Michigan Department of Transportation

Office of Aeronautics

Short Environmental Assessment Form for AIRPORT DEVELOPMENT PROJECTS

Airport Name: **West Michigan Regional Airport** Identifier: **BIV**

Project Title: **North Hangar Area Taxilane**

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

_____ _____

Responsible MDOT Official Date

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 can only be used for proposed projects in this region.

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 30th of the fiscal year preceding the fiscal year in which funding will be requested. When using this form for an airport project requesting *entitlement funding*, the documentation must be submitted to the local ADO by November 30th of the fiscal year in which the funding will be requested.

Availability: *An electronic version of this Short Form EA is available on-line at http://www.faa.gov/airports/eastern/environmental/media/C10.DOC. Other sources of environmental information including guidance and regulatory documents are available on-line at 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 or approval by an FAA Line of Business of Staff Office other than the Airports Division. Examples include, but are not limited to, changes to runway thresholds, changes to flight procedures, changes to NAVAIDs, review by Regional Counsel, etc.

2) The proposed action, including all connected actions, requires coordination with another Federal Agency outside of the FAA.

3) The proposed action will likely result in the need to issue a Record of Decision.

4) The proposed action requires a construction period exceeding 3 years.

5) The proposed action involves substantial public controversy on environmental grounds.

6) The proposed project would have impacts to, or require mitigation to offset the impacts to more than two resources[1] as defined in the 1050.1F Desk Reference.

7) 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).

If a project is initiated using this form and any of the preceding circumstances are found to apply, the development of this form must be terminated and a standard Environmental Assessment or Environmental Impact Statement (if applicable) must be prepared.

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[1] 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, Archeological, 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.

Complete the following information:

Project Location

Airport Name: West Michigan Regional Airport Identifier: BIV
Airport Address: 60 Geurink Blvd
City: Holland County: Allegan State: MI Zip: 49423

Airport Sponsor Information

Point of Contact: Aaron Thelenwood
Address: 60 Geurink Blvd
City: Holland State: MI Zip: 49423
Telephone: 616-368-3023 Fax:
Email: a.thelenwood@wmraa.org

Evaluation Form Preparer Information

Point of Contact: William Ballard, AICP
Company (if not the sponsor): Mead & Hunt, Inc.
Address: 2605 Port Lansing Road
City: Lansing State: MI Zip: 48906
Telephone: 517-321-8334
Email: william.ballard@meadhunt.com

1. Introduction/Background:

West Michigan Regional Airport (BIV or Airport) is a public use general aviation airport serving the Allegan and Ottawa Counties region of Michigan. Owned and operated by the West Michigan Airport Authority (WMAA),[2] the Federal Aviation Administration (FAA) classifies BIV as a general aviation airport in the *National Plan of Integrated Airport Systems* (NPIAS) and categorizes the Airport as a National airport in its 2012 report, *General Aviation Airports: A National Asset*.[3] BIV is defined as a Tier I airport, the highest classification, within the 2017 *Michigan Aviation System Plan* (MASP), further demonstrating the importance of the Airport to the aviation transportation system within the state of Michigan.

BIV is within the city limits of Holland, Michigan, in Allegan County in southwest Michigan approximately 68 miles north of the Michigan-Indiana border. Allegan County is ranked 18th in population among counties in the state with 120,502 residents in 2020.[4] Interstate 196 (I-196), which links Benton Harbor, South Haven, Holland, and Grand Rapids, is just south of the Airport's southern boundary.

[2] The WMAA is comprised of representatives from the City of Holland, Park Township, and the City of Zeeland.
[3] A total of 84 airports within 31 states in the U.S. were categorized as National airports in the FAA's *General Aviation Airports: A National Asset* report. National airports are located in metropolitan areas near major business centers and support flying throughout the nation and the world. These airports support operations by the most sophisticated aircraft in the general aviation fleet. Many flights are by jet aircraft, including corporate and fractional ownership operations and air taxi services. These airports also provide pilots with an alternative to busy primary commercial service airports.
[4] United States Census Bureau. 2020 Census Data. https://www.census.gov/data.html

Figure 1.0 Airport Location Map shows BIV's location within the state of Michigan, while **Figure 1.1 Surrounding Communities Map** shows the cities and townships near the Airport. **Figure 1.2 Vicinity Map** provides an overview of the local area surrounding BIV.

The Holland area is a prominent leisure and business community. Visitors to the area are attracted to the region's proximity to Lake Michigan and the multitude of shopping and entertainment options. Many leading businesses and non-profit organizations in the region rely on the Airport to help them fuel growth, extend their range of services, and welcome guests from around the world. BIV is a vital transportation link that accelerates business growth and job creation through convenient, efficient access to air travel. The Airport supports an economic impact of $165 million[5] for the surrounding region.

Resource agencies and Native American tribes with potential jurisdiction over or interest in the proposed action were contacted at the beginning of the project and given the opportunity to provide comments on the proposed action. **Appendix A – Early Agency and Tribal Coordination** contains a copy of the early coordination letters.

Upon issuance of the Draft Short Form EA, the document will be made available for public and agency review and comment for a minimum of 30 days. A public hearing will be advertised during this time and held if requested.

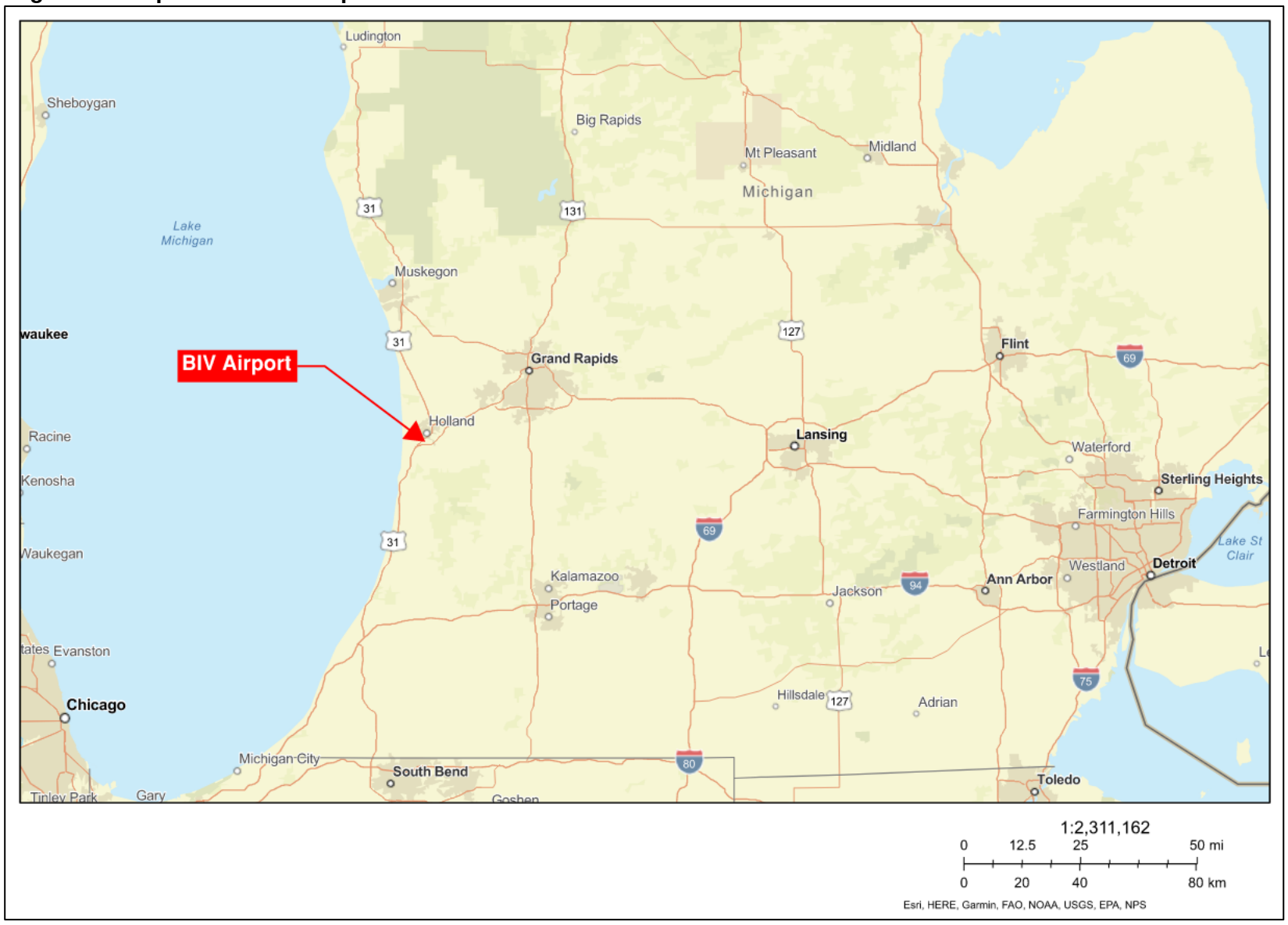
2. Project Description (List and clearly describe **ALL** components of project proposal including all connected actions). Attach a map or drawing of the area with the location(s) of the proposed action(s) identified:

The Airport owns a 17.1-acre area north of the existing terminal building currently without aviation infrastructure. To meet the needs of existing and future users, BIV is planning to construct the necessary infrastructure to provide access to this area. Proposed future development includes private and corporate hangars, taxilanes, taxilane connectors, apron expansion, construction grading, lighting, fencing, utilities, and site restoration.

The Airport is not proposing to construct a full build-out scenario of the 17.1-acre project area; rather, BIV will sufficiently develop the project area to prepare it for private and corporate hangar development in the future with minimum additional site improvements. Future hangars, aprons, and taxilane connectors will be funded privately by individual developers as demand increases. However, the entire project area will be environmentally cleared to adequately address the potential impacts and required mitigation of a full build-out scenario (expected to include approximately eight private hangars, aprons, and taxilane connectors). This approach is being taken to reduce concerns with possible segmentation in the environmental review process if assessing each site individually. However, if sufficient time passes, individual developments may be subject to their own environmental requirements including National Environmental Policy Act (NEPA) processes and permitting.

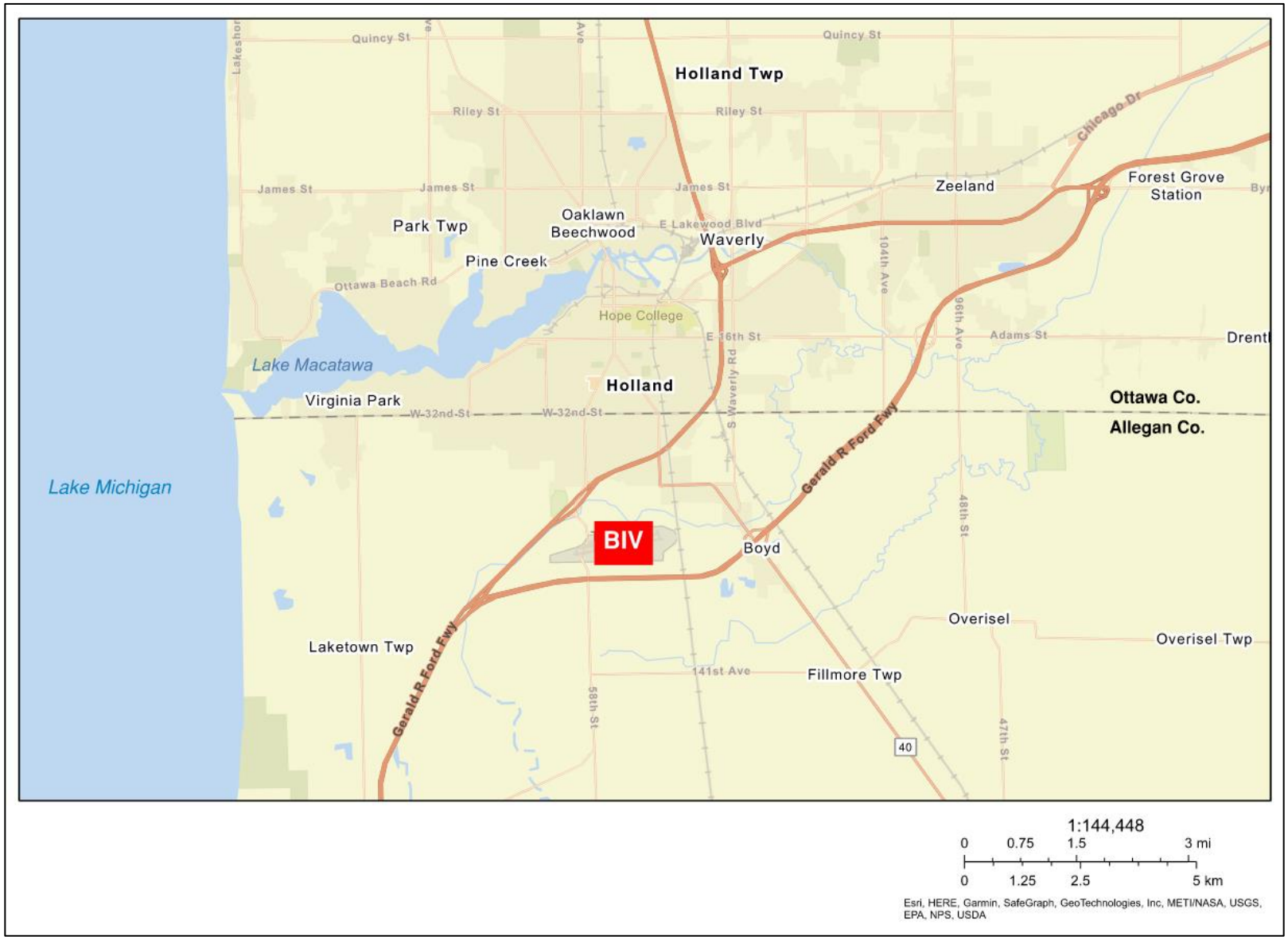
[5] West Michigan Regional Airport Authority. 2023. "About: WMRA by the numbers." https://westmichiganregionalairport.com/about/

Figure 1.0 Airport Location Map



Source: US Environmental Protection Agency (USEPA) NEPAssist, 2023

Figure 1.1 Surrounding Communities Map



Source: USEPA NEPAssist, 2023

Figure 1.2 Vicinity Map

Source: Google Earth, 2022

The major development items covered as a part of this Short Form EA include:

- Construction of approximately 1,400 feet of a 50-foot-wide taxilane
- Construction of approximately eight box hangars of various sizes and associated taxilane connectors and apron areas
- Expansion of an existing constructed stormwater detention basin
- Relocation of approximately 1,300 feet of an existing constructed stormwater drainage ditch

Figure 1.3 Project Area Map shows a map of the project area for the proposed action**.**

3. Project Purpose and Need:

The purpose of the proposed project is to construct the infrastructure needed to provide access to an undeveloped area on BIV property. The area has been designated as a top priority for a corporate hangar park in the Airport's Five-Year Airport Development Plan, as shown in **Figure 1.4 Five-Year Airport Development Plan, 2023-2027**. The Airport intends to construct taxilanes, lighting, fencing, and utilities. Private and corporate entities would construct their own hangars, aprons, and taxilane connectors as demand arises and satisfy any additional environmental and permitting requirements.

The need for the project is a result of two primary factors. First, the economy of the Allegan and Ottawa Counties region is rapidly growing. According to Lakeshore Advantage's 2019 Business Intelligence Report,[6] from 2013 to 2018 the region's manufacturing, construction, and professional / scientific / technical service industries grew by 20 percent, 25 percent, and 20 percent, respectively.

Despite the COVID-19 pandemic that began in 2020, the region's growth trends continued due to the strength of the area's manufacturing industry. For example, Lakeshore Advantage's 2021 and 2022 Business Intelligence Reports highlighted the following statistics:

- 69 percent of companies in 2021 and 60 percent of companies in 2022 reported plans to expand in the next three years, compared to 73 percent in 2019.
- 83 percent of employers in the region in 2021 and 91 percent in 2022 reported total company sales were increasing or stable, compared to 69 percent in 2019.
- 95 percent of the employers in the region in 2021 and 97 percent in 2022 reported market share as increasing or stable, compared to 69 percent in 2019.

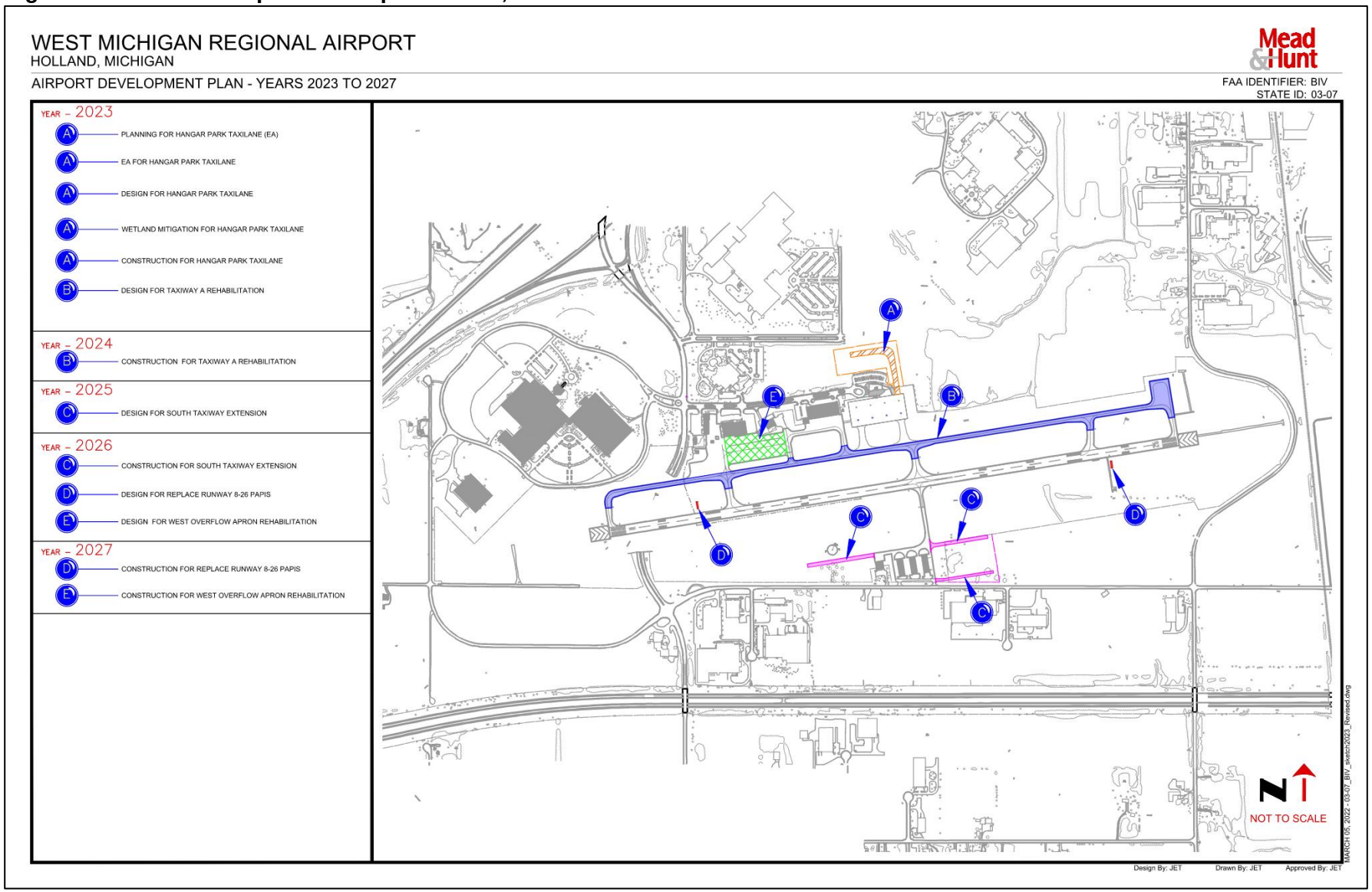
BIV has played an important role in the region's economic growth. The Airport is a critical transportation asset, centrally located on the shore of Lake Michigan and surrounded by the state's major industries including the automotive, agriculture, furniture, and aerospace industries. Many of the top businesses in the region rely on

[6] Lakeshore Advantage is a non-profit economic development organization that connects businesses to the resources they need to grow in Allegan and Ottawa Counties. Each year, Lakeshore Advantage and partnering organizations interview over 120 local executives to understand growth opportunities and obstacles in Allegan, Ottawa, and Muskegon Counties. The Business Intelligence Report includes the analysis of interview responses collected during the report's publication year and other data to show key points about the economic health of area employers and the region.

Figure 1.3 Project Area Map

Source: Google Earth, 2022; Mead & Hunt, 2023

Figure 1.4 Five-Year Airport Development Plan, 2023-2027



Source: Mead & Hunt

the Airport to expedite customer service and the delivery of their products to market. In effect, BIV connects the region to the national air transportation system and the global economy.

As the region's economy continues to grow and the demand for air transportation increases, various corporate and private entities, some of which are existing users at BIV, are seeking to either establish or expand their presence at the Airport. This leads to the second factor driving the need for the proposed action. The second factor is the limited number of private and corporate hangars for aircraft storage at BIV. With few hangars on the airfield available, several corporations and private firms desiring to locate or expand at BIV have recently approached the Airport regarding hangar development opportunities.

Without construction of the initial infrastructure to support future hangar development, corporate and private entities, both existing and new users, would likely seek opportunities at other airports, which would limit growth and opportunities of the Airport and ultimately the regional economy.

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

Airport Location and History

BIV is in Holland, Michigan, approximately three miles from the downtown Holland area in northwest Allegan County. Communities neighboring the City of Holland are the City of Zeeland, the community of Beechwood, Fillmore and Laketown Townships in Allegan County, and Park and Holland Charter Townships in Ottawa County (see **Figure 1.1 Surrounding Communities Map**).

BIV has been an integral part of the Michigan aviation system for 80 years. The Airport began operations in 1942 when Gradus Geurink, a Holland aviator, created a small grass runway for private planes amidst a north Allegan County cornfield. The runway was paved in 1962, with growth coming during the remainder of the 1960s and into the 1970s when local businesses began using it to sell products to customers around the world. Geurink owned the Airport until 1978, when industrialist Edgar Prince purchased it to build his business, Prince Corporation. In 1986, when the City of Holland acquired the Airport, known at the time as Tulip City Airport, it became a public airport. This helped local industry, and the Airport became a focal point for the region's business growth. The City of Holland owned the Airport until 2008, when the West Michigan Airport Authority, a regional collaboration of the City of Holland, City of Zeeland, and Park Township, took ownership.

The Airport has grown steadily during the ensuing years as industrial employers in the Cities of Holland and Zeeland have expanded operations locally and across the globe. Local employers emphasized the importance of the Airport to lure new businesses by bringing potential customers directly to industrial plants in the Cities of Holland and Zeeland. Today, local companies such as Haworth, Herman Miller, Gentex, Zeeland Farm Services, Menards, and Metal Flow use the Airport regularly.

Existing Airport Facilities

The Airport has one runway, Runway 8/26, which measures 6,002 feet long and 100 feet wide. The runway has an asphalt surface reported to be in good condition on the FAA Form 5010-1, *Airport Master Record* (last inspection date of March 2022).

A 50-foot-wide, full parallel taxiway intersecting five connector taxiways is north of Runway 8/26, with a holding pad at the approach end of Runway 26. A second taxiway at the runway's midpoint connects to a third taxiway in an area on the south side of the airfield containing a box hangar and T-hangars. Four aprons provide a total of approximately 520,500 square feet of aircraft parking area.[7] See **Figure 1.5 Airport Layout Plan** for BIV's existing Airport Layout Plan (ALP).

Visual Navigational Aids (NAVAIDs) include:

- A rotating beacon
- Wind indicators
- A segmented circle
- High Intensity Runway Lights (HIRL)
- A 4-light Precision Approach Path Indicator (PAPI) at both ends of Runway 8/26
- Runway End Identifier Lights (REIL) at the Runway 8 end
- A medium intensity approach lighting system with runway alignment indicator lights (MALSR) at the Runway 26 end.

In addition to visual NAVAIDs, the Airport is also equipped with electronic NAVAIDs to help pilots navigate in inclement weather. Existing electronic NAVAIDs include an Instrument Landing System (ILS) approach for Runway 26 and Global Positioning Satellite (GPS) approach for both ends of Runway 8/26. Runway 8 has a non-precision approach with a 50:1 approach slope, while Runway 26 has a precision approach with a 50:1 approach slope. The existing critical aircraft for the runway is a Gulfstream G450.

General aviation facilities include a terminal / fixed base operator (FBO) building; corporate hangar; FBO maintenance hangar; tenant office building; box hangar; two tenant community hangars; and three, eight-unit T-hangars. Flight Level Aviation, the Airport's FBO, provides general aviation services including fuel sales, short- / long-term hangar and tiedown space, aircraft maintenance, a crew lounge, catering, aircraft pre-heating and de-icing service, and baggage handling. According to the FAA Form 5010-1, *Airport Master Record*, 29 single-engine aircraft, 7 multi-engine aircraft, and 13 jets are based at the Airport. BIV experiences approximately 35,000 annual aircraft operations.

Land Use and Zoning

The City of Holland has a Unified Development Ordinance (UDO) that combines the City's Zoning, Trees, Streets and Sidewalks, and Subdivision Ordinances into a single regulatory document. The UDO regulates land use throughout the City, including the design of buildings, sites, and new streets. UDO requirements must be met for all new construction and for all exterior renovations or site alterations throughout the City. The City's UDO Zoning Map (provided in **Appendix B – Land Use and Zoning**) went into effect in August 2021. According to the UDO Zoning Map, BIV is in an area zoned as A – Airport, with areas immediately surrounding the Airport zoned as I – Industrial.

[7] BIV has one hold apron, two hangar aprons, and one terminal apron.

Figure 1.5 Airport Layout Plan

DIMENSIONAL INFORMATION

	EXISTING 8	EXISTING 26
RUNWAY LENGTH	6,002'	6,002'
RUNWAY WIDTH	100'	100'
RUNWAY SHOULDER WIDTH	0'	0'
TAXIWAY WIDTH	VARIES	VARIES
TAXIWAY EDGE SAFETY MARGIN	7.5'	7.5'
TAXIWAY SHOULDER WIDTH	0'	0'
TAXIWAY SAFETY AREA WIDTH	79'	79'
TAXIWAY OBJECT FREE AREA WIDTH	131'	131'
RUNWAY CENTERLINE TO TAXIWAY HOLD LINE	250'	250'
RUNWAY CENTERLINE TO TAXIWAY CENTERLINE LENGTH	400'	400'
RUNWAY CENTERLINE TO BUILDING RESTRICTION LINE LENGTH	745'	745'

BUILDING DATA TABLE

STRUCTURE	DESCRIPTION	HEIGHT - AGL	TOP ELEVATION - MSL
(A)	TUNNEL CONTROL	15.5'	698'
~~(B)~~	~~TERMINAL / FBO - VACANT~~	~~16'~~	~~701'~~
(C)	CORPORATE HANGAR	24.5'	706'
(D)	FBO MAINTENANCE HANGAR	29'	709'
(E)	TENANT COMMUNITY HANGAR	23'	702'
(F)	TENANT OFFICE BUILDING	16'	694'
(G)	TENANT COMMUNITY HANGAR	40.5'	718'
(H)	ELECTRICAL VAULT	10'	686'
(I)	BOX HANGAR	30'	706'
(J)	T-HANGARS (8 UNIT)	18.5'	693'
(K)	T-HANGARS (8 UNIT)	18.5'	692'
(L)	T-HANGARS (8 UNIT)	18.5'	692'
(M)	TERMINAL / FBO	25'	676'

NOTE:
AGL = ABOVE GROUND LEVEL / MSL = MEAN SEA LEVEL

RUNWAY SAFETY AREA

	EXISTING 8	EXISTING 26
RUNWAY PROTECTION ZONE (RPZ)	1,000' x 1,510 x 1,700'	1,000' x 1,750' x 2,500'
FAR PART-77 APPROACH SURFACE	1,000' x 3,500' x 10,000'	1,000' x 16,000' x 50,000'
RUNWAY SAFETY AREA (RSA)	1,000' x 500'	1,000' x 500'
OBJECT FREE AREA (OFA)	1,000' x 800'	1,000' x 800'
OBSTACLE FREE ZONE (OFZ)	200' x 400'	200' x 400'
PRECISION OBSTACLE FREE ZONE* (POFZ)	200' x 800'	200' x 800'

NOTE:
1. THE PRECISION OBSTACLE FREE ZONE IS IN EFFECT ONLY WHEN ALL OF THE FOLLOWING OPERATIONAL CONDITIONS ARE MET:
A. VERTICAL GUIDED APPROACH
B. REPORTED CEILING BELOW 250 FEET AND/OR VISIBILITY LESS THAN 3/4 STATUTE MILE (OR RVR BELOW 4,000 FEET)
C. AN AIRCRAFT ON FINAL APPROACH WITHIN TWO MILES OF THE RUNWAY THRESHOLD.

1. THE EXISTING RWY 8 APPROACH SURFACE INNER WIDTH DIMENSION CORRESPONDS TO THE WIDTH OF THE PRIMARY SURFACE WHICH IS REGULATED BY THE RWY 26 APPROACH SURFACE FUTURE RUNWAY END ELEVATIONS ESTIMATED UNTIL TIME OF CONSTRUCTION.

RUNWAY DATA

	EXISTING 8	EXISTING 26
LATITUDE (LAT.)	42° 44' 28.73" N	42° 44' 39.31" N
LONGITUDE (LONG.)	86° 07' 07.75" W	86° 05' 48.61" W
ELEVATION (EL.)	698'	686'
STATION (STA.)	62+02	02+00
BEARING	N 79° 42' 18.36" E	N 79° 42' 18.36" E
APPROACH TYPE	NON-PRECISION	PRECISION
TOUCHDOWN ZONE LATITUDE (LAT.)	42° 44' 28.73" N	42° 44' 39.31" N
TOUCHDOWN ZONE LONGITUDE (LONG.)	86° 07' 07.75" W	86° 05' 48.61" W
TOUCHDOWN ZONE ELEVATION (EL.)	698'	686'

APRON DATA

	EXISTING 1	EXISTING 2	EXISTING 3
DESCRIPTION	HOLD APRON	HANGAR APRON	HANGAR APRON
SIZE	260' x 270'	876' x 278'	350' x 148'

LEGEND

EXISTING	ITEM
	BUILDINGS
	TREES AND TREE LINES
	FENCE LINES
	ROADS
	RAILROAD
	WETLANDS
	RIVERS, LAKES, COUNTY DRAINS
	GROUND CONTOURS
	WIND CONE
	ROTATING BEACON
	RUNWAY / TAXIWAY LIGHTING
	POWER POLE
	ANTENNA TOWER
	AIRPORT PROPERTY LINE
	PROPERTY PARCELS
	SECTION LINES
	AVIGATION EASEMENT
	LAND RELEASE
	RUNWAYS, TAXIWAYS, PARKING
	RUNWAY MARKINGS
	CENTERLINES
RPZ	RUNWAY PROTECTION ZONE
RSA	RUNWAY SAFETY AREA
OFA	OBJECT FREE AREA
OFZ	OBSTACLE FREE ZONE
BRL	BUILDING RESTRICTION LINE
AS	APPROACH SURFACE
TOFA	TAXIWAY OBJECT FREE AREA

GENERAL NOTES:

1. AIRPORT PROPERTY IS LOCATED WITHIN SECTIONS 7, 8, 9, 16, 17, and 18 OF FILLMORE TOWNSHIP, ALLEGAN COUNTY, MICHIGAN (T.4N-R.15W) WITHIN THE CITY OF HOLLAND POLITICAL JURISDICTION.
2. AERIAL PHOTOGRAPHY AND BASE INFORMATION PROVIDED BY **WOOLPERT, LLP**. DATE OF PHOTOGRAPHY: 5/5/09.
3. AN AIRPORT PROPERTY LINE SURVEY PROVIDED BY **NEDERVELD, INC.** DATE OF SURVEY: 5/27/09.
4. THE NORTH MAGNETIC DECLINATION WAS CALCULATED USING INFORMATION FOUND ON **WWW.NGDC.NOAA.GOV/SEG/GEOMAG/DECLINATION**. THESE CALCULATED FIGURES ARE BASED ON THE INTERNATIONAL GEOMAGNETIC REFERENCE FIELD MODEL, VERSION 10 (2005-2010). DECLINATION AND VARIANCE CALCULATED: 05/26/11.
5. THE AIRPORT IS CLASSIFIED AS AN AIRPLANE DESIGN GROUP II; HOWEVER, SEVERAL TAXIWAYS ARE CONSTRUCTED USING AIRPLANE DESIGN GROUP III STANDARDS.
6. CONTACT "MISS DIG" PRIOR TO ANY CONSTRUCTION TO DETERMINE THE LOCATION OF BELOW GROUND UTILITIES.
7. MORE DETAILED EXISTING BUILDING INFORMATION IS SHOWN ON BUILDING AREA PLAN, PAGE 6.
8. HEIGHT OF PERIMETER FENCE VARIES AND SHOULD BE CONFIRMED WITH AIRPORT SPONSOR REGARDING HEIGHTS AT SPECIFIC LOCATIONS.
9. THE SYMBOLS SHOWN ARE SMALL DUE TO SCALE; HOWEVER, THEY ARE LEGIBLE IN THE ELECTRONIC FILE.
10. THE EXISTING RWY 8 APPROACH SURFACE INNER WIDTH DIMENSION CORRESPONDS TO THE WIDTH OF THE PRIMARY SURFACE WHICH IS REGULATED BY THE RWY 26 APPROACH SURFACE DIMENSIONS.
11. THE RUNWAY 26 APPROACH SURFACE SLOPE IS 50:1 FOR THE FIRST 10,000 FT. AND THEN 40:1 FOR THE FINAL 40,000 FT.

AIRPORT REFERENCE POINT

	EXISTING
LATITUDE (LAT.)	42° 44' 34.02"
LONGITUDE (LONG.)	86° 06' 28.18"
ELEVATION (EL.)	696'
STATION (STA.)	32+01
OFFSET FROM RUNWAY 8/26	0'

1 INCH = 400 FEET
0 200 400 800
MAGNETIC DECLINATION:
5° 0' W, 0° 4' W
PER YEAR AS OF 05/26/11

REVISIONS				
NO.	DATE	REMARKS	BY	CHK
1	10/29/18	ADDED PARCEL 'I'; UPDATED RWY 8 RPZ	AEF	AEF
2	2/22/17	FM 03-07-C28	GAM	AEF
3	10/10/18	EAST APRON TAXIWAY CONNECTOR	AEF	JET
4	1/22	ADDED LAND RELEASE 'PARCEL K'	AEF	AEF

WEST MICHIGAN REGIONAL AIRPORT
HOLLAND, MI

AIRPORT LAYOUT PLAN
EXISTING AIRPORT LAYOUT PLAN

Mead & Hunt
2905 PORT LANSING ROAD
LANSING, MICHIGAN 48906
517.321.8334 - 517.321.1833 FAX

STATE ID. NO. 03-07	M&H PROJECT NO. — 06109-00-00001	DESIGNED	SADW 5/11
	FEDERAL CONTRACT NO. — n/a	DRAWN	AEF 5/11
	STATE CONTRACT NO. — B-26-0045-0606	CHECKED	SADW 5/11

SHEET: 3 OF 14

Source: Mead & Hunt

Appendix B – Land Use and Zoning also provides a zoning map showing Fillmore Township zoning in areas east, west, and south of BIV. According to this map, these areas are largely zoned as A-1 Exclusive Agriculture District and A-2 Restricted Agriculture District, with smaller areas zoned as C-2 General Business District, R-1 Single Family Residential District, RMH Residential Mobile Home District, C-1 Local Business District, and I-1 Industrial District.

A Development Patterns Map available from the City of Holland's 2017 Master Plan shows that existing land uses around BIV include industrial, residential, commercial, and rural land uses (see **Appendix B – Land Use and Zoning**). Specifically, the Airport itself and surrounding land uses are classified as Suburban Industrial.

Population Growth Statistics

According to the 2020 Census, the state of Michigan had more than 10.0 million residents in 2020, an increase of 2.0 percent from the nearly 9.9 million residents recorded in the state in the 2010 Census, as shown in **Table 1.0 Surrounding Area Population, 2010-2020**. At the county level, Allegan County and Ottawa County both experienced strong growth from 2010 to 2020, with Allegan County's population increasing 8.2 percent and Ottawa County's growing 12.3 percent. The City of Holland also experienced growth during this period, increasing 4.0 percent from 33,051 residents to 34,378 residents.

Table 1.0 Surrounding Area Population, 2010-2020

Geographic Area	2010	2020	Percent of Change
State of Michigan	9,883,640	10,077,331	2.0%
Allegan County	111,408	120,502	8.2%
Ottawa County	263,801	296,200	12.3%
City of Holland	33,051	34,378	4.0%

Source: U.S. Census Bureau State and County QuickFacts

Industrial and Commercial Growth Characteristics

According to the Michigan Bureau of Labor Market Information and Strategic Initiatives, the total labor force for the state of Michigan was nearly 4.8 million people in 2021, while the number of employed workers was nearly 4.5 million (**Table 1.1 Labor Force, 2021**). The state of Michigan unemployment rate in 2021 was 5.9 percent. At the county level, the total labor force and number of employed workers in Allegan County stood at 60,557 people and 57,735 workers, respectively, in 2021, representing an unemployment rate of 4.7 percent. In Ottawa County, the unemployment rate was slightly lower at 4.1 percent, with a total labor force of 156,739 people and 150,355 employed workers. Finally, with 16,450 people in the labor force and 15,680 employed workers in 2021, the City of Holland's unemployment rate was 4.7 percent.

Table 1.1 Labor Force, 2021

Geographic Area	Total Labor Force	Employed	Percent Unemployed
State of Michigan	4,776,000	4,496,000	5.9%
Allegan County	60,557	57,735	4.7%
Ottawa County	156,739	150,355	4.1%
City of Holland	16,450	15,680	4.7%

Source: Michigan Bureau of Labor Market Information and Strategic Initiatives, 2022

Table 1.2 Allegan County Top Five Industries by Employment, 2021 and **Table 1.3 Ottawa County Top Five Industries by Employment, 2021** present data from the U.S. Bureau of Economic Analysis. The top five industries in Allegan County together comprised 58 percent of the employed labor force in Allegan County.

Table 1.2 Allegan County Top Five Industries by Employment, 2021

Industry	Allegan County Employees	Percent of Total Employed
Manufacturing	13,682	24.7%
Government and Government Enterprises	5,679	10.3%
Retail Trade	4,893	8.8%
Construction	4,717	8.5%
Other Services (Except Government and Government Enterprises)	3,187	5.8%

Source: U.S. Bureau of Economic Analysis, 2022

The top five industries are similar in Ottawa County. Like Allegan County, manufacturing employs the most people in Ottawa County, where there were 42,584 employees in 2021. In all, these five industries were responsible for 56 percent of the employed labor force in Ottawa County.

Table 1.3 Ottawa County Top Five Industries by Employment, 2021

Industry	Ottawa County Employees	Percent of Total Employed
Manufacturing	42,584	24.9%
Government and Government Enterprises	16,539	9.7%
Retail Trade	14,233	8.3%
Health Care and Social Assistance	11,168	6.5%
Administrative and Support and Waste Management and Remediation Services	10,563	6.2%

Source: U.S. Bureau of Economic Analysis, 2022

Table 1.4 Top 10 Largest Employers in Allegan and Ottawa Counties, 2020 identifies the 10 largest employers. This is according to data obtained from The Right Place, Inc., a regional economic development organization focused on economic development initiatives in the Greater Grand Rapids region. The largest employer is Gentex Corporation. Six of the top 10 employers are headquartered in the region.

Table 1.4 Top 10 Largest Employers in Allegan and Ottawa Counties, 2020

Company/Organization	Employee Count	County	Business Type
Gentex Corporation	5,800	Ottawa	Manufacturing - Computers / Electronics
Herman Miller, Inc.	3,621	Ottawa	Manufacturing - Furniture
Perrigo	3,500	Allegan	Manufacturing - Chemicals
Grand Valley State University	3,306	Ottawa	Education
Haworth Inc.	2,000	Ottawa	Manufacturing - Furniture
Shape Corporation	1,700	Ottawa	Manufacturing - Fabricated Metal
JBS Packerland	1,200	Allegan	Agriculture
Yanfeng Global Automotive Interiors	1,000	Ottawa	Manufacturing - Transportation
Royal Technologies Corporation	873	Ottawa	Manufacturing - Plastics & Rubber
JR Automation Technologies LLC	800	Ottawa	Manufacturing - Machinery

Bold = Headquartered in the region
Source: The Right Place, Inc.

Environmental Characteristics of the Project Area

BIV property covers approximately 432 acres within the North Branch Macatawa River watershed, which drains into the Macatawa River to the north. Land use in the vicinity of BIV consists primarily of industrial properties. Fields are found throughout Airport property, with a few areas of trees and wetlands interspersed. The North Branch Macatawa River flows roughly west-to-east to the north of BIV property, while the Ben Bleyker Drain that serves as a tributary of the North Branch Macatawa River runs south-to-north under the east side of Runway 8/26.

Only those resources likely to be impacted within the proposed project area limits (**Figure 1.3 Project Area Map**) were field delineated. Scientists and biologists conducted detailed wetland, cultural, biological, and hazardous materials investigations and field surveys either as part of the proposed project or from previously completed studies. Applicable resources outside of the project area were investigated through various databases and published technical documents.

The project area covers approximately 17.1 acres on BIV-owned property north of the terminal / FBO building and automobile parking area. Undeveloped lands within the project area are in agricultural production. The terminal / FBO building and associated automobile parking area were constructed in 2016 at the east end of Geurink Boulevard on the north side of the Airport. At that time, a stormwater drainage ditch that formerly ran parallel to Geurink Boulevard was re-aligned to flow northward before heading east off Airport property (**Figure 1.6 2016 Construction**).

This re-aligned stormwater ditch splits the farmed area into two separate fields used to grow soybeans. The Airport property line forms the northern extent of the project area. The southeastern corner of the project area consists of a constructed stormwater detention pond, which was expanded to the north during construction of the terminal / FBO building. A water control structure on the east berm of the detention pond controls water levels and outgoing flows.

Figure 1.6 2016 Construction

TOPOGRAPHY MAP

West Michigan Regional Airport (BIV)
North Hangar Development Project

0 20 40 80 120 160 Feet

N

Legend

- Project AOI
- Airport Property Line
- Existing Fence

Contour Type

- Index
- Intermediate

Data Sources
1. Contours, Allegan County, 2-foot contour interval generated from 2015 USGS DEM acquired by MiSAIL. Data obtained from USGS National Map (https://apps.nationalmap.gov/downloader/)
2. Image Source: NAIP image service (https://gis.apfo.usda.gov/arcgis/services), 2022

PROJECT LOCATION

T4N, R15W Section 8
City of Holland
Allegan County, MI
LRR Subregion: L
USACE Regional Supplement: NC/NE
Area of Interest: 17.1 acres
USGS Quads: Hamilton West
Field work conducted: Sept. 27, 2022

Source: Mead & Hunt

Topography within the project area is relatively flat, with drainage generally flowing to the east, either to the stormwater detention pond via piped conveyances or through the re-aligned drainage ditch.

East of the project area an undeveloped forest receives stormwater detention pond overflow through the 2016 constructed drainage ditch, which ultimately flows to the North Branch Macatawa River.

Tree cover within the project area is minimal, confined to portions of the drainage ditches along Regent Boulevard on the north and Geurink Boulevard on the south. The forested stands along the drainage ditches are mostly scrub-shrub and smaller immature trees.

Dominant herbaceous vegetation found in upland areas include:

- Creeping wild rye
- Kentucky blue grass
- Canada goldenrod
- Canadian thistle
- English plantain
- White clover
- Oldfield American-Aster

Wild strawberry, wild honeysuckle, and autumn olive are found in the shrub layer. Regular mowing occurs in landscaped areas around parking and building areas, which are covered by a mixture of turf grasses and forbs.

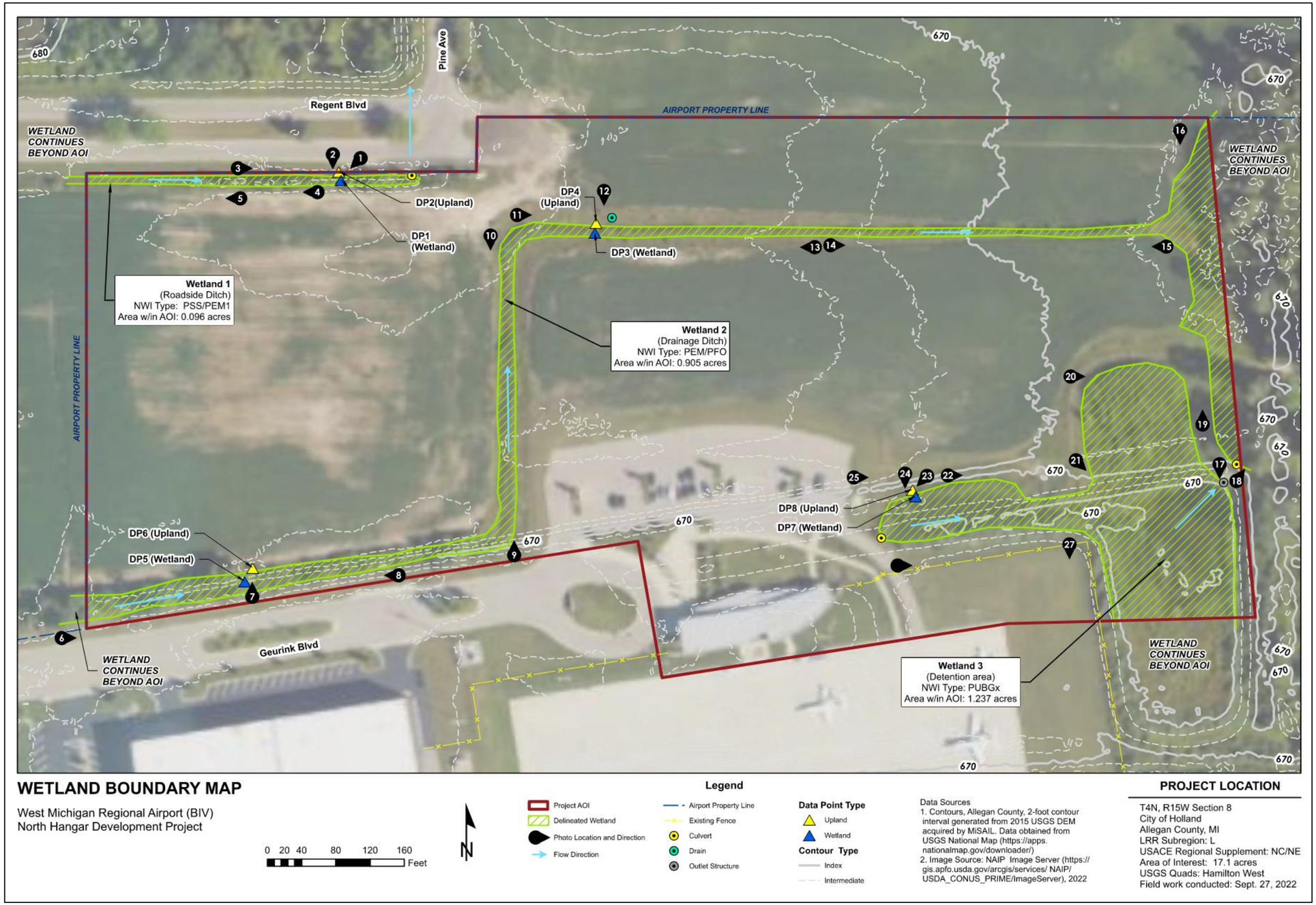
A total of three separate wetland boundaries encompassing 2.238 acres were delineated within the project area at BIV during a field visit conducted in 2022 (**Figure 1.7 Wetland Boundary Map**). For details of the wetland delineation and other water resources in the project, see **Section (N) Water Resources (Including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)**.

Agency coordination indicates the project area is potentially within the range of 11 federal or state protected species. However, during a 2022 biological field survey and subsequent consultation with the U.S. Fish and Wildlife Service (USFWS) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE), no suitable habitat was found. Therefore, no impacts on protected species are expected. See **Subsection (B) Biological Resources** found in **Section 6. Environmental Consequences** below for additional information on biological resources in the 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):

This section identifies the potential alternatives evaluated for their feasibility to meet the project's purpose and need. These alternatives were developed through discussions with the Airport, MDOT AERO, and various regulatory agencies. A No Action alternative is also provided, as required by NEPA and FAA regulations. Preliminary costs of constructing taxilanes, lighting, fencing, and utilities are provided for the build alternatives; however, more refined costs will be developed during final design of the Preferred Alternative.

Figure 1.7 Wetland Boundary Map



Source: Mead & Hunt

No Action Alternative

The No Action Alternative assumes that BIV would remain in its current state and no action would be taken to construct the necessary infrastructure to provide access to a site on the airfield for eventual full build-out for the needed private and corporate hangar park. As such, the No Action Alternative does not meet the project's purpose and need of constructing a private and corporate hangar park to accommodate existing and future users seeking hangar development opportunities due to the region's growing economy and the Airport's lack of existing private and corporate hangars.

Although the No Action Alternative does not meet the purpose and need, it is a baseline for comparison of environmental impacts associated with other build alternatives and is, therefore, retained and carried forward for analysis.

Alternative 1 – Construct Hangar Park South of Runway 8/26

Alternative 1 proposes to construct the initial infrastructure for a future full build-out of a private and corporate hangar park at a site south of Runway 8/26 (**Figure 1.8 Proposed South Hangar Layout**). The site would be located entirely on Airport-owned property immediately west of an existing box hangar and T-hangar complex on the south airfield. The new hangar park would be capable of accommodating six box hangars of various sizes along with associated taxilane connectors, apron areas, and automobile parking lots.

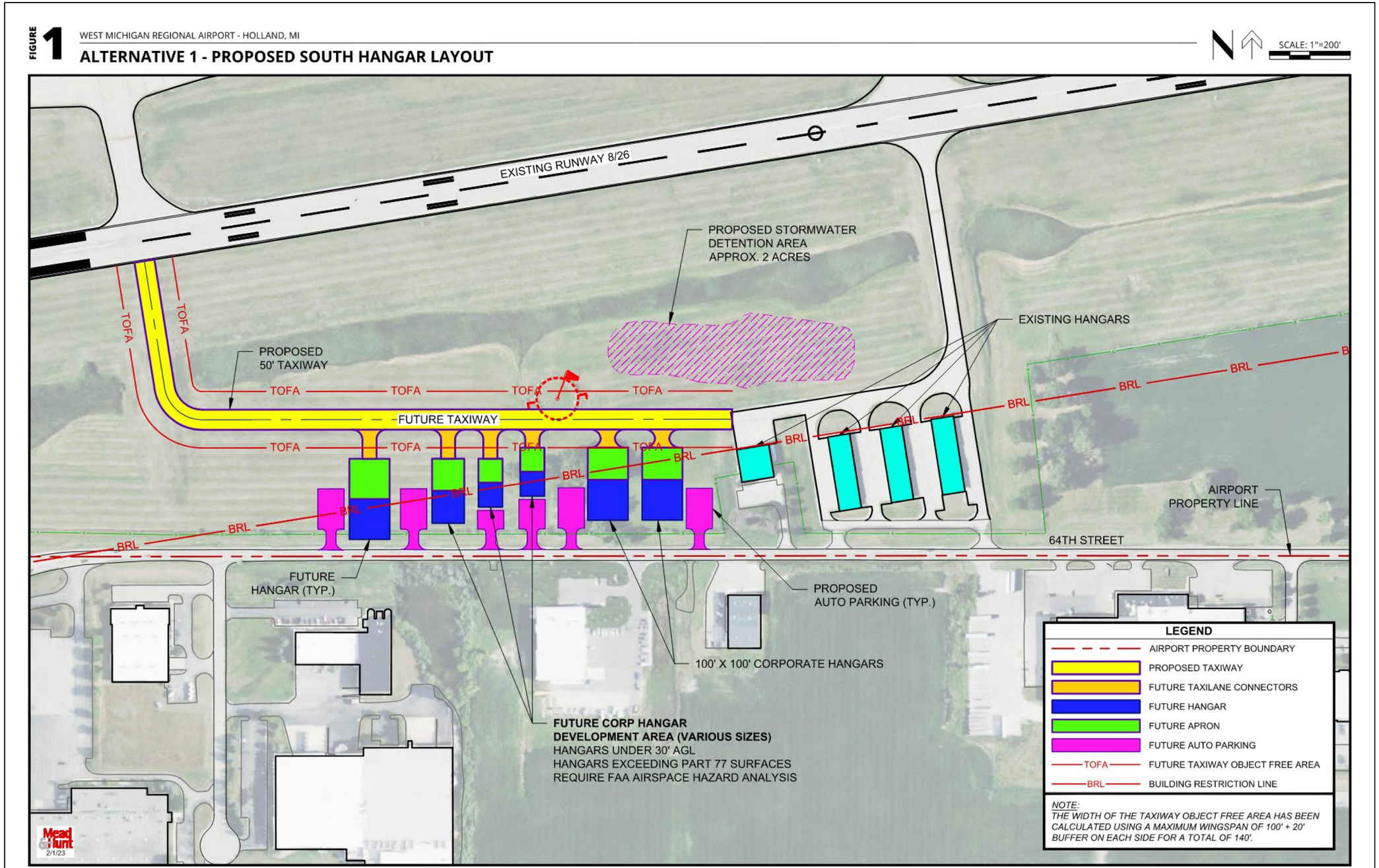
A taxiway approximately 1,800 feet long and 50 feet wide would be constructed to serve the new hangar park. This taxiway would run westward from the existing hangar complex for approximately 1,400 feet before turning north and connecting to Runway 8/26. In addition, a stormwater detention area of approximately two acres would be constructed north of the east end of the proposed hangar park to collect runoff from the new pavement during storm events.

Although airport-owned land is available for development on the south airfield, the height standards for determining potential obstructions to air navigation established in 14 Code of Federal Regulations (CFR) Part 77 (Part 77) would limit construction there. The proposed box hangars would penetrate the Part 77 surface. The 35-foot clearance of the Part 77 transitional surface (building restriction line) would limit the number and heights of box hangars that could be constructed at this location.

New taxiway construction west of the existing box hangar and T-hangar complex would potentially require relocation of BIV's existing segmented circle and wind cone on the south airfield, adding to the development cost of this alternative.

Potential environmental consequences of implementing Alternative 1 include impacts to farmland, wetlands, and threatened and endangered species. According to farmland classification maps available from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Alternative 1 is within an area classified as "Prime Farmland if Drained" (**Appendix C – Farmlands**). Also, a wetland delineated in 2009, runs parallel to Runway 8/26 on the south side would be impacted by the proposed taxiway that connects to the runway. Finally, a wooded area between the segmented circle and West 64th Street provides potential roosting and breeding habitat for the USFWS-designated endangered Indiana Bat and Northern Long-eared Bat, and the proposed endangered Tricolored Bat.

Figure 1.8 Proposed South Hangar Layout



Source: Mead & Hunt

Another critical disadvantage of this alternative is that users would need to cross the airfield to access the terminal / FBO building and the FBO maintenance hangar. The Airport's long-term vision also does not include private and corporate hangar development on the south airfield, which is reserved for future T-hangar and box hangar development for storage of smaller aircraft on BIV's future ALP. The Airport envisions private and corporate hangar development on the north airfield where these users can be closer to the terminal / FBO facilities that were designed to service larger aircraft.

Alternative 1's total cost of initial development is estimated to be $2.71 million, the second least expensive of the build alternatives.

Alternative 2 – Construct Hangar Park Northeast of Regent Boulevard

Alternative 2 proposes to develop the private and corporate hangar park on the north side of Runway 8/26 northeast of Regent Boulevard (**Figure 1.9 Proposed North Hangar Area Layout**). This site is off Airport property and would accommodate approximately eight box hangars of various sizes. Space is also available for the associated taxilane connectors, apron areas, automobile parking lots, and a supporting access road.

The future 50-foot-wide taxilane would connect to the east side of the apron/ramp area and extend to the north for approximately 1,500 feet. In addition, a new stormwater detention area of approximately two acres in size would be constructed directly north of the hangar park to collect stormwater runoff from the proposed paved areas.

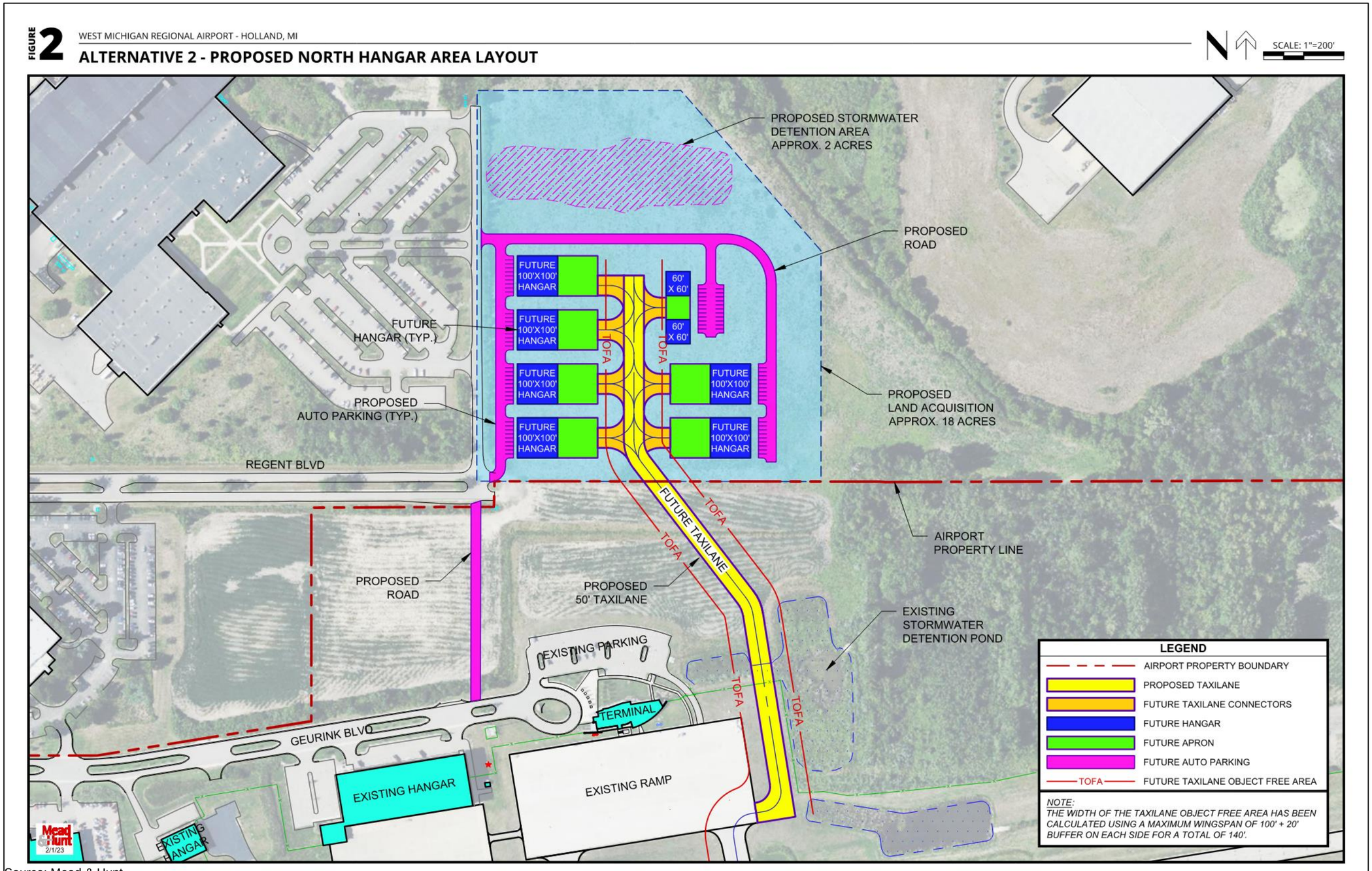
Implementing Alternative 2 would have potential environmental impacts to farmland and wetlands. The entire site is classified as "Prime Farmland if Drained" according to the USDA NRCS farmland classification maps. Also, one section of the future taxilane would be constructed over the existing stormwater detention pond east of the current terminal / FBO building, adding cost and complexity.

A significant advantage of Alternative 2 is its consistency with the Airport's long-term vision of keeping private and corporate hangar development on the north airfield. Users operating larger aircraft would be closer to the FBO and terminal facilities and not required to cross Runway 8/26 to use those services. Building height limitations associated with Part 77 standards would not be an issue due to the site's distance from Runway 8/26.

However, Alternative 2 has three critical disadvantages. First, implementation would require acquisition of approximately 18 acres of private land since the site is located outside BIV property. Second, the Airport has long-term plans for manufacturing warehouse development at this site. BIV envisions these warehouses for charter aircraft for product shipment. Finally, BIV has had discussions with developers for the creation of a vertiport for Advanced Air Mobility aircraft at the proposed site for Alternative 2.

Alternative 2 would be the most expensive of the build options, with a preliminary cost estimate of $2.72 million. The primary contributors to the cost of this alternative are the length of the proposed taxiway and the size of the new stormwater detention. The anticipated cost of this alternative does not include land acquisition, which is expected to be a considerable investment.

Figure 1.9 Proposed North Hangar Area Layout



Source: Mead & Hunt

Alternative 3 – Construct Hangar Park North of Geurink Boulevard and the Terminal / FBO Building (Preferred Alternative)

Under Alternative 3, development would occur at a site immediately north of Geurink Boulevard and the terminal / FBO building on the north airfield, as shown in **Figure 1.10 Proposed North Hangar Area (Preferred Alternative**). This site would be located entirely on Airport property.

Like Alternative 2, this alternative would accommodate approximately eight box hangars of various sizes. It would also accommodate associated taxilane connectors, apron areas, and an automobile parking lot to support future hangars on the north side of the proposed taxilane. Part 77 standards would not impose building height limitations due to the site's distance from Runway 8/26.

Initially, a 50-foot-wide taxilane serving the hangar park would be constructed at the northeast corner of the terminal apron. This taxilane would cross the western section of the stormwater detention pond, extend to the north for approximately 700 feet, and then turn west for an additional 700 feet. This taxilane would be extended farther to the west in the future as demand for additional hangars increase.

Due to the proposed infrastructure layout, approximately 1,300 feet of the ditch that runs parallel to Geurink Boulevard would be rerouted as shown in **Figure 1.10 Proposed North Hangar Area (Preferred Alternative)**. It would flow through a series of manholes and 48-inch reinforced concrete pipes before discharging east of the project area in the same location as existing.

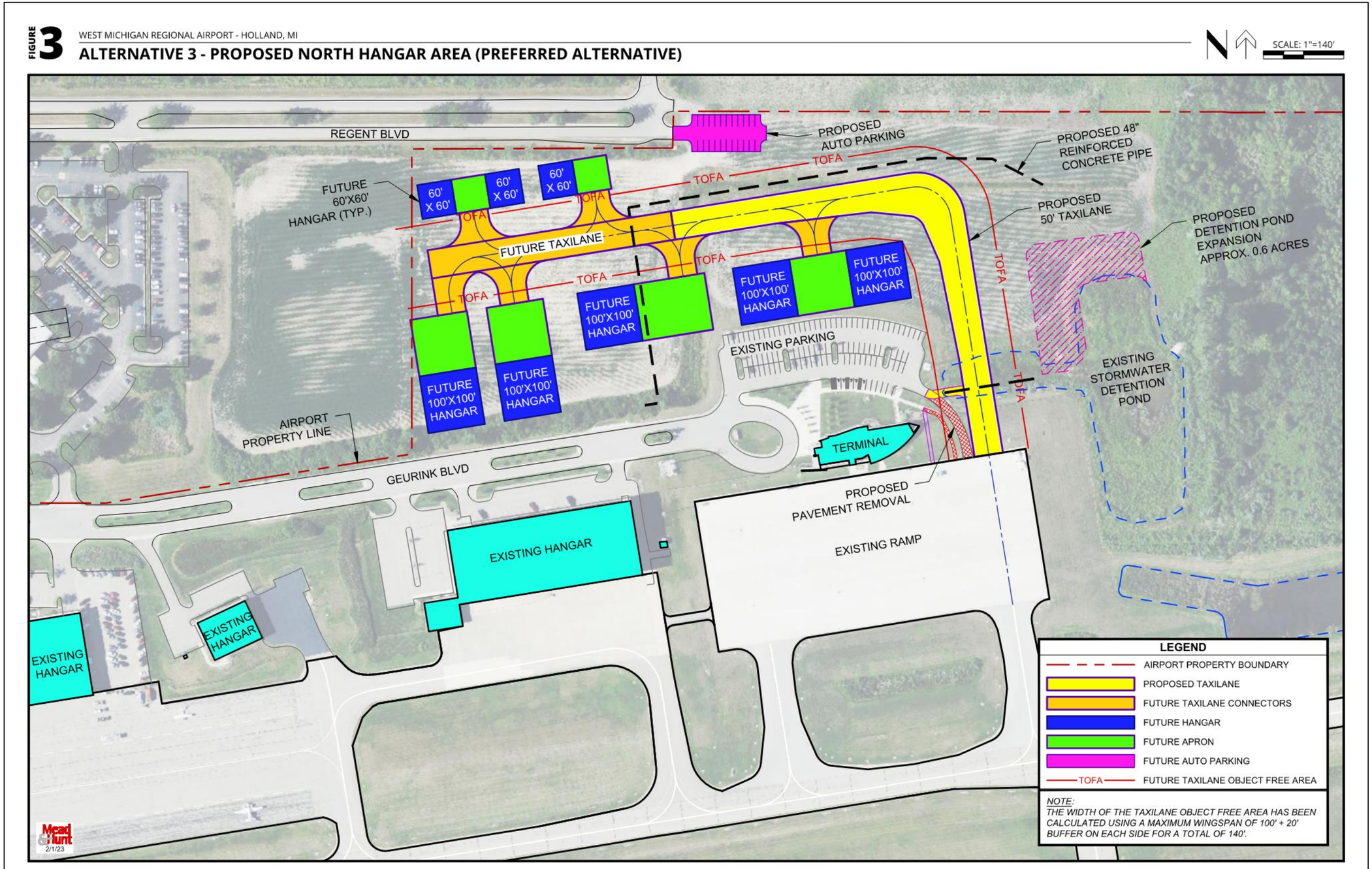
The stormwater detention pond would be expanded to the north and west by approximately 0.6 acres to collect stormwater runoff from the new pavements.

Potential environmental consequences of implementing Alternative 3 would be limited to possible impacts to farmland. The USDA NRCS farmland classification map (**Appendix C – Farmlands**) shows the site is categorized as "Prime Farmland if Drained." Wetland impacts are not anticipated as the stormwater ditch and stormwater detention pond are considered non-regulated constructed drainage features exempt from wetland or stream impacts. The non-regulated status was determined through site inspections by MDOT AERO environmental staff. Impacts to biological resources are also not expected as critical habitat was not identified in the project area for protected species.

Alternative 3 offers several significant advantages over the other build options. Like Alternative 2, this alternative's proposed location north of Runway 8/26 is consistent with BIV's long-term vision of maintaining private and corporate hangar development on the north side of the airfield near BIV's FBO services. Additionally, BIV's FAA-approved future ALP drawing already shows the development proposed in Alternative 3. The proposed location also eliminates the need to cross the runway to access service facilities that Alternative 1 requires. Since Alternative 3 is entirely on Airport-owned property, it would avoid land acquisition costs associated with Alternative 2.

Lastly, implementation of this alternative would preserve flexibility with Alternative 2's proposed site. That site is reserved for a variety of future development options, including warehouses, a vertiport, or additional private and corporate hangars.

Figure 1.10 Proposed North Hangar Area (Preferred Alternative)



Source: Mead & Hunt

With a preliminary cost estimate of $2.34 million, this alternative is the least expensive of the build alternatives. This is primarily due to the shorter length of the initial taxilane construction and the stormwater detention area that already exists near the site.

Selection of the Preferred Alternative

After analysis of the advantages and disadvantages of each alternative, the alternative that best meets the project's purpose and need, while minimizing impacts to the built and natural environment, is Alternative 3 (**Figure 1.10 Alternative 3 – Proposed North Hangar Area (Preferred Alternative**).

Alternative 3's implementation would align with the Airport's long-term vision of keeping private and corporate hangar development on the north side of Runway 8/26 near BIV's FBO services at the site reserved for hangar development on the Airport's future ALP sheet. Alternative 3 proposes development directly adjacent to the to existing FBO facilities thus reducing aircraft taxiing time resulting in less air emissions.

Alternative 3 requires no land acquisition and avoids building height restrictions due to the site's distance from the runway. Although Alternative 3 would have minor farmland impacts: however, these are easily addressed through the permitting process, Best Management Practices (BMPs), and regulatory mitigation requirements. In addition to these advantages, this alternative would be the least expensive of the build options.

Alternative 1 and Alternative 2 have several distinct disadvantages. Alternative 1's proposed location on the south airfield would require corporate aircraft to cross Runway 8/26 to access FBO services. Also, BIV's long-term vision for the south airfield is for T-hangar and box hangar development for storage of smaller aircraft. Finally, the site's proximity to Runway 8/26 would limit the number and heights of hangars that could be constructed.

Alternative 2 would require acquisition of approximately 18 acres of private farmland land. Aircraft would need to unnecessarily taxi much farther to access FBO services. Alternative 2's location is reserved for a variety of future development options, including warehouses, a vertiport, or additional private and corporate hangars.

Alternative 3 is therefore considered the most reasonable alternative when compared to the other alternatives. As a result, Alternative 3 is carried forward in this Short Form EA for additional analysis, public comment, and agency review.

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.

Airside capacity may gradually increase over many years with the addition of new hangars. The proposed project would also slowly increase the Airport's landside capacity by adding vehicle parking areas for the new hangars. Although airside and landside capacity may gradually increase over an extended period of time, given the nature of the project, increases would be minimal and would not have a significant effect on aviation-related or vehicular-related emissions. Individual future projects would be subject to their own regulatory evaluations (likely Categorical Exclusions), and air quality would be part of any environmental analysis.

In addition, BIV experiences 35,000 annual aircraft operations, well below the threshold that requires an air quality analysis (180,000 GA / air taxi operations) per the FAA's *Environmental Desk Reference for Airport Actions*. Therefore, an air quality assessment was not completed.

During construction, the Preferred Alternative would result in a temporary increase in emissions because of increased vehicle traffic and dust from ground disturbing construction activities. Any impacts to air quality during construction will be temporary and easily mitigated through the regulatory permitting process and the use of BMPs. The following BMPs are recommended during construction where feasible:

- Use low-sulfur diesel fuel (less than 0.05 percent sulfur).
- Retrofit engines with an exhaust filtration device to capture diesel particulate matter before it enters the construction site.
- Position the exhaust pipe so that the diesel fumes are directed away from the operator and nearby workers, thereby reducing the fume concentration to which personnel are exposed.
- Use catalytic convertors to reduce carbon monoxide, aldehydes, and hydrocarbons in diesel fumes. These devices must be used with low sulfur fuels.
- Use pressurized, climate-controlled cabs that are equipped with high efficiency particulate air (HEPA) filters to reduce the operator's exposure to diesel fumes. Pressurization ensures that air is moved from the inside to the outside. HEPA filters ensure that any incoming air is filtered first.
- Regularly maintain diesel engines, which is essential to keeping exhaust emissions low, and follow the manufacturer's recommended maintenance schedule. For example, blue/black smoke indicates that an engine requires servicing or tuning.
- Reduce exposure through work practices and training, such as turning off engines when vehicles are stopped for more than a few minutes, training diesel operators to perform routine inspections, and maintaining filtration devices.
- Purchase new vehicles equipped with the most advanced emission control systems available.
- With older vehicles, use electric starting aids as block heaters to warm the engine to reduce diesel emissions.

(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.

No. All construction activities are considered routine. The surrounding land uses consist primarily of industrial properties and farmland.

(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?

According to the February 2021 EGLE Attainment Status Map, the proposed project is within an Ozone Nonattainment Area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act, as BIV is located in Allegan County. **Appendix D – Air Quality** shows the location of BIV on EGLE's Attainment Status Map.

According to the U.S. Environmental Protection Agency's (USEPA) Green Book National Area and County-Level Multi-Pollutant Information (see **Appendix D – Air Quality**), neither Allegan County nor Ottawa County are a maintenance area for any NAAQS 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 is presumed to conform under *Category 3 Non-Runway Pavement Work* in Section III "Presumed to Conform Project Descriptions and Justifications" of Federal Register Notice Vol. 72, No. 145, Pg. 41565.

(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.

Not applicable.

(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?

Analysis was conducted for the presence of protected species in the project area and surrounding vicinity. As part of this review, the USFWS IPaC database tool provided information shown in **Table 1.5 USFWS Endangered and Threatened Species List**. For detailed information on protected species in the project area, see **Appendix E – Biological Resources**.

A qualified biologist conducted a field visit in September 2022 to assess biological resources including the presence of suitable habitat for special-status species. The field assessment included a pedestrian survey to

document onsite field observations of biological resources and taking representative site photographs. No state or federally listed species were observed during the site visit.

Table 1.5 USFWS Endangered and Threatened Species List

Species Name	Common Name	Status
Myotis sodalis	Indiana Bat	Endangered
Myotis septentrionalis	Northern Long-eared Bat	Endangered
Perimyotis subflavus	Tricolored Bat	Proposed Endangered
Sistrurus catenatus	Eastern Massasauga Rattlesnake	Threatened
Charadrius melodus	Piping Plover	Endangered
Calidris canutus rufa	Red Knot	Threatened
Grus americana	Whooping Crane	Experimental Population, Non-Essential
Lycaeides melissa samuelis	Karner Blue Butterfly	Endangered
Cirsium pitcheri	Pitcher's Thistle	Threatened
Danaus plexippus	Monarch Butterfly	Candidate
Bombus affinis	Rusty Patched Bumble Bee	Endangered

Source: USFWS Consultation

The project area is dominated by agricultural use and developed area including impervious surfaces. Tree cover is minimal within the area, confined to portions of the drainage ditches along Regent Boulevard on the north and Geurink Boulevard on the south. The forested sections are mostly scrub-shrub and smaller immature trees that do not provide suitable habitat for bats (Northern Long-eared, Indiana, and Tricolored). A forested stand adjacent to the project area to the east does appear to contain suitable habitat for bats. This area was not surveyed and is well outside the project area.

The field survey found two constructed drainage ditches and one stormwater detention basin. Herbaceous vegetation dominates the central drainage ditch with scattered stands of willow throughout the realigned portion; the ditch area parallel to Geurink Boulevard is covered by scrub-shrub and smaller trees. Some open water was observed in the central core of the stormwater basin, while the edges of the basin were covered by willow and cattails. No flowing water was observed in the drainage ditches at the time of the site visit.

Consultation

The Michigan Federal Endangered Species Determination Key (DKey) provides recommended determination(s) for species within the project area based on information provided by the user through an interview process. A verification letter for the effect determination(s) is produced at the end of the DKey process. **Appendix E – Biological Resources** contains the federal list of threatened and endangered species that may occur in the project area and the verification letter from the USFWS.

Early coordination with EGLE on the proposed project identified potential presence of the Indiana bat within or near the Action Area. This correspondence can be found in **Appendix A – Early Agency and Tribal Coordination**.

Impact Analysis

Recommended determinations made through the Michigan DKey are presented in **Table 1.6 Recommended Effect Determinations from Michigan DKey**. The assessment for these species is based on project information provided to USFWS.

Table 1.6 Recommended Effect Determinations from Michigan DKey

Species Name	Status	DKey Determination
Eastern Massasauga Rattlesnake *(Sistrurus catenatus)*	Threatened	NLAA*
Indiana Bat *(Myotis sodalis)*	Endangered	No effect
Karner Blue Butterfly *(Lycaeides melissa samuelis)*	Endangered	No effect
Monarch Butterfly *(Danaus plexippus)*	Candidate	No effect
Northern Long-eared Bat *(Myotis septentrionalis)*	Endangered	No effect
Piping Plover *(Charadrius melodus)*	Endangered	No effect
Pitcher's Thistle *(Cirsium pitcheri)*	Threatened	No effect
Red Knot *(Calidris canutus rufa)*	Threatened	No effect
Whooping Crane *(Grus americana)*	Experimental Population, Non-Essential	No effect

*NLAA=May affect, but not likely to adversely affect

Source: Michigan Federal Endangered Species Determination Key (DKey)

The project area is within the historic range of the Eastern Massasauga Rattlesnake (EMR). Due to past land conversion to agriculture, continuing agricultural activities, and proximity to the developed airport environment, no suitable habitat for the EMR is present within the project area. Recommended BMPs for projects within the known EMR range will be implemented as follows:

- Use of wildlife-safe erosion control materials
- Viewing of the Michigan Department of Natural Resources' (MDNR) "60-Second Snakes: The Eastern Massasauga Rattlesnake" video and/or review of the EMR factsheet
- Reporting of any EMR observations (or any other threatened or endangered species) during project implementation

Therefore, the USFWS determined that the proposed action may affect, but is not likely to adversely affect, the EMR. No additional mitigation is required.

While the status of the Tricolored bat is proposed endangered, Section 7(a)(4) of the *Endangered Species Act* requires federal agencies consult with the USFWS if their action will jeopardize the continued existence of a proposed species. Suitable bat habitat is not present within the project area. Therefore, the proposed action will have no effect on the Tricolored bat.

The project area is located within the historical range of the rusty-patched bumble bee (RPBB). No Low or High Potential Zones are identified for Allegan County. Historic occurrences have been reported throughout Lower Michigan but none after 2000. The last reported occurrences of the bumble bee in Allegan County were in 1964. Suitable foraging and nesting habitat are not present within the project area due to long-term agricultural and airport development activities. Therefore, the project area provides limited potential habitat for the RPBB. The proposed action will have no effect on the RPBB. Section 7 consultation and Incidental Take permits are therefore not needed.

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

The Preferred Alternative is not expected to result in long-term or permanent loss of unprotected species. The portions of the project area that will not be developed will remain available for use by plant and wildlife species.

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

See the discussion of the RPBB in response to Item 1.

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

See responses above. During early agency coordination, USDA Wildlife Services recommended the following strategies to mitigate potential impacts to biological resources (**Appendix A – Early Agency and Tribal Coordination**):

- Conduct routine wildlife monitoring of the proposed area to evaluate wildlife usage before and after the project is completed. If an increase in wildlife usage is noted, recommended mitigation techniques would include, but not be limited to, non-lethal harassment and/or lethal removal.
- Implement netting/spray foam/spikes in areas where birds may nest or perch on the new buildings/structures.
- When choosing a grass variety to plant upon project completion, choose a single variety and stay away from blends. It is recommended to use a high endophyte type of grass that will deter wildlife from usage.
- Any new culverts or drains should have a grate installed to stop mammals from gaining access to the culvert.

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

See responses above.

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

No critical habitat under USFWS jurisdiction was found in the project area.

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

Bird sighting data was accessed through eBird as part of the evaluation of biological resources within the project area. A listing of 80 birds seen in the general Airport vicinity (not necessarily in the project area) over the last seven years is included with the Biological Evaluation Report provided in **Appendix E – Biological Resources**. Most listed species are birds suited to more developed environments, although there have been sightings of five birds listed as Birds of Conservation Concern (BCC). Three of these sightings (Upland Sandpiper, Bobolink, and Bald Eagle) were a single bird, while Lesser Yellowlegs (9 birds) and Chimney Swift (14 birds) were found to occur in higher numbers reported in a single observation.

The agricultural land proposed for conversion is not suitable habitat for the Upland Sandpiper or Bobolink, both species preferring grassland habitats. Suitable habitat for the Chimney Swift (chimneys, hollow trees, or tree cavities) is also not present in the project area. In addition, the Lesser Yellowlegs' preferred boreal forest, and tundra transition breeding habitat is not present, nor are tidal flats and adjacent shallow lagoons potentially used at other times of the year. Finally, the project area does not contain perching habitat for Bald Eagles nor suitable bodies of water for feeding.

Based on this information, it is concluded that the proposed project will have no impact on species identified as BCC under the Migratory Bird Treaty Act or on Bald Eagles.

If the answer to any of the above is "Yes", consult with the USWFS and appropriate state agencies and provide all correspondence and documentation.

(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.

Climate change and greenhouse gases are a growing concern for the aviation industry. The primary source of greenhouse gas emissions at an airport are associated with aircraft operations, and the short-term emissions, from construction equipment activity. Climate change is generally governed by the Clean Air Act (42 U.S.C. §§ 7408, 7521, 7571, 7661, et seq.).

Although there are no federal standards for aviation-related greenhouse gas emissions, it is well established that greenhouse gas emissions affect climate. Where a proposed action would result in an increase in greenhouse gas emissions, the emissions should be assessed either qualitatively or quantitatively. There are no significance thresholds for aviation greenhouse gas emissions. A NEPA analysis to attempt to link specific climate impacts to a proposed action or alternative(s) is not required, given the small percentage of emissions that aviation projects contribute annually.

In terms of relative U.S. contribution, the U.S. General Accounting Office (GAO) reports that aviation accounts "for about 3% of total U.S. greenhouse gas emissions from human sources, according to USEPA data" compared with other industrial sources such as the country's transportation sector (20 percent) and power generation (41 percent). The International Civil Aviation Organization (ICAO) estimates that greenhouse

emissions from aircraft account for roughly three percent of all anthropogenic greenhouse gas emissions globally. Climate change due to greenhouse gas emissions is a global phenomenon, so the affected environment is global.

Based on FAA data, the current and forecasted operations activity at the Airport (35,000 operations per year) is insignificant when compared to overall national aviation activity. Therefore, assuming that greenhouse gases occur in proportion to the level of activity, construction of the Preferred Alternative and subsequent operational activity in future years at the Airport, relative to aviation throughout the United States, is negligible. Climate impacts are not expected from the construction or operation of the Preferred Alternative or implementation of the No Action Alternative.

(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.

No, see response to Item 1 above.

(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.

No, see response to Item 1 above.

(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.

The Coastal Zone Management Act of 1972 (16 U.S.C. §§ 1451-1466) established the Federal Coastal Zone Management Program to encourage and assist states in preparing and implementing management programs to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” In addition, the Coastal Barrier Resources Act of 1982 requires that no new federal expenditures or financial assistance may be made available for construction projects within the boundaries of the Coastal Barriers Resource System. Executive Order 13089, Coral Reef Protection requires federal agencies to “identify any actions that might affect coral reef ecosystems, protect and enhance the conditions of these ecosystems, and ensure that the actions carried out, authorized, or funded by federal agencies will not negatively impact or degrade coral reef ecosystems.”

The Airport is in Allegan County, Michigan. Allegan County is a coastal county along Lake Michigan and is included in the Michigan Coastal Management Program (MCMP). However, the Airport is located outside the boundaries of the MCMP for Allegan County. Therefore, the proposed project would not occur in or affect the use of a coastal resource as defined by the MCMP.

Impacts to coastal resources are not expected from the construction or operation of the Preferred Alternative or implementation of the No Action Alternative.

(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).

As stated above, BIV is in Allegan County, which is a coastal county along Lake Michigan. Despite the County's coastal location, there are no units included in the Coastal Barrier Resources System (CBRS) along the County's shore or in proximity of the County. The closest unit included in the CBRS is Sadony Bayou, which is approximately 45 miles north of BIV along the coast of Lake Michigan. Therefore, the location of the proposed project is not within the CBRS.

Impacts to the CBRS are not expected from construction or operation of the Preferred Alternative or implementation of the No Action Alternative.

(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.

All proposed development would be on Airport-owned property. Therefore, no Section 4(f) resources are located within the proposed project area. A review of online resources including Google Maps and websites for the Allegan County Department of Parks, Recreation, and Tourism; the MDNR; and the City of Holland Parks and Recreation Department showed there are several Section 4(f) resources within a 1.5-mile radius of the proposed project area. These resources, which include schools with playgrounds or athletic fields, are as follows:

- The Links at Rolling Meadows Golf Club – 0.8 miles northwest
- Maplewood Elementary School – 1.2 miles north
- Maplewood Youth Complex – 1.2 miles north
- Little Hawks Discovery Preschool – 1.3 miles south
- Fillmore Discovery Park – 1.4 miles south
- Outdoor Discovery Center – 1.4 miles southeast
- Holland Christian High School – 1.4 miles northwest
- Matt Urban Recreation Complex – 1.5 miles northeast

Appendix F – Department of Transportation Act Section 4(f) Resources provides a map showing the location of these resources relative to the proposed project area.

There are no parks, recreation areas, or wildlife or waterfowl refuges within the project area. The nearest such resource (The Links at Rolling Meadows Golf Club) is 0.8 miles northwest of the project area. Therefore, it is

determined that neither construction or operation of the Preferred Alternative nor implementation of the No Action Alternative will have an impact on any Section 4(f) resources.

(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.

(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.)

According to the USDA NRCS, the entire proposed project area is within an area classified as "Prime Farmland if Drained" (see **Appendix C – Farmlands**). Initial coordination with the USDA NRCS office in East Lansing, Michigan, regarding the presence of these farmlands in the project area occurred in October 2022. During this coordination, the NRCS advised that the proposed project is not exempt from regulatory protection and mitigation requirements under the Farmland Protection Policy Act. This is because the proposed project area contains soils classified as "Prime Farmland if Drained," and the project area is located outside of the urbanized area on the 2010 Census Bureau Urbanized Reference Map for Holland, Michigan. Therefore, a Farmland Conversion Impact Rating (Form AD-1006) was completed.

The completed Form AD-1006 was returned to the NRCS in February 2023. The proposed project scored a total of 121 points (relative value of farmland points plus total site assessment points) out of 260 possible points. Based on the *Environmental Desk Reference for Airport Actions*, total scores below 160 do not have the potential to adversely affect important farmlands and do not require alternative sites to be evaluated. Therefore, neither construction or operation of the Preferred Alternative nor implementation of the No Action Alternative will have a significant impact on farmlands.

Documentation of coordination with the NRCS and a copy of the completed Form AD-1006 are provided in **Appendix C – Farmlands**.

(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.

Hazardous materials are those that can pose a risk to health, safety, and property, including hazardous wastes and hazardous substances as well as other materials. Hazardous materials are regulated under several statutes, including the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. §§ 9601-9675), the Resource Conservation and Recovery Act (RCRA) described in 42 U.S.C. §§ 6901-6992k,

and the Toxic Substance Control Act (15 U.S.C. §§ 2601-2697). Solid waste is discarded material that falls into specific regulatory definitions and is regulated under RCRA. Pollution prevention refers to efforts to avoid, prevent, or reduce discharges and emissions of pollutants.

The FAA has not established a significance threshold for hazardous waste, solid waste, or pollution prevention. However, the FAA 1050.1F *Desk Reference* offers guidance to consider whether the proposed project could:

- Violate any laws or regulation regarding hazardous waste
- Involve a contaminated site, or if actions within a contaminated site are appropriately mitigated
- Produce an appreciable amount of hazardous waste
- Generate a different quantity or type of solid waste that could exceed local capacity or use different methods of collection and disposal.

A Phase I Environmental Assessment (ESA) of the site comprising the project area was performed in 2013 prior to BIV's purchase of the property in 2015. The Phase I ESA was conducted in accordance with American Society for Testing and Materials (ASTM) Standard E 1527-05. Per ASTM standards, Phase I ESA reports are only valid for 180 days. Consequently, the 2013 report is considered out-of-date. However, conversations with BIV and MDOT AERO during the scoping phase of this Short Form EA indicated the project area has not been disturbed since the property was purchased. The existing 2013 Phase I ESA was therefore determined to be acceptable to use for the required hazardous materials analysis. For details of the Phase I ESA, see **Appendix G – Hazardous Materials**.

The site was visually inspected in May 2013 for the Phase I ESA. The subject site was found to be vacant with no visual evidence of spills, above-ground storage tanks, or underground storage tanks identified during the investigation. The assessment revealed no items of a recognized environmental condition (as defined by ASTM Standard E 1527-05) in connection with the subject site.

It is concluded that neither construction or operation of the Preferred Alternative nor implementation of the No Action Alternative will involve the use of land that may contain hazardous materials or cause potential contamination from hazardous materials.

(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.

The Preferred Alternative may produce minor amounts of solid waste during construction through clearing, grubbing, soil excavation, and pavement construction. Upon completion, the potential for long-term generation of significant levels of solid waste is not expected.

The contractor will be required to have a Spill Prevention, Control, and Countermeasure (SPCC) plan in place to be implemented if a spill occurs during construction operations. An approved erosion control plan is also required to provide a collection area for non-recyclable waste. Any waste generated will be disposed of in compliance with all federal, state, and local 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?

The proposed project is not anticipated to produce any impactful amounts of hazardous waste during construction. Any hazardous waste generated during construction will be managed and disposed of in accordance with applicable regulations and BMPs.

(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 your consultation and response with the State or Tribal Historic Preservation Officer (S/THPO)).

Historical, architectural, archeological, and cultural resources include a variety of sites, properties, and facilities related to activities and societal and cultural institutions. Such resources express past and present elements of human culture and are important to a community. Section 106 of the National Historic Preservation Act (NHPA) (Section 106 of the National Historic Preservation Act, 54 U.S.C. § 300101) requires federal agencies to consider the effects their actions may have on these properties.

In 2022, a reconnaissance-level historic resources survey was conducted for above-ground resources to identify, document, and evaluate historic-age properties within the project area. The Area of Potential Effect (APE) included areas of the Airport that may be directly or indirectly impacted by project activities. Consideration was given to indirect effects where the project may have physical, visual, and auditory impacts off Airport property. The investigation found no historic properties present in the APE. The report detailing the methodology and findings is provided in **Appendix H – Historic and Archeological Resources**.

A Phase I archeology survey of the approximately 17-acre project site was conducted in late August and early September of 2022. The survey involved subsurface testing and visual inspection and was conducted in accordance with Section 106 of the NHPA. The survey confirmed the previously disturbed nature of the proposed project area. The report concluded there is no potential to encounter archeological sites in the APE and no further archeological investigations were recommended. No archeological sites were identified during the survey.

A Section 106 Report summarizing the cultural resources findings was submitted to the State Historic Preservation Office (SHPO) for review and concurrence. The SHPO provided a letter of concurrence dated June 6, 2023 (found in **Appendix H – Historic and Archeological Resources**). In the letter SHPO stated that it concurred that no historic properties (architecture/history and archeology) will be affected within the APE for the proposed project and issued a “No historic properties affected” determination.

Cultural resources impacts are not expected from the construction of the Preferred Alternative or implementation of the No Action Alternative.

(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).

Not applicable. See above.

(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 Preferred Alternative is consistent with the existing zoning of the surrounding area (I – Industrial), as shown in **Appendix B – Land Use and Zoning**. The proposed project would not alter or otherwise impact any political boundaries or cause a change in WMAA jurisdiction or ownership of BIV. The project area is located on existing Airport property, and existing land use patterns will remain unchanged.

The project is not expected to increase congestion, cause degradation of level of service, or permanently close any surface roads within, or adjacent to, the project area. There would be no relocations of residents or businesses or impacts to natural resource areas. Traffic from construction vehicles would be managed to avoid or minimize any impacts to local roads by defining haul routes and by scheduling the arrival and departure times of construction traffic so that normal traffic patterns are not interrupted. Any potential construction impacts would be temporary in nature. Once constructed, Airport operations would return to normal, and any community disruptions would be eliminated.

Outside of the project area, land use would remain the same; therefore, land use compatibility would remain unchanged with the Preferred Alternative, and no adverse impacts are anticipated. No impacts or changes to land use are expected with the No Action Alternative.

(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.

The proposed project area is located west of an existing stormwater detention pond on the north airfield, as shown in **Figure 1.10 Proposed North Hangar Area (Preferred Alternative)**. As part of the project, this existing detention pond would be expanded to collect stormwater runoff from new pavement areas. The expansion will be a dry detention area to avoid creating additional wildlife attractants and will be designed to drain within 48 hours of a rainfall event. Although a larger detention pond is proposed as part of the project to provide temporary stormwater storage, the project will not increase or contribute to the creation of any new wildlife attractants such as permanent open water detention areas. The Preferred Alternative will comply with FAA Advisory Circular (AC) 150/5200-33B.

(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.

As previously explained, the City of Holland has a Unified Development Ordinance (UDO) that combines the City's Zoning, Trees, Streets and Sidewalks, and Subdivision Ordinances into a single regulatory document. The UDO regulates the use of land throughout the City, including the design of buildings, sites, and new streets. The requirements of the UDO must be met for all new construction, and for all exterior renovations or site alterations, throughout the City.

The UDO includes Section 39-2.17 *Airport Zone District* (*A District*) and Section 39-2.20 *Airport Overlay District.* The intent of Section 39-2.17 is to allow for the operation and development of the Airport in compliance with the regulations of the Michigan Aeronautics Code (MAC), the FAA, and the City. Dimensional standards for building setbacks and building heights are provided in this section of the UDO. This section also states that all land uses meeting the requirements of the MAC and the regulations of the FAA are permitted within the A District. Finally, this section provides standards for vehicle parking within the A District.

The Airport Overlay District is established in addition to the A District. The intent of the Airport Overlay District is as follows:

- Promote the public health, safety, and general welfare of the residents and businesses surrounding BIV.
- Protect the approaches to the Airport and surrounding airspace from encroachment and limit the exposure of impacts to persons, property, or facilities in proximity to the Airport.
- Protect vulnerable land uses from negative impacts caused by the Airport.
- Protect Federal, State, and Local investments in aviation infrastructure.
- Regulate and restrict building sites, placement of structures, and land uses by separating conflicting land uses and prohibiting certain land uses that would be detrimental to Airport operations and navigable airspace.

The Airport Overlay District specifies permitted and prohibited land uses within six areas surrounding BIV that are defined by FAR Part 77 surfaces. Prior to approval of any new development, the Airport has the opportunity to provide comments regarding the impact of the proposal on aviation safety.

Further details on Sections 39-2.17 and 39-2.20 from the City's UDO, including tables and maps, are provided in **Appendix B – Land Use and Zoning**.

(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)

The proposed project would slightly increase the use of natural resources and energy supplies during construction and operation. Construction of the proposed project would result in temporary increases in energy demand and would require the use of construction materials (e.g., aggregate, fill, sub-base materials, and asphalt). Additionally, trucks and construction equipment would consume fuels as needed for construction purposes. BMPs to reduce energy consumption during construction will be employed, where applicable. To reduce energy consumption associated with the temporary use of excavators and vehicles for the Preferred Alternative, construction equipment should be in good working order to ensure the most efficient use of fuel. All vehicles and equipment should be checked for leaks and repaired immediately.

Operation of the proposed project would result in the recurring use of consumable natural resources (e.g., fuel, water, and electricity). A small amount of increased energy consumption may result from additional taxilane, apron, and hangar lighting; however, the amount is expected to be negligible. Where possible, LED lights will

be used to reduce energy consumption. Also, aircraft will be required to taxi to and from hangars located north of the terminal / FBO building, but a substantial increase in fuel consumption is not anticipated.

Natural resources and energy supply impacts are not expected from the construction or operation of the Preferred Alternative or implementation of the No Action Alternative.

(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.

Compatible land use is described in FAA Order 5050.4B, *NEPA Instructions for Implementing Airport Actions*, as "the compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the noise impacts related to that airport." Noise is considered unwanted sound that disturbs or interrupts routine activities. Aviation noise includes sounds made by aircraft during departure, arrival, flight, taxiing, and other activities. The compatibility of land use around an airport is typically determined based on the level of aircraft noise. The degree of annoyance that people suffer from aircraft noise varies depending upon their activities at any given time.

Per FAA Order 1050.1F – *Environmental Impacts: Policies and Procedures*, and the *FAA Environmental Desk Reference for Airport Actions*, any airport that exceeds 90,000 annual piston-powered aircraft operations or 700 annual jet-powered aircraft operations, 10 or more daily helicopter operations, or any project that includes the construction of a new airport, a runway relocation, runway strengthening, or a major runway expansion requires a noise analysis. A noise analysis is performed for actions that result in a general overall increase in daily aircraft operations or the use of larger/noisier aircraft. The FAA's noise analysis primarily focuses on how proposed airport actions would change the cumulative noise exposure of individuals to aircraft noise in areas surrounding the airport.

According to the FAA 2021 Terminal Area Forecast (TAF), BIV's total operations are forecast to be 35,000 annual operations through 2045, which is below 90,000 operations. Therefore, the propeller aircraft activity levels are below the stated threshold for a noise analysis.

BIV's Airport Master Record (last inspection date of March 2, 2022) indicates there are no based helicopters at the Airport, which means it is unlikely the threshold of 10 daily helicopter operations for a noise analysis will be exceeded.

According to the FAA's Traffic Flow Management System Counts (TFMSC) database, Instrument Flight Rules (IFR) jet operations at BIV totaled 3,207 in 2019; 2,082 in 2020; 2,757 in 2021; and 2,976 in 2022, all of which exceed the 700 annual jet operations threshold.

Given that the nature of the project is to provide infrastructure for future hangars, it is unlikely the Preferred Alternative will cause an increase in noise levels over existing conditions or change existing air traffic patterns.

Therefore, a noise analysis was not completed, and noise impacts are not expected from implementation of the Preferred Alternative or the No Action Alternative. See **Appendix I – Noise** for additional information regarding noise.

(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?

The proposed project does not involve the relocation or closure of any existing roads. There would be a slight increase in surface traffic along Washington Avenue, Regent Boulevard, and Geurink Boulevard during construction of the proposed project due to construction workers and construction vehicles accessing the project area. Traffic from construction vehicles would be managed to avoid and minimize any impacts to local roads by defining haul routes and by scheduling the arrival and departure times of construction traffic so that normal traffic patterns are not interrupted. Any potential construction impacts to surface transportation would be temporary in nature.

The operation of the proposed project would increase the number of surface vehicles using Washington Avenue, Regent Boulevard, and Geurink Boulevard to access the new hangar park once it is ultimately developed. However, the project would not change surface traffic patterns or cause a noticeable increase in surface traffic congestion along Washington Avenue, Regent Boulevard, Geurink Boulevard, or other roadways near the project area.

Neither the Preferred Alternative nor the No Action Alternative are expected to increase congestion, cause degradation of level of service, or alter surface traffic patterns within, or adjacent to, the project area.

(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 Preferred Alternative is likely to increase the economic activity in the community. The proposed project would also result in short-term, construction-related employment, which could be considered a benefit. Construction-related impacts would be temporary and are not expected to cause a significant induced, or secondary, impact to the surrounding community.

The employment opportunities that the new hangar park could offer can also be considered a positive, longer-term secondary impact. Most employees for the proposed project are anticipated to be from the surrounding region and it is unlikely that demands on public school services would change. The proposed project is not anticipated to substantially increase the potential demand of the local law enforcement and fire and emergency services. For these reasons, the Preferred Alternative would not affect public services.

The Preferred Alternative would also not cause shifts in the projected population growth, or cause changes to population movement. Impacts to available housing are not expected since, as previously explained, most employees for the proposed project are anticipated to be from the surrounding area.

Implementation of the No Action Alternative would have no induced, or secondary, impacts to surrounding communities.

(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.

The purpose of Executive Order 12898 - *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*, is to identify, address, and avoid disproportionately high and adverse human or environmental effects on minority and/or low-income populations. Environmental justice is defined as the right to a safe, healthy, productive, and sustainable environment for all, where "environment" is considered in its totality to include the ecological, physical, social, political, aesthetic, and economic environments.

In compliance with Executive Order 12898, U.S. Census Bureau data was reviewed in the USEPA's EJScreen tool to determine the characteristics of people living near BIV. While environmental justice populations may exist near the Airport, the proposed project is not anticipated to cause disproportionately high and adverse impacts to minority and/or low-income communities. The EJScreen ACS Summary Report in **Appendix J – Socioeconomics and Environmental Justice** is based on 2016-20 American Community Survey Census data and identifies the demographic characteristics within a one-mile buffer around the Airport.

Neither construction or operation of the Preferred Alternative nor implementation of the No Action Alternative are expected to have a disproportionate impact on minority and/or low-income communities.

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

All construction under the proposed project would occur on BIV-owned property, and access to the site would be restricted. It is unlikely that the development of either the Preferred Alternative or the No Action Alternative will include products or substances a child is likely to encounter. Based on the evaluation of impacts described in these sections, it is unlikely that either the No Action Alternative or the Preferred Alternative will result in any environmental health or safety risks that could disproportionately affect 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?

Airport lighting is required for security, obstruction identification, and navigation. The essential lighting systems required to safely operate an airport and its components can contribute to light emissions. When projects introduce new or relocated existing airport lighting facilities that may affect residential or other light-sensitive

areas in proximity to an airport, an analysis of these impacts is necessary. FAA guidance states that the level of light emissions considered sufficient to warrant a special study is unusual, for example, occurring when a high-intensity strobe would be shining into a residential area or when apron, parking, or streetlights create a visual impact to pilots.

The hangars, taxilanes, apron areas, and auto parking lot constructed under the proposed project would include lighting to enhance the safe ground movement of aircraft, vehicles, and people. However, the lighting would be similar to existing lighting on BIV's north airfield. Also, limited residential areas or other properties susceptible to light emissions are found near the project area. Therefore, the proposed project is not anticipated to have light emissions impacts on surrounding residents.

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

A project can also have impacts on the visual resources and visual character of the surrounding area. Visual resources and visual character impacts are typically related to a decrease in the aesthetic quality of an area resulting from development, construction, or demolition. FAA guidance states that an analysis of visual impacts is necessary when the proposed action would affect, obstruct, substantially alter, or remove visual resources including buildings, historic sites, or other landscape features, such as topography, water bodies, or vegetation, which are visually important or have unique characteristics.

Although the proposed project will introduce new infrastructure into the Airport's north airfield, impacts on resources that are visually important or have unique characteristics are not anticipated. The project area is comprised of a portion of the Airport itself, with surrounding land uses being industrial properties, farmland, and a forested area.

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

The hangars constructed under the proposed project would be similar in height to existing buildings on the Airport. Also, the project area is located entirely on Airport property and is surrounded by airport buildings, industrial properties, farmland, and a forested area. Therefore, neither construction or operation of the Preferred Alternative nor implementation of the No Action Alternative would 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).

To determine the locations and limits of area wetlands, appraise their types and functions, assess their regulatory status, and evaluate potential impacts from the proposed project, a United States Army Corps (USACE) of Engineers-compliant wetland delineation was conducted by a qualified wetland biologist in September 2022 within a 17.1-acre Area of Interest (AOI) in the project area. The field methods used conformed to the Routine Onsite Method of the *1987 U.S. Army Corps of Engineers' (USACE) Wetland Delineation Manual*, as enhanced by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. The full wetland delineation report is provided in **Appendix K – Water Resources**.

A total of three (3) separate wetland boundaries encompassing 2.238 acres were delineated within the project area during the field visit (**Figure 1.7 Wetland Boundary Map**). Wetland 1 is a constructed roadside ditch along Regent Boulevard on the northern extent of the project area. It is classified as Scrub-shrub/Emergent (PSS/PEM1). Wetland 2 is a constructed stormwater drainage ditch that drains from west to east and continues beyond the project area on both the east and west ends. A portion of the this ditch was realigned in 2016 as part of the terminal / FBO building and parking area project. This wetland is classified as Emergent/Forested (PEM/PFO). Finally, Wetland 3 is a stormwater detention area constructed around 2012 and later expanded with the construction of the terminal / FBO building and parking area in 2016. A control structure regulates water levels in the basin with flows exiting on the eastern side of the basin. This wetland is classified as Unconsolidated Bottom, excavated (PUBGx).

The stormwater drainage ditch (Wetland 2) and detention area (Wetland 3) will be impacted by the proposed project. Under the Preferred Alternative, approximately 1,300 feet of stormwater drainage ditch would be realigned and enclosed by a 48-inch reinforce concrete pipe as shown in **Figure 1.10 Proposed North Hangar Area (Preferred Alternative)** to accommodate the proposed project facilities. Wetland 2 has been determined to be a non-regulated constructed stormwater drainage feature through coordination with MDOT AERO.

The Preferred Alternative will also require expansion of the existing stormwater detention pond (Wetland 3) located east of the terminal / FBO building to accommodate stormwater runoff from the new pavement areas. In addition, the proposed taxilane will be constructed through a portion of the stormwater detention pond immediately north of the terminal apron. A culvert (reinforced concrete pipe) will be constructed to carry stormwater runoff below the taxilane in this area. As with Wetland 2, MDOT AERO determined the detention area to be a constructed stormwater feature and is a non-regulated wetland.

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

After consultation with and a field assessment by MDOT AERO environmental staff responsible for environmental compliance at State Block Grant airports, it was determined that Wetlands 1 and 2 are the result of stormwater discharge from the Airport's stormwater management system and exempt from regulatory protection. Under a State of Michigan Memorandum of Understanding (MOU), wetlands created artificially by stormwater collection or outflow (e.g., stormwater detention or cut ditches to transport water) do not require permits or mitigation when impacted by a development project.

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

Not applicable. See discussion above.

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

See response above.

(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)?

Federal Emergency Management Agency (FEMA) flood maps were reviewed to determine if the proposed project would result in development within the 100-year floodplain. According to FEMA, the project area falls within an unmapped area, shown to be an area of minimal flood hazard (**Appendix K – Water Resources**). Therefore, the proposed project will not be located in or encroach upon any 100-year floodplains.

(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.

(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?

The Clean Water Act, in conjunction with the Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667d), Rivers and Harbors Act (33 U.S.C. § 401 and 403), the Safe Drinking Water Act (SDWA) found in 42 U.S.C. §§ 300(f)-300j26, and other local statutes, establishes regulations that protect the nation's water resources. Surface waters are typically lakes, rivers, streams, creeks, and wetlands. Surface waters collect the water from precipitation that does not infiltrate the soil and instead flows across the land. Surface waters can be hydrologically connected to groundwater.

The USEPA's NEPAssist database, Google Earth imagery, and the wetland delineation report were used to determine the presence of surface water resources near the proposed project area (see **Appendix K – Water Resources**). According to these sources, the surface water resources within the immediate vicinity of the project area are as follows:

- The North Branch Macatawa River, which runs approximately 0.1 miles northeast of the northern boundary of the project area.
- Ben Bleyker Drain, which runs approximately 0.2 miles east of the eastern boundary of the project area.
- An unnamed pond located approximately 0.2 miles west of the western boundary of the project area.

According to the wetland delineation report, there were no regulated streams or water bodies within the project area.

The proposed construction of the Preferred Alternative will increase impervious surface areas and likely increase stormwater runoff. Estimates indicate new impervious surfaces will be 5.43 acres (236,400 square feet) once the project has reached full build-out as shown in **Figure 1.10 Proposed North Hangar Area (Preferred Alternative)**. To protect surface and groundwater resources, runoff is to be directed into the Airport's existing stormwater management system. Stormwater runoff will drain into the Airport's existing drainage system in accordance with its Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will also be updated to include BMPs to reduce erosion and discharge of pollutants from construction activities.

Soil erosion is a source of concern due to possible adverse impacts to surface waters from construction projects. Since the Airport site is generally flat, a high risk of soil erosion during excavation and other ground disturbing activities is not expected. However, some amount of erosion may occur during construction, which will be minimized through the use of appropriate BMPs. The following list of BMPs represents common erosion control measures that should be considered during construction and applied where applicable:

- Sediment traps
- Temporary cement ponds
- Temporary grassing of disturbed areas
- Vegetation cover replaced as soon as possible
- Erosion mats and mulch
- Silt fencing and drainage check dams
- Settling basins for stormwater treatment.

All excavated soils and staging areas for construction equipment will be placed in non-sensitive upland areas with disturbed areas replanted as soon as possible to reduce the likelihood of erosion.

Mitigation measures prepared under an erosion control plan, in accordance with FAA AC 150/5370-10H, *Standard Specifications for Construction of Airports*, will help minimize long-term impacts to area water quality and to the existing drainage system.

Part 91, Michigan Soil Erosion and Sedimentation Control of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended, requires the Airport to acquire a soil erosion permit from Allegan County and a stormwater runoff control permit from the City of Holland.

The Airport is also required to obtain a National Pollutant Discharge Elimination System (NPDES) permit from EGLE for construction activity disturbing one acre or more of soil. Permittees are required to control runoff from

construction sites and develop a construction SWPPP that includes erosion prevention and sediment control BMPs.

Surface water impacts from the construction or operation of the Preferred Alternative or implementation of the No Action Alternative are not anticipated.

(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?

See above. Surface water impacts are not anticipated.

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.

(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?

Groundwater is water that is below the surface of the ground within the spaces between soil and rock formations. Groundwater quality is primarily governed under the SDWA administered by the USEPA. The study area for groundwater includes all areas where the ground could be disturbed by construction of the Preferred Alternative, where impervious surfaces could change rates of groundwater infiltration, where airport operations could increase spills or leaks, and where construction vehicles and other equipment could potentially impact groundwater due to staging, machinery, storage, and spills.

In evaluating groundwater resources in the project area, the following databases were reviewed:

- USEPA Sole Source Aquifer for Drinking Water Database and Mapping Tool
- EGLE Open Data Geographic Information System (GIS) dataset for water wells in southwest Michigan
- EGLE Open Data GIS dataset for wellhead protection areas in Michigan

The USEPA maintains a database of groundwater sources that serve as the sole source of drinking water for a population. According to this database, the proposed project is not within a Sole Source Aquifer for Drinking Water.

The EGLE maintains several databases of water wells and wellhead protection areas in Michigan. According to EGLE's Open Data water wells GIS dataset, no water wells are on BIV property. Wellhead protection areas represent the land surface area that contributes groundwater to wells serving public water supply systems throughout Michigan. The wellhead protection areas define a landscape in which management strategies are employed to protect public water supply from groundwater contamination. According to EGLE's Open Data wellhead protection dataset, the Airport is not located within any wellhead protection area.

The construction of additional impervious surfaces within a project area can decrease the area of land available for water infiltration. Under the Preferred Alternative, a net increase of approximately 5.43 acres (236,000 square feet) of impervious surfaces will occur due to new pavement construction once the project reaches full build-out. The proposed action will slightly decrease groundwater infiltration within the project area due to the additional impervious surfaces; however, this is not expected to tangibly impact groundwater recharge rates or impact public water supply.

Based on the information above, no violations to water quality standards under the SDWA are anticipated with the Preferred Alternative. Groundwater impacts from the construction or operation of the Preferred Alternative or implementation of the No Action Alternative are not anticipated.

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

See above. The proposed project is not anticipated to have any impacts on groundwater.

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

As stated above, 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.

(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).

Wild and Scenic Rivers are those resources that have extraordinary scenic, recreational, geologic, ecosystem, historic, or cultural value as defined in the Wild and Scenic Rivers Act. The Wild and Scenic Rivers Act (16 U.S.C. §§ 1271-1287) creates a national system intended to preserve certain rivers in a free-flowing condition for current and future enjoyment. The national system is administered by the Bureau of Land Management (BLM), the National Park Service (NPS), the USFWS, and the United States Forest Service (USFS). The land surrounding a protected river or river segment determines the agency that administers the national system.

The Nationwide Rivers Inventory (NRI) is a list maintained by the NPS that identifies river segments that possess remarkable natural or cultural values and are of more than local or regional importance. All federal agencies are required to avoid or mitigate impacts to NRI segments.

There are no river segments listed in the Wild and Scenic River System in Allegan or Ottawa Counties. Therefore, the proposed project will not affect a river segment in this system. Also, no river segments listed in the NRI are in the vicinity of BIV. The nearest river segments are the Kalamazoo River located approximately six miles south of the Airport and the Grand River located approximately 20 miles north of the Airport. The proposed project will not affect either of these NRI river segments.

Impacts to Wild and Scenic Rivers and NRI resources are not anticipated with the construction or operation of the Preferred Alternative or implementation of the No Action Alternative.

6. 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.

According to FAA Order 5050.4B, reasonably foreseeable actions include those "on or off-airport that a proponent would likely complete and that has been developed with enough specificity to provide meaningful information to decision makers and the interested public." In some cases, the individually minor impact of separate projects can have substantial effects when considered together over time.

Since 2016, the Airport has undertaken the following noteworthy projects:

- Construction of new terminal / FBO building and associated parking lot
- Construction of new terminal apron and two associated connector taxiways
- Parcel K land release for non-aeronautical development
- Construction of new corporate hangar near the intersection of Geurink Boulevard and Washington Avenue
- Rehabilitation of Runway 8/26 and installation of new lighting.

BIV is planning various improvement projects in the coming years. According to the Airport Capital Improvement Program (ACIP) prepared for BIV in December 2022, the following projects (which include the project proposed in this Short Form EA) are planned at the Airport over the next five years:

- 2023 – Rehabilitate Taxiway A (Design)
- 2023 – Construct Taxilane for North Hangar Park (Planning)
- 2023 – Construct Taxilane for North Hangar Park (Environmental)
- 2023 – Construct Taxilane for North Hangar Park (Wetland Mitigation)
- 2023 – Construct Taxilane for North Hangar Park (Design)
- 2023 – Construct Taxilane for North Hangar Park (Construction)
- 2024 – Rehabilitate Taxiway A (Construction)
- 2025 – Extend South Taxiway (Design)
- 2026 – Install Runway 8/26 PAPIs (Design)
- 2026 – Extend South Taxiway (Construction)
- 2026 – Rehabilitate West Overflow Apron (Design)
- 2027 – Install Runway 8/26 PAPIs (Construction)
- 2027 – Rehabilitate West Overflow Apron (Construction)

As previously explained, other federal or federally assisted transportation improvement activities in Allegan and Ottawa Counties are conducted by MDOT. According to MDOT's 2023-2027 Five-Year Transportation

Program, MDOT proposes to rehabilitate I-196BL W and E from 84th Avenue east to I-196 in 2023 and I-196BL W and E from US-31 east to I-196 in 2024 and 2025. These projects are approximately four miles northeast of the Airport at their nearest point. Rehabilitation of the I-196 bridge over the CSX railroad approximately 1.5 miles east of BIV is planned for 2024 and 2025. Finally, a preservation project for the I-196 Saugatuck rest area located approximately 3.5 miles southwest of BIV is planned for 2023. None of these projects are anticipated to have any impacts on BIV's proposed project.

The above-described projects are not expected to result in cumulative impacts when considered with the construction of the Preferred Alternative or implementation of the No Action Alternative. Given the minor related impacts of the current project, the construction of the Preferred Alternative, when viewed considering past, current, and future planned actions, is unlikely to result in significant cumulative impacts. All future actions on or off Airport property will be subject to avoidance and minimization studies and will undergo agency review and permitting, as required.

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 anticipated for the proposed project:

- Soil erosion permit and a stormwater runoff control permit under Part 91, Michigan Soil Erosion and Sedimentation Control of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended, issued by Allegan County and the City of Holland, respectively.
- National Pollutant Discharge Elimination System permit under Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended, issued by EGLE.
- Obtain the FAA Form 7460-1- Notice of Proposed Construction prior to construction activities.

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.

Projects should take care to avoid permanent adverse impacts on the environment. It is important that all adverse environmental impacts be minimized or mitigated if avoidance is not possible. The various impacts of the Preferred Alternative and the means to mitigate them to the greatest extent possible are summarized below.

Air Quality

Any impacts to air quality during construction will be temporary and easily mitigated through the regulatory permitting process and the use of BMPs. The following BMPs are recommended during construction where feasible:

- Use low-sulfur diesel fuel (less than 0.05 percent sulfur).

- Retrofit engines with an exhaust filtration device to capture diesel particulate matter before it enters the construction site.
- Position the exhaust pipe so that the diesel fumes are directed away from the operator and nearby workers, thereby reducing the fume concentration to which personnel are exposed.
- Use catalytic convertors to reduce carbon monoxide, aldehydes, and hydrocarbons in diesel fumes. These devices must be used with low sulfur fuels.
- Use climate-controlled cabs that are pressurized and equipped with HEPA filters to reduce the operator's exposure to diesel fumes. Pressurization ensures that air is moved from the inside to the outside. HEPA filters ensure that any incoming air is filtered first.
- Regularly maintain diesel engines, which is essential to keeping exhaust emissions low, and follow the manufacturer's recommended maintenance schedule. For example, blue/black smoke indicates that an engine requires servicing or tuning.
- Reduce exposure through work practices and training, such as turning off engines when vehicles are stopped for more than a few minutes, training diesel operators to perform routine inspections, and maintaining filtration devices.
- Purchase new vehicles that are equipped with the most advanced emission control systems available.
- With older vehicles, use electric starting aids as block heaters to warm the engine to reduce diesel emissions.

Biological Resources

The project area is within the historic range of the EMR. Due to historical land conversion to agriculture, continuing agricultural activities, and proximity to the developed airport environment, no suitable habitat for the EMR is present within the project area. However, the USFWS recommended BMPs for projects within the known EMR range will be implemented as follows:

- Use of wildlife-safe erosion control materials.
- Viewing of the MDNR's "60-Second Snakes: The Eastern Massasauga Rattlesnake" video and/or review of the EMR factsheet.
- Reporting of any EMR observations (or any other threatened or endangered species) during project implementation.

The following strategies recommended by USDA Wildlife Services will be considered to mitigate potential impacts to biological resources:

- Implementation of routine wildlife monitoring of the proposed area to evaluate wildlife usage before and after the project is completed.
- Installation of netting/spray foam/spikes in areas where birds may nest or perch on the new buildings/structures.
- Selection of a single grass variety and a high endophyte type of grass to plant upon project completion to deter wildlife from usage.
- Installation of a grate for any new culverts or drains to stop mammals from gaining access to the culvert.

Hazardous Materials, Solid Waste, and Pollution Prevention

The Preferred Alternative may produce minor amounts of solid waste during construction through clearing, grubbing, soil excavation, and pavement construction. Upon completion of the project, the potential for long-term generation of significant levels of solid waste is not expected.

The contractor will be required to have a SPCC plan in place to be implemented if a spill occurs during construction operations. An approved erosion control plan is also required to provide a collection area for non-recyclable waste. Any waste generated will be disposed of in compliance with all federal, state, and local regulations.

Natural Resources and Energy Supply

Where possible, LED lights will be used for the proposed facilities to reduce energy consumption.

Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

During construction, traffic from construction vehicles would be managed to avoid and minimize any impacts to local roads by defining haul routes and by scheduling the arrival and departure times of construction traffic so that normal traffic patterns are not interrupted. Any potential construction impacts to surface transportation would be temporary in nature.

Surface Waters

Since the Airport site is generally flat, there is not expected to be a high risk of soil erosion during excavation and other ground disturbing activities. However, some amount of erosion may occur during construction, which will be minimized through the use of appropriate BMPs. The following list of BMPs represents common erosion control measures that should be considered during construction and applied where applicable:

- Sediment traps
- Temporary cement ponds
- Temporary grassing of disturbed areas
- Vegetation cover replaced as soon as possible
- Erosion mats and mulch
- Silt fencing and drainage check dams
- Settling basins for stormwater treatment.

All excavated soils and staging areas for construction equipment will be placed in non-sensitive upland areas with disturbed areas replanted as soon as possible to reduce the likelihood of erosion.

Mitigation measures prepared under an erosion control plan, in accordance with FAA AC 150/5370-10H, *Standard Specifications for Construction of Airports*, will help minimize long-term impacts to area water quality and to the existing drainage.

9. PUBLIC INVOLVEMENT

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

Resource agencies and Native American tribes were contacted at the beginning of the project and given the opportunity to provide comment on the proposed action. A copy of the early coordination letters received are

found in **Appendix A – Early Agency and Tribal Coordination**. Specific information and direction received from responding agencies is noted and addressed in the appropriate resource sections above where appropriate.

Upon issuance of the Draft Short Form EA, the document will be made available for public and agency review and comment for a minimum of 30 days. The opportunity to request a public hearing will be advertised and held if requested. Written comments from the regulatory agencies and the public will be considered and incorporated into the Final Short Form EA where applicable.

10. LIST OF ATTACHMENTS

The following appendices represent supporting technical studies and field work used to evaluate the potential impacts of the Preferred Alternative. The appendices were incorporated in various sections of this Short Form EA and include:

- Appendix A – Early Agency and Tribal Coordination
- Appendix B – Land Use and Zoning
- Appendix C – Farmlands
- Appendix D – Air Quality
- Appendix E – Biological Resources
- Appendix F – Department of Transportation Act Section 4(f) Resources
- Appendix G – Hazardous Materials
- Appendix H – Historic and Archeological Resources
- Appendix I – Noise
- Appendix J – Socioeconomics and Environmental Justice
- Appendix K – Water Resources

Project Title: North Hangar Area Taxilane **Identifier: BIV**

11. PREPARER CERTIFICATION

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

07/11/2023

Signature Date

William Ballard, AICP

Name

Project Manager

Title

Mead & Hunt, Inc. 517-321-8334

Affiliation 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 Date

Aaron Thelenwood

Name

Airport Authority Director

Title

West Michigan Regional Airport 616-368-3023

Affiliation Phone #