FT ALONG A 892.0 FT RAD CURVE TO LT /LONG CHORD BEARS N 66D 27M E 673.24 FT/ TH S 47D 49M E 651.32 FT TH N 81D 13M E 424.47 FT TH S 53D 47M E 83.77 FT TH N 36D 13M E 570.0 FT TH N 53D 47M W 32.72 FT TH N 1D 22M W 812.51 FT TH S 53D 47M E 5.16 FT TH N 81D 13M E 150.0 FT TH N 8D 47M W 560.0 FT TH S 81D 13M W 138.40 FT TH S 8D 47M E 190.0 FT TH N 63D 23M W 38.54 FT TH SWLY 174.60 FT ALONG A 1042.0 FT RAD CURVE TO RT /LONG CHORD BEARS S 31D 25M W 174.38 FT/ TH S 36D 13M W 825.40 FT TH N 53D 47M W 650.0 FT TH S 36D 13M W 585.45 FT TH SWLY 358.50 FT ALONG A 392.0 FT RAD CURVE TO RT /LONG CHORD BEARS S 62D 25M W 346.14 FT/ TH S 1D 23M E 500.0 FT TO BEG & EX C&O RR R/W /100 FT WIDE/ & EX PART OF NE 1/4 SEC 20 COM 1658.17 FT S 0D 46M 17S E ALONG E SEC LINE & 75.0 FT S 89D 13M 43S W FROM NE COR OF SEC TO SWLY LINE OF HWY I-96 & WLY LINE OF THORNAPPLE RIVER DR /150 FT WIDE/ TH S 0D 46M 17S E ALONG SD WLY LINE 98.19 FT TO NLY LINE OF PROPOSED 36TH ST /120 FT WIDE/ TH N 45D 58M 30S W ALONG SD NLY LINE 960.05 FT TH NWLY ALONG SD NLY LINE 1084.69 FT ON A 2924.79 FT RAD CURVE TO LT /LONG CHORD BEARS N 56D 35M 58S W 1078.48 FT/ TH N 38D 40M 44S E 167.39 FT TO SWLY LINE OF HWY I-96 TH SELY ALONG SD SWLY LINE 644.15 FT ON A 11309.16 FT RAD CURVE TO RT /LONG CHORD BEARS S 49D 41M 21S E 644.07 FT/ TH S 89D 39M 26S E ALONG SD SWLY LINE 70.61 FT TH SELY ALONG SD SWLY LINE 202.07 FT ON A 11356.16 FT RAD CURVE TO RT /LONG CHORD BEARS S 47D 03M 15S E 292.07 FT/ TH S 46D 19M 03S E ALONG SD SWLY LINE 980.68 FT TO BEG & EX THAT PART OF NW 1/4 & NE 1/4 OF SEC 20 LYING 60.0 FT NLY & 60.0 FT SLY /MEAS PERP TO/ & PAR WITH A LINE DESCRIBED AS COM 739.36 FT N 0D 46M 17S W ALONG E SEC LINE & N 45D 58M 30S W 105.69 FT FROM E 1/4 COR TO W LINE OF THORNAPPLE RIVER DR /150 FT WIDE/ & BEG OF THIS EX - TH N 45D 58M 30S W 1019.63 FT TH NWLY 1584.53 FT ON A 3864.79 FT RAD CURVE TO LT /LONG CHORD BEARS N 61D 49M 13S W 1564.41 FT/ TH N 77D 39M 56S W 482.26 FT TO A PT ON E LINE OF NW 1/4 SD PT BEING 302.15 FT S 0D 46M 47S E FROM NW 1/4 TH N 77D 39M 56S W 928.25 FT TH WLY 397.82 FT ON A 2864.79 FT RAD CURVE TO LT /LONG CHORD BEARS N 84D 19M 08S W 397.15 FT/ TO E LINE OF W 1/2 OF NW 1/4 & PT OF THIS ENDING & EX COM AT S 1/4 COR SEC 17 TH N 0D 54M 01S W ALONG N&S 1/4 LINE

OF SD SEC 408.58 FT TO SWLY LINE OF HWY I-96 TH NWLY 81.61 FT ALONG SD SWLY LINE ON A 3969.74 FT RAD CURVE TO RT /LONG CHORD BEARS TH N 55D 52M 34S W 81.61 FT/ TO BEG OF THIS EX - TH S 75D 53M 30S W 129.74 FT TH SLY 253.0 FT ON A 1240.0 FT RAD CURVE TO LT /LONG CHORD BEARS S 18D 10M 46S W 252.56 FT/ TH S 12D 20M 04S W 353.50 FT TO NLY LINE OF 36TH ST /120 FT WIDE/ TH N 77D 39M 56S W ALONG SD NLY LINE 320.0 FT TH N 12D 20M 04S E 353.50 FT TH NLY 436.97 FT ON A 1560.0 FT RAD CURVE TO RT /LONG CHORD BEARS N 20D 21M 32S E 435.55 FT/ TO S LINE OF KRAFT INDUSTRIAL PARK TH E ALONG SD S LINE TO SWLY LINE OF HWY I-96 TH SELY ALONG SD SWLY LINE TO BEG & EX PART OF SW 1/4 OF SEC 20 COM 1270.97 FT N 1D 40M 15S W & 1291.18 FT 90D 00M 00S E FROM SW COR OF SEC TH N 0D 00M 00S 134.67 FT TH 90D 00M 00S E 140.0 FT TH S 0D 00M 00S 149.0 FT TH 90D 00M 00S W 80.0 FT TH N 0D 00M 00S 14.33 FT TH 90D 00M 00S W 60.0 FT TO BEG & EX THAT PART OF SEC 21 LYING NLY OF SLY LINE OF VENNEMAN DR /86 FT WIDE/ & SLY OF NLY LINE OF SD DR & FLY OF W LINE OF SEC 21 & WLY OF SWLY LINE OF THORNAPPLE RIVER DR /120 FT WIDE/ & EX THAT PART OF SEC 21 LYING NLY OF NLY LINE OF 44TH ST /66 FT WIDE/ & SELY OF NWLY LINE OF 44TH ST RELOCATED /86 FT WIDE/ & WLY OF SWLY LINE OF FORMER THORNAPPLE RIVER DR /120 FT WIDE/ & EX S 250.0 FT OF N 300.0 FT OF W 17.0 FT OF E 50.0 FT OF SW 1/4 OF SEC 28 & EX PART OF NE 1/4 OF SEC 30 COM AT N 1/4 COR TH N 88D 37M E ALONG N SEC LINE 749.51 FT TH S 1D 23M E 356.06 FT TO BEG OF THIS EX - TH N 81D 13M E 709.0 FT TH S 8D 47M E 383.5 FT TH N 81D 13M E 117.0 FT TH S 8D 47M E 350.0 FT TH N 81D 13M E 21.0 FT TH S 8D 47M E 120.0 FT TH S 81D 13M W 278.0 FT TH N 8D 47M W 418.50 FT TH S 81D 13M W 692.0 FT TH N 8D 47M W 90.0 FT TH N 81D 13M E 123.0 FT TH N 8D 47M W 345.0 FT TO BEG & EX PART OF N 1/2 OF SEC 30 COM 35.12 FT N 88D 37M E ALONG N SEC LINE & 211.95 FT S 8D 47M E FROM N 1/4 COR TH S 8D 47M E 1060.0 FT TH S 81D 13M W 234.50 FT TH N 8D 47M W 710.0 FT TH S 81D 13M W 75.0 FT TH N 8D 47M W 350.0 FT TH N 81D 13M E 309.50 FT TO BEG & EX PART OF NE 1/4 OF SEC 30 COM 59.32 FT N 88D 37M E ALONG N SEC LINE & 188.83 FT S 8D 47M E FROM N 1/4 COR TH S 8D 47M E 480.0 FT TH N 81D 13M E 235.0 FT TH N 8D 47M W 480.0 FT TH S 81D 13M W 235.0 FT TO BEG & EX PART OF NE 1/4 OF SEC 30 COM 59.32 FT N 88D 37M E ALONG N SEC LINE & 748.83 FT S 8D 47M E FROM N 1/4 COR TH S 8D 47M E 460.0 FT TH N 81D 13M E 235.0 FT TH N 8D 47M W 460.0 FT TH S 81D 13M W 235.0 FT TO BEG & EX PART OF NE 1/4 OF SEC 30 COM 2369.14 FT N 7D 25M 19S E & 891.62 FT 90D 00M 00S W FROM E 1/4 COR OF SEC 30 TH N 45D E 42.0 FT TH N 45D E 284.25 FT TH S 45D E 42.0 FT TH S 45D W 284.25 FT TO BEG & EX PART OF NE 1/4 OF SEC 30 COM 1950.75 FT N 7D 25M 19S E & 790.94 FT 90D 00M 00S W FROM E 1/4 COR OF SEC 30 TH 90D W 62.42 FT TH N 0D 270.96 FT TH 90D W 8.0 FT TH N 0D 10.67 FT TH 90D E 8.0 FT TH N 0D 2

## **Addendum D**

### **Road and Utilities Extension Estimate**

## Estimate of Probable Cost

**Owner:**

Gerald R. Ford International Airport

**Project Title:**

Tim Dougherty Drive Extension (700')

**Date:**

May 30, 2019

**Post-it® Fax Note**

7671

Date

5/31

# of

pages

1

To

Tom C

From

J. STROO

Co./Dept.

PURCHASING

Co.

Phone #

233-6000

Phone #

Fax #

233-6025

Fax #

Item No.	Description	Quantity	Unit	Unit Price	Total Amount
1	Mobilization	1	LS	\$50,340.00	\$50,340.00
2	Soil Erosion & Sedimentation Control	1	LS	\$15,000.00	\$15,000.00
3	Excavation, Earth	3,000	Cyd	\$20.00	\$60,000.00
4	Subbase, CIP	1,600	Cyd	\$10.00	\$16,000.00
5	Aggregate Base, 6 inch	3,200	Syd	\$8.00	\$25,600.00
6	HMA, 513	230	Ton	\$100.00	\$23,000.00
7	IIMA, 4E3	610	Ton	\$100.00	\$61,000.00
8	Curb and Gutter, Conc	2,120	Ft	\$18.00	\$38,160.00
9	Underdrain, Subbase, 6 inch	1,400	Ft	\$10.00	\$14,000.00
10	Watermain, 12 inch, C.I., CI 53	770	Ft	\$70.00	\$53,900.00
11	Hydrant Assembly	3	Fa	\$5,000.00	\$15,000.00
12	Sanitary Sewer, 8 inch, SDR 35	700	Ft	\$50.00	\$35,000.00
13	Sanitary Manhole, 4' Dia.	3	Ea	\$3,000.00	\$9,000.00
14	Storm Sewer, Conc, 12 inch	800	Ft	\$50.00	\$40,000.00
15	Storm Manhole, 4' Dia.	2	Fa	\$3,000.00	\$6,000.00
16	Storm Catch Basin, 4' Dia.	4	Ea	\$3,000.00	\$12,000.00
17	Fencing	1	LS	\$13,000.00	\$13,000.00
18	Traffic Control	1	LS	\$5,000.00	\$5,000.00
19	Pavement Markings	1	LS	\$2,000.00	\$2,000.00
20	Restoration	7	Sta	\$1,000.00	\$7,000.00
21	Contingency, 5%				\$24,000.00
<b>Total Construction:</b>					<b>\$525,000.00</b>

Design Engineering &amp; Construction Administration: \$75,000.00

**Total Project Cost: \$600,000.00**

## **Addendum E**

### **Comparable Data**

## Location & Property Identification

Property Name: Vacant Industrial Land  
 Sub-Property Type: Commercial, Industrial  
 Address: 3174 4 Mile Rd.  
 City/State/Zip: Walker, MI 49544  
 County: Kent  
 Submarket: Grand Rapids  
 Market Orientation: Suburban  
 IRR Event ID: 2735753



## Sale Information

Sale Price: \$1,630,000  
 Effective Sale Price: \$1,630,000  
 Sale Date: 06/16/2021  
 Sale Status: Closed  
 \$/Acre(Gross): \$98,728  
 \$/Land SF(Gross): \$2.27  
 \$/Acre(Usable): \$98,728  
 \$/Land SF(Usable): \$2.27  
 Grantor/Seller: Arnold & Viola Grover  
 Grantee/Buyer: GLC Walker Ridge, LLC  
 Assemblage: No  
 Portfolio Sale: No  
 Property Rights: Fee Simple  
 % of Interest Conveyed: 100.00  
 Financing: Cash to seller  
 Verified By: Thomas H. Chuba  
 Verification Date: 11/24/2021  
 Confirmation Source: CoStar & municipal records  
 Verification Type: Confirmed-Other

Zoning Code: IPUD  
 Zoning Desc.: Industrial Planned Unit Development  
 Utilities: Electricity, Water Public, Sewer, Gas, Telephone  
 Source of Land Info.: Public Records

## Comments

This parcel was purchased for the development of a 216,000 SF industrial/Distribution building.

## Improvement and Site Data

Legal/Tax/Parcel ID: 41-13-04-101-030  
 Acres(Usable/Gross): 16.51/16.51  
 Land-SF(Usable/Gross): 719,175/719,175  
 Usable/Gross Ratio: 1.00  
 AccessibilityRating: Average  
 Visibility Rating: Average

## Vacant Industrial Land



## Land Sale Profile

Sale No. 2

### Location & Property Identification

Property Name:	Vacant Industrial Land
Sub-Property Type:	Commercial, Industrial
Address:	5737 & 5795 60th St & 5880, 5950 & 5980 Kraft Ave. SE.
City/State/Zip:	Cascade Township, MI 49512
County:	Kent
Submarket:	Grand Rapids
Market Orientation:	Suburban
Property Location:	Northeast corner of 60th Street and Kraft Avenue
IRR Event ID:	2507564



### Sale Information

Sale Price:	\$2,725,000
Effective Sale Price:	\$2,765,000
Sale Date:	09/29/2019
Recording Date:	10/17/2019
Listing Price:	\$2,728,440
Listing Date:	10/17/2019
Sale Status:	Closed
\$/Acre(Gross):	\$103,558
\$/Land SF(Gross):	\$2.38
Grantor/Seller:	Pay Dirt Land Company, LLC
Grantee/Buyer:	Kraft & 60th East, LLC
Assets Sold:	Real estate only
Property Rights:	Fee Simple
Exposure Time:	12 (months)
Financing:	Cash to seller
Terms of Sale:	Arm's Length
Document Type:	Warranty Deed
Recording No.:	201910310084600
Verified By:	Michelle Bilardello, MAI
Verification Date:	09/25/2020
Confirmation Source:	Carol Breen (Stu Kingma), NAIWWM, 616-575-7043
Verification Type:	Confirmed-Seller Broker
Secondary Verific. Source:	Warranty Deed, MLS, Public Records

### Sale Analysis

Adjust. Comments:	4 houses on the property to be demolished (\$40,000 demolition costs estimated)
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### Improvement and Site Data

MSA:	Grand Rapids-Wyoming, MI
Legal/Tax/Parcel ID:	41-19-32-300-007
Acres(Gross):	26.70
Land-SF(Gross):	1,163,052
Shape:	Irregular
Topography:	Level
Frontage Feet:	826
Frontage Desc.:	Kraft Avenue
AccessibilityRating:	Average
Visibility Rating:	Good
Zoning Code:	TI
Zoning Desc.:	Transitional Industrial
Easements:	No
Environmental Issues:	No
Source of Land Info.:	Public Records

Vacant Industrial Land



## Land Sale Profile

Sale No. 3

### Location & Property Identification

Property Name: Vacant Industrial Land  
Sub-Property Type: Commercial, Industrial  
Address: 1854 Northridge Dr. NW.  
City/State/Zip: Walker, MI 49544  
County: Kent  
Submarket: Grand Rapids  
Market Orientation: Suburban  
Property Location: South side of Northridge Drive, west of Bristol  
IRR Event ID: 2485750



### Sale Information

Sale Price: \$2,508,100  
Effective Sale Price: \$2,508,100  
Sale Date: 10/03/2019  
Recording Date: 10/22/2019  
Sale Status: Closed  
\$/SF GBA: \$8.36  
\$/SF NRA: \$8.36  
\$/Acre(Gross): \$70,000  
\$/Land SF(Gross): \$1.61  
\$/Land SF(Potential): \$8.36  
Grantor/Seller: RDG - Walker, LLC  
Grantee/Buyer: Clipper Belt Lacer Company  
Assets Sold: Real estate only  
Property Rights: Fee Simple  
Financing: Cash to seller  
Document Type: Warranty Deed  
Recording No.: 201910220081506  
Verified By: Michelle Bilardello, MAI  
Verification Date: 08/05/2020  
Confirmation Source: Kurt Hassburger, Rockford Construction  
Verification Type: Confirmed-Seller  
Secondary Verific. Source: CoStar, Warranty Deed, Public Records, PTA

MSA: Grand Rapids-Wyoming, MI  
Legal/Tax/Parcel ID: 41-13-03-600-024  
GBA-SF: 300,000  
NRA-SF: 300,000  
Acres(Gross): 35.83  
Land-SF(Gross): 1,560,754  
Year Built: 2020  
Percent Office: 21%  
Shape: Irregular  
Topography: Level  
Frontage Feet: 597  
Frontage Desc.: Northridge Drive  
AccessibilityRating: Above average  
Visibility Rating: Good  
Bldg. to Land Ratio FAR: 0.19  
Zoning Code: IPUD  
Zoning Desc.: Industrial Planned Unit Development  
Utilities Desc.: All Available  
Source of Land Info.: Public Records

### Improvement and Site Data

Vacant Industrial Land



## **Attachment #8 - Air Quality Assessment**

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**Air Quality Assessment  
for  
Site 12 Development**

**Gerald R. Ford International Airport  
Grand Rapids, Kent County, Michigan**

**June 2024**

**PREPARED BY:  
C&S ENGINEERS**

## SECTION 1

### BACKGROUND

The Gerald R. Ford International Airport Authority (GFIAA) is looking to lease airport land, known as “Site 12”, for nonaeronautical land uses. The proposed project includes development of 22.7 acres located north of the Runway 8L end at Gerald R. Ford International Airport (Airport or GRR).

A private developer is proposing to construct a rail spur off of the adjacent CSX Railroad track for loading/unloading of freight. The intent of the development is to load crushed stone at rail yards and deliver to the site by way of the CSX rail for unloading and distribution at the site. Construction of the proposed project would involve the following:

- Construction of a rail spur (approximately 1,950 linear feet) to accommodate approximately 30 flat bottom gondola cars
- Installation of truck scale, ticket booth, and lighting around truck scale area
- Limited extension of electric and telecommunications utilities.
- Connection to existing water supply for dust suppression
- Improve and extend Tim Dougherty Drive (410-foot gravel road extension). A portion (approximately 100 linear feet) of the roadway leading up to either side of the scale will be asphalt pavement.
- On-site gravel vehicle access and circulation roads
- Designated stockpile areas
- Site grading
- Best management practices for drainage

The proposed project will not change the type of aircraft currently operating at the airport, will not result in an increase in aircraft operations, and will not increase stationary source emissions. However, there would be a temporary increase in emissions from use of heavy equipment and travel by contractors during construction. For the purposes of this assessment, construction emissions were modeled over one construction season (i.e. six months) and it was assumed that the development would be operational within the same year.

Once construction is complete, operations at the site will consist of unloading aggregate from the gondola cars at the rail to stockpiles on site and loading of aggregate from the stockpile to customer trucks. Operations are detailed below:

- Unloading aggregate from the gondola cars:
  - Typical weekday hours would be Monday to Friday, from 7:00am to 5:00pm, with weekend hours occurring on Saturday from 7:00am-12:00pm. Nighttime shipments are on an occasional schedule, and typically do not occur unless driven by demand for aggregate is present from construction projects in the surrounding area.
  - It is anticipated that rail cars will need to be unloaded once per week, at which time a crew of approximately five employees will be on site to unload the aggregate from the rail cars to the stockpile locations.

- Unloading activities will be conducted by “top loading”, or driving an excavator to the top of the rail car (sometimes with the aid of a built stone ramp), where the excavator will transport the material from the car to a stockpile on site.
- Loading of aggregate from stockpiles to trucks:
  - Pickups are available year-round.
  - Operations could occur between Monday to Friday from 7:00am to 5:00pm, and Saturdays from 7:00am to 12:00pm.
  - One employee will be on site during scheduled pickups from a buyer.
  - Estimated average of 25 trucks per day throughout the year, with peak activity of 50-100 trucks per day occurring during the construction season
  - Loading activities will involve moving aggregate with a front loader and placing on top of the truck scale for distribution to the buyer.

According to FAA’s *Aviation Emissions and Air Quality Handbook* (Version 3, Update 1, January 2015), if the proposed project will cause a reasonably foreseeable emission increase, an emissions inventory must be prepared. In accordance with FAA requirements, air quality requires consideration under both the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA).

### **Clean Air Act**

Under the Federal Clean Air Act (CAA) (42 U.S.C. § 7401-7671q), the USEPA has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), ozone, and lead. Under the CAA, if a proposed action is subject to Federal funding or approval, it must conform to the goals set forth for eliminating or reducing the number of violations of the NAAQS in the state or region in which the action is to take place. An area that violates a national primary or secondary NAAQS for one or more of the USEPA designated criteria pollutants is referred to as ‘nonattainment’. According to the CAA, the NAAQS are applicable to all areas of the United States and associated territories. Each nonattainment area is required to have an applicable State Implementation Plan (SIP) that prescribes mitigation measures and timelines necessary to bring ambient concentrations of criteria pollutants below the NAAQS. When a nonattainment area successfully reduces criteria pollutant concentrations below the NAAQS, EPA redesignates the area a ‘maintenance area’. For actions planned to occur in a nonattainment or maintenance area, the proposed impacts to air quality must conform to the conditions of the applicable SIP, also known as *General Conformity*.

### **Conformity**

The General Conformity Rule ensures that federal actions comply with the NAAQS. In order to meet the CAA requirement, a federal agency must demonstrate that every action that it undertakes, approves, permits or supports will conform to the appropriate state implementation plan (SIP). The USEPA promulgated the initial conformity regulations in 1993<sup>1</sup> to assist federal agencies in complying with the SIP by specifying rules for two categories of federal actions: transportation actions and general actions. The two rules have separate and distinct applicability and evaluation requirements. Transportation

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<sup>1</sup> 40 CFR Part 51 and Part 93

conformity applies to highway and transit projects, while general conformity regulations apply to other federal actions that are not transportation projects, such as federal funding or approval for maintenance and repair and new construction projects at existing airports. The General Conformity Rule, published under 40 CFR Part 93, applies only to an action that is federally funded or federally-approved. Only pollutants causing the area to be designated as nonattainment or maintenance are relevant and evaluated under the Rule. The net increase in emissions of the applicable pollutants is compared against the threshold levels established in the Rule, known as the *de minimis* thresholds, published at 40 CFR 93.153(b)(1)-(b), Applicability Analysis. Under the General Conformity Rule, if the net increase in emissions due to a federal action equal or exceeds USEPA established *de minimis* thresholds, a General Conformity Determination would be required.

## NEPA

In 1970, the National Environmental Policy Act (NEPA) and its amendments, established a broad national policy to protect the quality of the human environment and provide for the establishment of a Council on Environmental Quality (CEQ). The act provides policies and goals to ensure that environmental considerations are given careful attention and appropriate weight in all decisions of the Federal Government. The NEPA environmental review process discloses these impacts on the human environment. As part of the NEPA process, the proposed action's impact on air quality is assessed by evaluating the impact of the proposed action on the NAAQS. The CEQ has indicated that climate should be considered in NEPA analyses.

**Table 1** – *Clean Air Act De Minimis Thresholds* (on the following page) provides the applicable thresholds for pollutants based on their non-attainment and maintenance status. If the increase in emissions from a proposed action does not equal or exceed these thresholds, the action is assumed to comply with the Rule and no further analysis is required under CAA Section 176(c)(1). If the threshold levels are exceeded, a General Conformity Determination would be required.

The entirety of airport property is located within Kent County, which includes the proposed project area. According to the USEPA Green Book (current as May 31, 2024), and the Michigan Department of Environmental, Great Lakes, and Energy (EGLE) website (as of May 19, 2023), Kent County is not listed, meaning that Kent County is been designated attainment for all criterial pollutants.<sup>2</sup> Since the Proposed Project is located in an attainment area, General Conformity Applicability does not apply to this project. However, in accordance with the requirements in the FAA Air Quality Handbook, the *de minimis thresholds* were still used to compare inventory results to determine air impacts. Ozone is not directly emitted from a source but is formed through the reaction of oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOCs) in the presence of sunlight. Emissions of ozone are evaluated based on emissions of the ozone precursor pollutants, NO<sub>x</sub> and VOCs.

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<sup>2</sup> <https://www.michigan.gov/egle/about/organization/air-quality/state-implementation-plan/ozone-nonattainment>

**Table 1: Clean Air Act *De Minimis* Thresholds**

Pollutant	Nonattainment Area Threshold (tons per year)	Maintenance Area Threshold (tons per year)
<b>Carbon Monoxide (CO)</b>	100	100
<b>Particulate Matter (PM<sub>10</sub>)</b>		100
Moderate Nonattainment Area	100	
Serious Nonattainment Area	70	
<b>Particulate Matter (PM<sub>2.5</sub>)</b>		
Direct Emissions	100	100
SO <sub>2</sub>	100	100
NO <sub>x</sub>	100	100
VOC or Ammonia	100	100
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>	100	
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>	100	
<b>Lead (Pb)</b>	25	25
<b>Ozone (O<sub>3</sub>)</b>	<b>VOC/NO<sub>x</sub></b>	<b>VOC/NO<sub>x</sub></b>
Serious Nonattainment Area	50/50	
Severe Nonattainment Area	25/25	
Extreme Nonattainment Area	10/10	
Inside an ozone transport region:	50/100	50/100
Outside an ozone transport region:	100/100	100/100

**Source:** 40 CFR 93.153(b)(1) & (2)

**Note:** The ozone transport region is a single transport region for ozone [within the meaning of CAA Section 176A(a)], comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia, given at CAA Sec. 184.

### Greenhouse Gas Emissions and Climate Change

On January 9, 2023, the CEQ released *Guidance on the Consideration of Greenhouse Gas Emissions and Climate Change*, which indicates that the following the key content should be included in NEPA documents to allow agencies to consider impacts related to climate change:

- Reasonably foreseeable direct and indirect greenhouse gas emissions of a proposed action, the no action alternative, and any reasonable alternatives;
- Context for the GHG emissions including monetizing climate damages using estimates of the social cost of greenhouse gas emissions (SC-GHG), placing emissions in the context of relevant climate action goals and commitments, and providing common equivalents;
- Assessment of reasonable alternatives, including those that would reduce GHG emissions relevant to baseline conditions; and
- Identified mitigation measures to avoid, minimize, and compensate for climate effects.

## SECTION 2

### EMISSION CALCULATIONS

In accordance with the FAA *Air Quality Handbook*, a construction emissions inventory was conducted to determine the expected emissions associated with mobile sources (i.e. heavy equipment, material deliveries, and worker mobilization) as well as fugitive sources (i.e. particulate matter from material movement on paved and unpaved roads and soil handling activities).

#### Construction Emissions

The construction vehicle fleet properties and hours of operation were estimated by construction personnel based on decades of experience in management of the construction of aviation-related projects. Emission factors for various nonroad and onroad vehicle types were generated through the latest version of USEPA's MOtor Vehicle Emission Simulator (MOVES4). MOVES4 is the latest version of emissions modeling software for mobile sources that was developed as a combination of two legacy models – NONROAD (which was previously only for off-road vehicles) and MOVES2012 (which was previously only for on-road vehicles). It was assumed that all equipment would be operating using diesel, with the exception of chain saws and on-road passenger vehicles for construction employees, which are assumed to operate using gasoline. The equations and associated coefficients provided in USEPA's report titled, *AP-42, Compilation of Air Pollutant Emission Factors from Stationary Sources* were used as the basis for fugitive emissions calculations.

Based on the results of the construction emissions inventory, the emissions of criteria pollutants and greenhouse gases during construction of the proposed project are listed in **Table 2**. Modeling results are provided in **Attachment 1**.

**Table 2: Comparison of Temporary Construction Emissions to *De Minimis* Thresholds**

Year	Source	CO	VOCs	SOx	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>
<i>De Minimis Thresholds</i>		100	50	100	100	100	100	N/A
2026	Onroad	5.890	0.057	0.002	0.300	0.012	0.011	371.309
2026	Nonroad	0.488	0.123	0.004	3.761	0.084	0.081	1,430.036
2026	Fugitive	0.006	0.089	0.000	0.000	0.606		371.309
<b>2026</b>	<b>TOTAL</b>	<b>6.385</b>	<b>0.270</b>	<b>0.006</b>	<b>4.061</b>	<b>0.701</b>	<b>0.092</b>	<b>1,801.345</b>

ST – short tons, MT – metric tons.

Source: C&S Engineers, 2024

#### Operational Emissions

Operational emissions include:

- Mobile source emissions from:
  - o material is unloaded to stockpiles from deliveries by rail car;
  - o material is loaded from stockpiles to customer vehicles by heavy duty equipment; or
  - o employee commutes to and from the project site for both unloading and loading operations.

- Fugitive emissions (i.e. particulate matter) from material movement on paved and unpaved roads and soil handling activities.

Similar to construction emissions, MOVES4 and AP-42 were used to compute emissions from mobile and fugitive emissions sources, respectively.

**Table 3** presents the calculated total annual operational emissions of nonattainment and maintenance parameters for the proposed equipment storage building.

**Table 3: Comparison of Annual Operational Emissions to *De Minimis* Thresholds**

Year	Source	CO	VOCs	SO <sub>x</sub>	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>
<i>De Minimis Thresholds</i>		100	50	100	100	100	100	N/A
2026	Onroad	1.099	0.198	0.002	1.991	0.112	0.103	480.201
2026	Nonroad	0.050	0.017	0.001	0.729	0.012	0.012	349.755
2026	Fugitive					2.687		480.201
<b>2026</b>	<b>TOTAL</b>	<b>1.149</b>	<b>0.215</b>	<b>0.003</b>	<b>2.720</b>	<b>2.811</b>	<b>0.115</b>	<b>829.956</b>

ST – short tons, MT – metric tons.

Source: C&S Engineers, 2024

### Total (Operational and Construction) Emissions

To account for the total increase in emissions for calendar year 2026, the total operational emission increases associated with stationary sources were added to construction emissions for each year. **Table 4** provides the total increase in emissions for nonattainment or maintenance parameters by year.

**Table 4: Comparison of Total Project Emissions to *De Minimis* Thresholds**

Year	Source	CO	VOCs	SO <sub>x</sub>	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>
<i>De Minimis Thresholds</i>		100	50	100	100	100	100	N/A
2026	Onroad	5.890	0.057	0.002	0.300	0.012	0.011	371.309
2026	Nonroad	0.488	0.123	0.004	3.761	0.084	0.081	1,430.036
2026	Fugitive	0.006	0.089	0.000	0.000	0.606		371.309
<i>Subtotal – Construction Emissions</i>		<i>6.385</i>	<i>0.270</i>	<i>0.006</i>	<i>4.061</i>	<i>0.701</i>	<i>0.092</i>	<i>1,801.345</i>
2026	Onroad	1.099	0.198	0.002	1.991	0.112	0.103	480.201
2026	Nonroad	0.050	0.017	0.001	0.729	0.012	0.012	349.755
2026	Fugitive					2.687		480.201
<i>Subtotal – Construction Emissions</i>		<i>1.149</i>	<i>0.215</i>	<i>0.003</i>	<i>2.720</i>	<i>2.811</i>	<i>0.115</i>	<i>829.956</i>
<b>TOTAL PROJECT EMISSIONS</b>		<b>7.53</b>	<b>0.48</b>	<b>0.01</b>	<b>6.78</b>	<b>3.51</b>	<b>0.21</b>	<b>2,631.30</b>

### SECTION 3

#### CONCLUSIONS

Under NEPA, federal agencies are required to assess the impacts federal actions may have on air quality and the human environment. As part of the NEPA process, the proposed action's impact on air quality is assessed by evaluating the impact of the proposed action on the NAAQS. The methodology for evaluating the need to conduct an air quality analysis is provided in the FAA document, *Aviation Emissions and Air Quality Handbook Version 3, Update 1* dated January 2015 (*Air Quality Handbook*). In accordance with procedures outlined in that document, the airport and the proposed project impacts to air quality were evaluated based on the following:

#### *Indirect Source Review*

The proposed project is not located within a state that has indirect source review requirements.

#### *General Conformity with SIP*

As previously mentioned, the General Conformity Rule applies to a federal action that is located in an area designated nonattainment or maintenance by the USEPA. The project is located in Kent County, which is classified as attainment according to the USEPA GreenBook. Therefore, General Conformity Applicability does not apply to this project.

#### *NAAQS Assessment*

Since the proposed project would cause an increase in emissions, the FAA *Air Quality Handbook* requires completion of an emissions inventory. Based on the results of the construction emissions inventory and operational emission calculations, **Table 4** above presents the expected emissions of all criteria pollutants. The net emissions resulting from the Proposed Action were below the *de minimis* thresholds levels for all criteria pollutants. Given the expected emissions and the short timeframe of construction, it is unlikely that the pollutant concentration levels would exceed a NAAQS standard.

#### *Climate*

As identified in **Table 5**, the proposed project will cause a temporary increase in emissions from construction of 1,802 MT CO<sub>2</sub>e, and an annual increase of emissions from operations of 830 MT CO<sub>2</sub>e. According to the U.S. EPA Greenhouse Gas Equivalencies Calculator<sup>3</sup>, the annual operational emissions equate to 198 gasoline powered passenger cars driving for one year. According to the USEPA Workbook for Applying SC-GHG Estimates (v1.0.1, released on March 13, 2024)<sup>4</sup>, the total social cost of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from the operation of the proposed project is between \$140,000 and \$370,000, assuming a 10-year lease, and discount rates of 2.5% to 1.5%.

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<sup>3</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

<sup>4</sup> <https://www.epa.gov/environmental-economics/scghg>

As part of the Michigan Healthy Climate Plan (released in April 2022), the State of Michigan has set a goal to reach carbon neutrality by 2050<sup>5</sup>. The Gerald R. Ford International Airport is in the process of developing a sustainability management plan and has not yet published emissions reductions targets<sup>6</sup>.

While the proposed project will increase GHG emissions, the development will provide a local source of aggregate material for use in the surrounding area, which could reduce the existing travel time and vehicle-miles-traveled (VMT) for trucks transporting aggregate from current distant sources. Therefore, the reduced emissions from a local source could offset the project-level increase in GHG emissions.

There is no current threshold for impacts related to GHG emissions and climate change. However, any reduction in the volume of fuel combusted or electricity used will reduce GHG emissions and would be consistent with the goals set by the State of Michigan. The following voluntary emissions reductions measures could be incorporated to assist the GFIAA and State of Michigan in achieving its climate action goals and commitments:

- Use construction equipment that can operate on alternative fuels or electricity wherever possible to minimize emissions associated with diesel and gasoline powered equipment.

Given the information detailed above, as well as the fact that the proposed action would not have an effect on enplanements or aircraft operations at the airport, the proposed project would not significantly impact air quality and therefore a NAAQS review was not prepared for this air quality analysis.

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<sup>5</sup> <https://www.michigan.gov/egle/about/organization/climate-and-energy/mi-healthy-climate-plan>

<sup>6</sup> <https://www.grr.org/news/earth-day-2023>

## **Attachment 1**

### **Results of Calculations**

Construction Emissions: Onroad Sources

Season	Vehicle Type	Total Project VMT	CO (g/mi)*	VOC (g/mi)*	SOx (g/mi)*	NOx (g/mi)*	PM10 - Total (g/mi)*	PM2.5 Total (g/mi)*	CO2 (g/mi)*	CH4 (g/mi)*	N2O (g/mi)*	CO2e (g/mi)*	CO (ST)	VOC (ST)	SOx (ST)	NOx (ST)	PM10 - Total (ST)	PM2.5 Total (ST)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
Summer 2026	Combination Short-Haul Truck	104.47	2.79	0.30	0.01	6.72	0.25	0.23	1,625.55	0.02	0.16	1,672.58	0.000	0.000	0.000	0.001	0.000	0.000	0.170	0.000	0.000	0.175
	Passenger Car	1,083,600.00	4.83	0.03	0.00	0.12	0.00	0.00	304.86	0.01	0.00	305.55	5.771	0.040	0.002	0.148	0.003	0.003	330.343	0.012	0.002	331.099
	Passenger Truck	22,581.60	2.42	0.25	0.00	1.55	0.08	0.07	571.60	0.01	0.04	584.57	0.060	0.006	0.000	0.039	0.002	0.002	12.908	0.000	0.001	13.201
	Single Unit Short-Haul Truck	29,272.30	1.81	0.34	0.00	3.47	0.20	0.18	894.61	0.01	0.07	916.74	0.058	0.011	0.000	0.112	0.006	0.006	26.187	0.000	0.002	26.835
TOTAL CONSTRUCTION EMISSIONS - ONROAD SOURCES													5.890	0.057	0.002	0.300	0.012	0.011	369.608	0.012	0.005	371.309

\*Data generated by MOVES

Construction Emissions: Nonroad Sources

Year	Month	Equipment	Fuel	Hours of Activity	CO (g/hr)*	VOC (g/hr)*	SOx (g/hr)*	NOx (g/hr)*	PM10 (g/hr)*	PM2.5 (g/hr)*	CO2 (g/hr)*	CH4 (g/hr)*	CO (ST)	VOC (ST)	SO2 (ST)	NOx (ST)	PM10 (ST)	PM2.5 (ST)	CO2 (MT)	CH4 (MT)	CO2e (MT)
2026	8	Air Compressors	Diesel	51.86	12.01	2.13	0.06	56.69	1.89	1.84	20,454.36	0.22	0.001	0.000	0.000	0.003	0.000	0.000	1.061	0.000	1.061
2026	8	Chain Saws < 6 HP (com)	Gasoline	106.37	643.85	147.02	0.01	4.04	23.41	21.54	1,804.46	3.30	0.075	0.017	0.000	0.000	0.003	0.003	0.192	0.000	0.204
2026	8	Chippers/Stump Grinders (com)	Diesel	106.37	51.22	10.96	0.11	152.68	9.27	8.99	34,111.89	0.49	0.006	0.001	0.000	0.018	0.001	0.001	3.628	0.000	3.630
2026	8	Concrete/Industrial Saws	Diesel	0.36	12.61	2.44	0.05	57.17	1.58	1.53	16,608.52	0.26	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.006
2026	8	Cranes	Diesel	35.50	11.69	2.65	0.14	50.87	2.25	2.18	52,947.93	0.18	0.000	0.000	0.000	0.002	0.000	0.000	1.880	0.000	1.880
2026	8	Crawler Tractor/Dozers	Diesel	589.94	19.09	3.57	0.22	93.33	3.48	3.38	82,756.20	0.27	0.012	0.002	0.000	0.061	0.002	0.002	48.821	0.000	48.826
2026	8	Excavators	Diesel	410.66	7.04	1.63	0.15	36.47	1.43	1.38	54,731.78	0.13	0.003	0.001	0.000	0.017	0.001	0.001	22.476	0.000	22.478
2026	8	Graders	Diesel	64.42	7.42	1.64	0.17	27.78	1.66	1.61	64,850.46	0.11	0.001	0.000	0.000	0.002	0.000	0.000	4.178	0.000	4.178
2026	8	Off-highway Trucks	Diesel	4,407.08	31.86	12.52	0.66	643.78	8.73	8.47	248,002.96	1.03	0.155	0.061	0.003	3.127	0.042	0.041	1092.968	0.005	1093.122
2026	8	Other Agricultural Equipment	Diesel	12.20	97.84	16.19	0.17	207.77	18.13	17.58	54,916.03	0.99	0.001	0.000	0.000	0.003	0.000	0.000	0.670	0.000	0.670
2026	8	Other Construction Equipment	Diesel	1,843.43	73.19	11.02	0.29	188.91	10.20	9.90	104,291.18	0.51	0.149	0.022	0.001	0.384	0.021	0.020	192.254	0.001	192.286
2026	8	Pavers	Diesel	5.35	9.33	1.77	0.11	50.64	1.61	1.57	40,401.56	0.19	0.000	0.000	0.000	0.000	0.000	0.000	0.216	0.000	0.216
2026	8	Plate Compactors	Diesel	47.20	7.07	2.19	0.01	13.17	0.73	0.71	1,905.66	0.19	0.000	0.000	0.000	0.001	0.000	0.000	0.090	0.000	0.090
2026	8	Pumps	Diesel	35.46	22.90	5.25	0.04	63.52	3.83	3.71	12,886.14	0.33	0.001	0.000	0.000	0.002	0.000	0.000	0.457	0.000	0.457
2026	8	Rollers	Diesel	468.83	11.65	2.08	0.08	49.39	1.89	1.83	30,461.89	0.21	0.006	0.001	0.000	0.026	0.001	0.001	14.281	0.000	14.285
2026	8	Rubber Tired Loaders	Diesel	0.36	24.70	4.42	0.21	103.01	4.39	4.26	77,273.84	0.31	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.000	0.027
2026	8	Scrapers	Diesel	139.86	34.03	5.25	0.35	86.14	5.24	5.08	129,663.11	0.39	0.005	0.001	0.000	0.013	0.001	0.001	18.135	0.000	18.137
2026	8	Skid Steer Loaders	Diesel	879.22	33.06	6.93	0.02	41.23	5.17	5.01	7,981.14	0.23	0.032	0.007	0.000	0.040	0.005	0.005	7.017	0.000	7.024
2026	8	Tractors/Loaders/Backhoes	Diesel	1,642.55	22.18	4.79	0.04	33.96	3.70	3.58	13,057.56	0.18	0.040	0.009	0.000	0.061	0.007	0.006	21.448	0.000	21.458
TOTAL CONSTRUCTION EMISSIONS - NONROAD SOURCES													0.488	0.123	0.004	3.761	0.084	0.081	1,429.805	0.007	1,430.036

\*Data generated by MOVES

### Construction Emissions: Fugitive Sources

Year	Fugitive Source Type	CO (ST)	VOC (ST)	SOx (ST)	NOx (ST)	PM10 (ST)
2026	Material Movement (Paved Roads)					0.16240
2026	Material Movement (Unpaved Roads)					0.00759
2026	Soil Handling					0.04076
2026	Unstabilized Land and Wind Erosion					0.00000
2026	Asphalt Drying		0.08903			
2026	Asphalt Storage and Batching	0.00581	0.00018	0.00007	0.00036	0.00040
2026	Material Movement (Paved Roads)					0.12199
2026	Material Movement (Unpaved Roads)					0.00019
2026	Soil Handling					0.00068
2026	Unstabilized Land and Wind Erosion					0.00000
2026	Material Movement (Paved Roads)					0.23493
2026	Material Movement (Unpaved Roads)					0.00358
2026	Soil Handling					0.03312
2026	Unstabilized Land and Wind Erosion					0.00000
<b>TOTAL CONSTRUCTION EMISSIONS - FUGITIVE SOURCES</b>		<b>0.00581</b>	<b>0.08921</b>	<b>0.00007</b>	<b>0.00036</b>	<b>0.60564</b>

Annual Operational Emissions: Onroad Sources

Season	Vehicle Type	Total Project VMT	CO (g/mi)*	VOC (g/mi)*	SOx (g/mi)*	NOx (g/mi)*	PM10 - Total (g/mi)*	PM2.5 Total (g/mi)*	CO2 (g/mi)*	CH4 (g/mi)*	N2O (g/mi)*	CO2e (g/mi)*	CO (ST)	VOC (ST)	SOx (ST)	NOx (ST)	PM10 - Total (ST)	PM2.5 Total (ST)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
Summer 2026	Passenger Car	11,440.00	4.83	0.03	0.00	0.12	0.00	0.00	304.86	0.01	0.00	305.56	0.061	0.000	0.000	0.002	0.000	0.000	3.488	0.000	0.000	3.496
	Single Unit Short-Haul Truck	520,000.00	1.81	0.34	0.00	3.47	0.20	0.18	894.61	0.01	0.07	916.74	1.038	0.198	0.002	1.989	0.112	0.103	465.197	0.007	0.038	476.705
TOTAL ANNUAL OPERATIONAL EMISSIONS - ONROAD SOURCES													1.099	0.198	0.002	1.991	0.112	0.103	468.684	0.007	0.038	480.201

\*Data generated by MOVES

Annual Operational Emissions: Nonroad Sources

Scenario ID	Year	Month	Activity	Equipment	Fuel	Hours of Activity	CO (g/hr)*	VOC (g/hr)*	SOx (g/hr)*	NOx (g/hr)*	PM10 (g/hr)*	PM2.5 (g/hr)*	CO2 (g/hr)*	CH4 (g/hr)*	CO (ST)	VOC (ST)	SO2 (ST)	NOx (ST)	PM10 (ST)	PM2.5 (ST)	CO2 (MT)	CH4 (MT)	CO2e (MT)
1	2026	8	Unloading	Excavator	Diesel	1164.8	7.04	1.63	0.15	36.47	1.43	1.38	54,731.78	0.13	0.009	0.002	0.000	0.047	0.002	0.002	63.752	0.000	63.757
1	2026	8	Unloading	Off-Highway Trucks	Diesel	896	31.86	12.52	0.66	643.78	8.73	8.47	248,002.96	1.03	0.031	0.012	0.001	0.636	0.009	0.008	222.211	0.001	222.242
1	2026	8	Loading	Excavator	Diesel	1164.8	7.04	1.63	0.15	36.47	1.43	1.38	54,731.78	0.13	0.009	0.002	0.000	0.047	0.002	0.002	63.752	0.000	63.757
TOTAL ANNUAL OPERATIONAL EMISSIONS - NONROAD SOURCES															0.050	0.017	0.001	0.729	0.012	0.012	349.714	0.001	349.755

\*Data generated by MOVES

**Operational Emissions: Fugitive Sources**

<b>Year</b>	<b>Fugitive Source Type</b>	<b>CO (ST)</b>	<b>VOC (ST)</b>	<b>SOx (ST)</b>	<b>NOx (ST)</b>	<b>PM10 (ST)</b>
2026	Material Movement (Paved Roads)					1.23284
2026	Material Movement (Unpaved Roads)					0.34134
2026	Soil Handling					1.11268
<b>TOTAL CONSTRUCTION EMISSIONS - FUGITIVE SOURCES</b>		-	-	-	-	<b>2.68686</b>

**TOTAL PROJECT EMISSIONS - OPERATIONAL AND CONSTRUCTION**

Year	Source	CO (ST)	VOC (ST)	SOx (ST)	NOx (ST)	PM10 - Total (ST)	PM2.5 Total (ST)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
2026	Construction - Onroad	5.890	0.057	0.002	0.300	0.012	0.011	369.608	0.012	0.005	371.309
2026	Construction - Nonroad	0.488	0.123	0.004	3.761	0.084	0.081	1,429.805	0.007		1,430.036
2026	Construction - Fugitive	0.006	0.089	0.000	0.000	0.606					
<b>TOTAL EMISSIONS</b>		<b>6.385</b>	<b>0.270</b>	<b>0.006</b>	<b>4.061</b>	<b>0.701</b>	<b>0.092</b>	<b>1,799.413</b>	<b>0.019</b>	<b>0.005</b>	<b>1,801.345</b>

Year	Source	CO (ST)	VOC (ST)	SOx (ST)	NOx (ST)	PM10 - Total (ST)	PM2.5 Total (ST)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
2026	Operation - Onroad	1.099	0.198	0.002	1.991	0.112	0.103	468.684	0.007	0.038	480.201
2026	Operation - Nonroad	0.050	0.017	0.001	0.729	0.012	0.012	349.714	0.001		349.755
2026	Operation - Fugitive					2.687					
<b>TOTAL EMISSIONS</b>		<b>1.149</b>	<b>0.215</b>	<b>0.003</b>	<b>2.720</b>	<b>2.811</b>	<b>0.115</b>	<b>818.398</b>	<b>0.008</b>	<b>0.038</b>	<b>829.956</b>

<b>TOTAL PROJECT EMISSIONS</b>		<b>7.53</b>	<b>0.48</b>	<b>0.01</b>	<b>6.78</b>	<b>3.51</b>	<b>0.21</b>	<b>2,617.81</b>	<b>0.03</b>	<b>0.043</b>	<b>2,631.30</b>
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Emission Changes			
Year	Emissions Changes (metric tons)		
	CO2	CH4	N2O
2020			
2021			
2022			
2023			
2024			
2025			
2026	818	0	0
2027	818	0	0
2028	818	0	0
2029	818	0	0
2030	818	0	0
2031	818	0	0
2032	818	0	0
2033	818	0	0
2034	818	0	0
2035	818	0	0
2036			
2037			
2038			
2039			
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2070			
2071			
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2073			
2074			
2075			
2076			
2077			
2078			
2079			
2080			
Total	8,184	0	0

Constant discounting			
Number of years (N)	10		
Discount Rate	2.5%	2.0%	1.5%
Present and Annualized Values of CO2 Emission Changes (millions, 2023\$)			
GHG	CO2	CO2	CO2
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (2023\$)	\$1.18	\$1.93	\$3.33
Annualized Value (10 Years, 2023\$)	\$0.13	\$0.22	\$0.36
Present and Annualized Values of CH4 Emission Changes (millions, 2023\$)			
GHG	CH4	CH4	CH4
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (2023\$)	\$0.00	\$0.00	\$0.00
Annualized Value (10 Years, 2023\$)	\$0.00	\$0.00	\$0.00
Present and Annualized Values of N2O Emission Changes (millions, 2023\$)			
GHG	N2O	N2O	N2O
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (2023\$)	\$0.02	\$0.03	\$0.04
Annualized Value (10 Years, 2023\$)	\$0.00	\$0.00	\$0.00
Total Present and Annualized Values of all GHG Emission Changes (CO2, CH4, and N2O) (millions, 2023\$)			
GHG	Total	Total	Total
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (2023\$)	\$1.19	\$1.96	\$3.37
Annualized Value (10 Years, 2023\$)	\$0.14	\$0.22	\$0.37

Year	Discounted, Monetized Value of Emission Changes, discounted to 2024 (millions, 2023\$) - Constant Discounting								
	Discounted, Monetized Value of CO2 Emissions Changes (millions, 2023\$)			Discounted, Monetized Value of CH4 Emissions Changes (millions, 2023\$)			Discounted, Monetized Value of N2O Emissions Changes (millions, 2023\$)		
	Discounted Back to 2024			Discounted Back to 2024			Discounted Back to 2024		
	CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O
	2.5%	2.0%	1.5%	2.5%	2.0%	1.5%	2.5%	2.0%	1.5%
2020									
2021									
2022									
2023									
2024									
2025									
2026	\$0.12	\$0.20	\$0.34	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2027	\$0.12	\$0.20	\$0.34	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2028	\$0.12	\$0.20	\$0.34	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2029	\$0.12	\$0.19	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2030	\$0.12	\$0.19	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2031	\$0.12	\$0.19	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2032	\$0.12	\$0.19	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2033	\$0.12	\$0.19	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2034	\$0.11	\$0.19	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2035	\$0.11	\$0.19	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2036									
2037									
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2072									
2073									
2074									
2075									
2076									
2077									
2078									
2079									
2080									
Totals	\$1.18	\$1.93	\$3.33	\$0.00	\$0.00	\$0.00	\$0.02	\$0.03	\$0.04